MEETING AGENDA
DIVISIONAL SENATE ASSEMBLY
ACADEMIC SENATE, IRVINE DIVISION
Thursday, June 2, 2022, 3:30-5:00 p.m.
Zoom Videoconference: https://uci.zoom.us/j/91622465085

<table>
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<tr>
<th>STATUS</th>
<th>ITEM</th>
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<tr>
<td>INFORMATION</td>
<td>1. Undergraduate Admissions &amp; Enrollment Management (3:30-4:00)</td>
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<td>Guests: Patty Morales, Associate Vice Chancellor of Enrollment</td>
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<td>Management and Bryan Jue, Senior Director of Outreach and</td>
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<td>Communications, Office of Undergraduate Admissions</td>
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<td>Issue: AVC Morales and Director Jue will give an update on the</td>
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<td>Fall 2022 undergraduate admissions cycle.</td>
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<td>ACTION</td>
<td>2. Minutes from May 5, 2022 Divisional Senate Assembly Meeting (4:00-</td>
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<td>Proposed action: Members will vote to approve the minutes following</td>
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<td>the meeting.</td>
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<td>ACTION</td>
<td>3. Pre-Proposal to Establish the School of Population and Public</td>
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<td>Health (4:05-4:30)</td>
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<td>Issue: The Senate has reviewed a pre-proposal to establish the</td>
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<td>School of Population and Public Health in the College of Health</td>
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<td>Sciences. Rufus Edwards, Public Health Faculty Chair, and Michael</td>
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<td>Hoyt, Public Health Faculty Vice Chair, will answer any questions</td>
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<td>about the proposal.</td>
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<td>Proposed action: Assembly will vote to approve the pre-proposal</td>
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<td>ACTION</td>
<td>4. Proposed Revisions to Irvine Bylaw 100: Graduate Council (4:30-</td>
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<td>4:35)</td>
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<td>Issue: Graduate Council proposed revisions to Bylaw 100 to include</td>
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<td>periodic review of all graduate programs in its charge, in</td>
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<td>outcomes. Proposed action: Assembly will vote to approve the</td>
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<td>revisions following the meeting.</td>
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<td>ACTION</td>
<td>5. Proposed Amendment to Irvine Regulation A345.D (4:35-4:40)</td>
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<td>Issue: The Subcommittee on Policy and Assessment proposed an</td>
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<td>amendment to Irvine Regulation A345.D. Course Repetition.</td>
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<td>Proposed action: Assembly will vote to approve the amendment</td>
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<td>ACTION</td>
<td>6. Approval of Final Assembly Minutes (4:40-4:45)</td>
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<td>Issue: Due to changes in membership from year to year, Assembly</td>
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<td>will consider an alternative process for approval of the final</td>
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<td>meeting’s minutes. Proposed action: Assembly will vote to approve</td>
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<td>the alternative process following the meeting.</td>
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7. In Memoriam (4:45-4:50)
   Binder, Arnold (1924-2021)
   Dzyaloshinskii, Igor (1931-2021)
   Guymon, Gary (1935-2021)
   Shinozuka, Masanobu (1930-2018)

8. Announcements by Chair Joanna Ho (4:50-)

9. Announcements by Other Administrative Officers

10. Reports of Special Committees

11. Reports of Standing Committees

12. Petitions of Students

13. Unfinished Business

14. University and Faculty Welfare

15. New Business

Joanna Ho, Chair
Academic Senate, Irvine Division

* Agenda items deemed noncontroversial by the Chair of the Divisional Senate Assembly, in consultation with the Senate Cabinet, may be placed on a Consent Calendar under Special Orders. Approval of all business on the Consent Calendar requires a single unanimous vote. At the request of any Divisional Assembly member, any Consent Calendar item may be extracted for consideration under “New Business” later in the agenda (from Bylaw 158[D]).

N.B. All members of the Academic Senate and of the University community shall have the privilege of attendance and the privilege of the floor at meetings of the Divisional Senate Assembly, but only members of the Divisional Senate Assembly may make or second motions or vote. However, the Chair (or designated representative) of a standing or special committee of the Division may move or second action on reports of that committee.

Representatives to the Divisional Senate Assembly may access the agenda materials by logging into the Senate Data Management System (DMS) using their UCnetID: https://dms.senate.uci.edu/~councils.and.committees/?Assembly.
Meeting Materials

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---Cabinet Dean PPH Letter of Support March 2022-1 ............................... 1-441
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---Cabinet Request-for-Review-Form-CRJ - CEP IR A345.D ..................... 3-2
---Cabinet Irvine Regulation A345.D - Markup Copy ............................... 3-3
---Cabinet Irvine Regulation A345.D - Clean Copy ............................... 3-4
---Cabinet CEP Memo - Proposed Amendment to IR A345.D .................. 3-5
---Cabinet CRJ IR A345.D Memo to Cabinet ........................................ 3-6

In Memoriam 6-2-22 ........................................................................... 4-2
---Assembly Shinozuka.Masanobu (1930-2018) .................................... 4-2
---Assembly Guymon.Gary (1935-2021) ................................................. 4-4
---Assembly Dzyaloshinskii.Igor (1931-2021) ....................................... 4-6
---Assembly Binder.Arnold (1924-2021) ................................................. 4-9
Chair Ho called the meeting to order at 3:32 p.m. and asked if there were any members of the press present. She introduced Patty Morales, Associate Vice Chancellor of Enrollment Management and Bryan Jue, Senior Director of Outreach and Communications, Office of Undergraduate Admissions.

1. Undergraduate Admissions & Enrollment Management
AVC Morales and Director Jue gave an overview of the Fall 2022 admissions cycle.

With regard to freshman admission targets, AVC Morales reported that they expect excellent outcomes for both nonresident students and, with the robust waitlist, California resident students. She noted that the California resident yield rate, at 33%, is very high within the UC system. Admissions is pleased with positive SIR (Statement of Intent to Register) outcomes in line with campus goals for inclusive excellence including low-income, first-generation, African American, and Chicano/Latino students; additionally, UCI ranked number one in Native American SIRs in the system. AVC Morales noted that applicant GPAs were way up this cycle, consistent with every UC campus and other U.S. institutions since most school districts have been allowing Pass/Not Pass grading during the pandemic.

Director Jue reported that Admissions held many in-person, highly attended outreach events this year. These included the return of Celebrate UCI, “stay-over” events for admitted African American and Latinx students, and other events for Native American and API students. Yield from these events was very high, with more than 60% of students who attended any event submitting a positive SIR; of the ~2,500 admitted students who attended Celebrate UCI, 77% submitted positive SIRs. Admissions also hosted several transfer student events in May. The transfer SIR deadline was June 1, and the campus had received ~2,800 positive transfer SIRs as of that date.

A member asked about application volume, referring to news reports about a decline in college applications, and whether this was the trend at UCI. AVC Morales responded that UCI saw no decline in application volume, other than a slight drop in transfer applications. Applications from underrepresented populations actually increased, and a lower number of admits is more reflective of yield expectations than a decline in applications.

Another member asked whether efforts to increase yield leads to admission of less-qualified students. AVC Morales explained that Admissions uses Senate-approved criteria for comprehensive review of applications, and that yield modeling is not used in the review process. In response to additional questions about student quality and diversity, she further explained that with comprehensive review, reviewers do not isolate any single criterion as the top requirement for admission. While GPA and A-G and honors courses are important, for example, they do not use standardized tests for admission consideration and do not make admission decisions based on a matrix of academic criteria; everything is considered holistically and in context. AVC Morales also clarified that our inclusive excellence goals and enrollment objectives are in alignment with UCI’s
Strategic Plan and the California Master Plan for Higher Education, and do not impact the quality of our admitted students.

Finally, a member asked how the campus is planning for affirmative action cases pending before the Supreme Court and the impact this might have on admissions. AVC Morales responded that we already follow California Proposition 209 and reviewers do not see race, ethnicity, or gender directly in the files; we therefore do not anticipate operational challenges as a result. Director Jue added that they expect the Office of the President will provide guidance as needed.

AVC Morales let members know that, due to ongoing waitlist movement, final admissions data should be available publicly at the end of June.

2. Minutes from May 5, 2022 Divisional Senate Assembly Meeting
Chair Ho called for any discussion of the minutes, for a motion to approve and a second. She noted that instructions for voting online would be sent via email following the meeting.

Following the meeting, members voted 27-0-0 to approve the minutes from May 5.

3. Pre-proposal to Establish the School of Population & Public Health
The Senate has reviewed a pre-proposal to establish the School of Population and Public Health in the College of Health Sciences. Chair Ho noted that the school revised the proposal based on feedback from six Senate councils and Cabinet this past fall. Over the last couple of months, all six councils reviewed the revisions, and Cabinet endorsed the pre-proposal at its meeting on May 17. She reported that Public Health faculty supported the pre-proposal by a vote of 37-1-1, representing the support of 95% of the faculty.

Chair Ho noted that Public Health Faculty Chair Rufus Edwards and Vice Chair Michael Hoyt were in attendance and available to answer any questions members had about the proposal. Director and Founding Dean Bernadette Boden-Albala was also present for any questions.

One member asked whether the faculty member who voted in opposition expressed their reasons for doing so. Faculty Chair Edwards responded that no comment was given with the negative vote, but other faculty comments were included in the proposal materials that were provided for members to review.

Chair Ho called for a motion and a second to approve the pre-proposal, and noted that instructions for voting online would be sent via email following the meeting.

Following the meeting, members voted 26-1-0 to approve the pre-proposal to establish the School of Population & Public Health.

4. Proposed Revisions to Irvine Bylaw 100: Graduate Council
Graduate Council proposed revisions to Bylaw 100 to include periodic review of all graduate programs in its charge, in accordance with accreditation requirements for assessing learning outcomes. The Council considered bylaws of other UC Graduate Councils in proposing these changes.
Chair Ho reported that CRJ approved the proposed changes on May 6, and Cabinet approved them at its meeting on May 17. She called for a motion and a second to approve the proposed revisions, and noted that instructions for voting online would be sent via email following the meeting.

Following the meeting, members voted 24-0-3 to approve the proposed revisions to Irvine Bylaw 100.

5. Proposed Amendment to Irvine Regulation A345.D
The Subcommittee on Policy and Assessment proposed an amendment to Irvine Regulation A345.D. Course Repetition. Chair Ho explained that under the current regulation, students who take honors or majors-only courses and do not pass them are required to take the honors or majors-only versions to replace them. This can present problems for students who are no longer part of the campuswide honors program or who have changed majors. The amendment would allow students to replace honors and majors-only courses with non-honors and non-majors courses if necessary.

Chair Ho reported that CEP unanimously approved the amendment at its meeting on May 5, CRJ approved it on May 13, and Cabinet approved it at its meeting on May 17. She called for a motion and a second to approve the proposed amendment. Chair Ho further noted that per consultation with the Registrar, this change should be effective Fall 2022, rather than immediately. She therefore called for a motion and a second to approve an alternate implementation date should the amendment be approved. She noted that instructions for voting online would be sent following the meeting.

Following the meeting, members voted 25-0-2 to approve the proposed amendment to Irvine Regulation A345.D, and 26-0-2 to approve an implementation date of Fall 2022.

6. Approval of Final Assembly Minutes
In order to facilitate approval of minutes from the final DSA meeting each year, Senate leadership proposed an alternative process developed in consultation with the Parliamentarian.

Chair Ho explained that rather than waiting to approve the minutes at the first Assembly meeting the following year, when there have been membership changes, the proposal would delegate approval of the final meeting’s minutes to the Senate Cabinet. She explained the process, noting that we would share draft minutes with Assembly members for any comments or corrections, then draft minutes reflecting any necessary changes would be presented to the Cabinet. The Cabinet would vote to approve the minutes at its final meeting of the year later in June. Chair Ho reminded members that Cabinet members are also attending and voting members of Divisional Assembly. She noted that if approved, this procedure would be effective immediately and until further notice, regardless of any future changes to DSA meeting modality.
One member asked whom members would notify if they had questions or concerns about the draft minutes. Chair Ho clarified that the contact would be the Assembly analyst, currently the Associate Director of the Academic Senate.

Chair Ho asked for a motion and a second to approve the alternative process, and noted that instructions for voting online would be sent via email following the meeting.

*Following the meeting, members voted 30-0-0 to approve the alternative process for approval of the final Assembly meeting minutes.*

7. **In Memoriam**
Chair Ho announced that the faculty of the University of California Academic Senate produce *In Memoriam* to honor its deceased colleagues. She encouraged members to read the colleagues’ full memorials that were included in the meeting materials. She also noted that memorial resolutions received by the division are sent to the systemwide Senate and published online.

8. **Chair’s Announcements**
Chair Ho thanked all who voted on the Memorial to the Regents on Fossil Fuel Combustion. She reported that the division voted 335-67 in favor of the Memorial and that the division’s votes would be submitted to the systemwide Senate. She noted that per systemwide Senate bylaws, approval of a Memorial requires a majority of valid ballots cast across all divisions. If a majority of the validly cast ballots from all divisions approve the Memorial, it shall be sent by the Chair of the UC Assembly to President Drake for submission to the UC Regents.

Chair Ho reminded members to participate in the 2021-22 UC Academic Senate Survey of Faculty Life before June 25, 2022, noting that feedback will affect future UC policies and faculty support. Chair Elect Striedter added that the survey asks about online instruction during the pandemic, and another member noted that responses are seriously considered systemwide and can make a difference in campus funding.

Chair Ho also reminded members about two ongoing UCI Scholars at Risk fundraising efforts: UCI Ukraine Emergency Response Fund and UCI Cameroon Scholar Emergency Rescue Fund.

Finally, Chair Ho thanked members for their attendance and engagement in Assembly meetings and discussions this year.

Chair Ho adjourned the meeting at 4:24 p.m.

Minutes prepared by: Gina Anzivino, Associate Director
Attested by: Georg Striedter, Chair Elect-Secretary
Proposal to Establish The School of Population and Public Health

Submitted by:
Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Susan & Henry Samueli College of Health Sciences
bbodena@hs.uci.edu | (949) 824-5735
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EXECUTIVE SUMMARY

This proposal represents the need and rationale to transition the University of California, Irvine (UCI) Program in Public Health (or Program) to the School of Population and Public Health (SPPH). The SPPH at UCI’s mission centers on the conduct of research and instruction to reduce the burden of disease and disability in culturally diverse communities in Southern California and around the world.

The Program in Public Health at UCI is unique amongst UCs in being designated as a Hispanic-Serving Institution (HSI) and an Asian American and Native American Pacific Islander-Serving Institution (AANAPISI), serving a 68% diverse public health undergraduate student population. The Program in Public Health is currently ranked #31 on the U.S. News & World Report 2023 list for public health schools in the nation, and No. 1 in the nation among public universities for ‘best value,’ according to Forbes. With a larger and more diverse undergraduate program than almost any other program in the country, a focus to address health equity in research, teaching, and service is at its core. The field of public health remains a critical area of inquiry of how to achieve optimum health and wellness across all populations, which requires training a diverse student body at the undergraduate and graduate levels. UCI was one of the first UC campuses to offer modern accredited undergraduate degrees in public health, a legacy that has grown to be a point of pride for the campus with an enrollment of ~1,300 undergraduate public health majors. The accredited UCI MPH program has successfully trained ~70 students annually for 12 years to become part of the public health workforce. The pandemic revealed a neglected public health infrastructure across California and the nation. With over 3 million people in Orange County (comparable to the size of some states that have their own school of public health), the UCI MPH provides critical workforce training to address the needs of our state and our nation.

At UCI the Public Health faculty has been assembled whose areas of scholarship and research are diverse, but whose underlying mission integrates health equity. Our research, teaching, and service is already fully integrated within UCI’s academic endeavors and connects integrally with the main campus as well as the Susan and Henry Samueli College of Health Sciences. Faculty research programs, which received ~$20M in research funding in 2020-21 and 17.7M to date in 2021-2022, develop and inform effective strategies to reduce the burden of disease and disability in culturally diverse communities locally, nationally, and globally.

Housed in a new building for the College of Health Sciences at UCI, whose schools share a commitment to excellence and equity in health, the Program’s existing research strengths include innovative environmental and occupational health research on clean air and water; globally recognized scholarship on infectious diseases; distinguished research in chronic disease, including cancer epidemiology and survivorship; research into improved healthcare access; novel solutions to tackling current and emerging diseases like malaria and COVID-19; as well as network modeling, big data analytics, and community and behavioral interventions to reduce disparities in morbidity and mortality. In addition to serving on prestigious scientific research review boards, faculty research distinctions...
include a Fulbright; National Academies of Sciences, Engineering, and Medicine–Jefferson Science Fellow; American Heart Association Jeremiah and Rose Stamler Research Award for New Investigators; Albert Nelson Marquis Lifetime Achievement Award; National Cancer Institute Evidence Based Cancer Control Programs Award; Fellow of the Society of Behavioral Medicine; NIH NINDS Disparities Advisory Board; USC Roxanna Todd Hodges Stroke Prevention Award; European Commission Marie Curie Intra-European Fellowship; International Society for Environmental Epidemiology Mid-Term Career Award, and UC Presidential Chair at UCI. Faculty also play lead roles in research centers including the UCI Center for Population, Inequality and Policy, and the Center for occupational and Environmental Health, and the Center for Environmental Health Disparities Research.

Through its collaborative partnerships with other schools in the College and with Orange County, the PPH is positioned to contribute public health expertise to inter-professional education across the College in promoting healthy communities.

Two priorities will guide our success. First, Community Engagement: To serve its communities, personnel in the School must continue to partner with communities and to recognize their health needs and barriers to health equity. Second, Diversity and Inclusion: Within the School, faculty will continue to train diverse undergraduates as future leaders in public health and promote diversity in their own ranks. For instance, the Program in Public Health was recently allocated two faculty FTE through the first Black Thriving Initiative Faculty Cluster Hiring Program at UCI in partnership with the Schools of Engineering and Social Sciences. As one of the first, largest, and most diverse public health undergraduate programs in the country, 58% of those enrolled are first-generation college students and the five-year average enrollment for underrepresented minority students is 36% (UCI Office of Institutional Research Data Hub, 2020). Undergraduate students often mention that they enroll in UCI’s PPH for the knowledge and skills to improve health for their home communities. Over the course of their time at UCI PPH, through research into implementing evidence-based programs, faculty and students become advocates for underrepresented populations by sharing knowledge and empowering communities to develop strategies for healthy living.

Transitioning the Program in Public Health to a school will ensure training of diverse future leaders in health through research, public education and engagement with communities. A SPPH will also strengthen faculty expertise, enhance research efforts, enhance support for underserved and diverse populations, and better meet the public health workforce needs of California. Population health refers to understanding health outcomes of a group of individuals, including the distribution of such outcomes within the group. In addition, many determinants of health, such as medical care systems, social environment, and physical environment, have their biological impact on individuals in part at a population level (Kindig & Stoddart, 2003). The proposed name of the School of Population and Public Health encompasses this broader interpretation of inequitable distributions of health impacts across our Southern Californian and global populations, and the four current departments reflect our public health approaches to address these problems: the Department of Epidemiology and Biostatistics; the Department of Environmental and Occupational Health; the Department of Health, Society and Behavior; and the Department of Population Health and Disease Prevention.
A school of population and public health at UCI will:

- Elevate the existing faculty research portfolio as well as enhance and unite the public health research performed by different units across campus.
- Validate the relative importance of public health among other academic disciplines or schools on campus, and improve on our program’s national rankings.
- Fortify the University's competitive position in recruiting the best faculty,
- Enhance the unit's ability to recruit the brightest students at the undergraduate and graduate levels,
- Allow the faculty to compete for large-scale funding available only to schools,
- Increase opportunities for philanthropy,
- Strengthen UCI’s capacity for training a larger and more diverse public health workforce for the State of California.

The Program in Public Health is strong and already operating like a school in most respects. Transitioning formally into a recognized school will signal the University of California’s commitment to the health of culturally diverse communities in Southern California and around the world, and substantively contribute to the growth and renown of UCI. The support of Chancellor Howard Gillman; Provost and Executive Vice Chancellor Hal Stern; Vice Chancellor for Health Affairs Steve Goldstein; UCI faculty, staff, and students; and the Orange County community have been driving forces in the faculty’s decision to move forward with this school proposal (see Appendix A: Letters of Support).
1.0 INTRODUCTION

Never has the world looked toward the discipline of public health for more guidance as it has during recent and ongoing turbulent times. The COVID-19 global pandemic, the movement for social justice, and the science of climate change highlight the call for health as a fundamental human right. The interplay between social and environmental justice and disparities manifests itself daily—in chronic disease outcomes, in examining violent deaths, and even in an acute COVID-19 virus that unveiled itself as a disease of disparities. Likewise, health effects related to environmental exposures, natural disasters, droughts, and unpredictable weather patterns all underscore what the Association of Schools and Programs of Public Health (ASPPH) refers to as health for all policies to ensure that communities at risk have the resources they need to build resilience.

In February 2019, the California Future Health Workforce Commission released their final report, Meeting the Demand for Health, with specific recommendations to reduce the shortage in the health workforce in California by 2030, and to increase investments in research on variables that can improve clinical care and population health, while also keeping healthcare costs affordable (California Future Health Workforce Commission, 2019). The report included recommendations to align and expand education and training by bringing together schools and programs of public health to better prepare California’s health workers. Then University of California (UC) President Janet Napolitano co-chaired the Commission, which included members of the University of California, Irvine’s (UCI’s) Program in Public Health External Advisory Board. The Commission’s final report makes it clear that California needs more public health professionals now and in the future.

The establishment of the SPPH will fill a meaningful gap in the public health infrastructure of Orange County and the Southern California region at large. In Orange County, significant health problems include mental health, opioid abuse, disproportionate adverse impacts of chronic and infectious disease, and a need to focus on successful aging. In addition, the slow response time to and lack of an emergency plan for the COVID-19 pandemic highlighted the critical need to be better prepared for emergencies and underscored the need for public health education and communication to be coordinated at the community level. It has become clear that the future SPPH will be well-positioned to serve as the regional hub for public health, by coordinating with local, state, and national health agencies, community-based organizations, other academic institutions in the region, and non-governmental organizations. An interorganizational network of academic and governmental health entities will be better able to identify and systematically address the wide range of community-based needs.

In 2016, more than 2,000 members of the UCI community had input into UCI’s Brilliant Future strategic plan, which included developing UCI’s SPPH as a priority (see Appendix A: Letters of Support). As part of a series of strategic planning activities for the School, faculty, staff, and students identified goals and priority areas for organization, growth, and recruitment, and articulated the following mission statement:
The UCI School of Population and Public Health is dedicated to the achievement of health equity for all populations through research, teaching, and service, to reduce the burden of disease and disability in culturally diverse communities in Southern California and around the world.

Championing the principles of evidence-based public health science, the School aspires to understand and impact population-level social, biological, behavioral, and environmental determinants of health.

The mission is predicated on a health equity approach that relies on evidence-based and community participatory strategies to foster healthy communities. The Program in Public Health faculty are committed to advancing high-impact research to understand the mechanistic origins of disease that reduce the societal burden of human disease and disability, educating the public health leaders of the future, and transforming the health and well-being of communities on local, national, and global scales.

The SPPH will include four founding departments with highly complementary missions, these include: the Department of Epidemiology and Biostatistics (DEB), the Department of Environmental and Occupational Health (DEOH), the Department of Health, Society and Behavior (DHSB), and the Department of Population Health and Disease Prevention (DPHDP).

This proposal for a school of public health at UCI provides an overview of the research, teaching and service of faculty in the school, the academic rigor of the degree programs, the School’s financial viability and organizational structure. The SPPH at UCI will help address state workforce shortages by attracting the most qualified faculty and undergraduate, masters and doctoral level students, and increasing access to training and education across the broad fields of population and public health.
2.0 RESEARCH AND ACADEMICS

2.1 Faculty Research

Reflective of the Carnegie Classification of Institutions of Higher Education R1 classification, the UCI Strategic Plan acknowledges faculty research as a primary pillar of UCI and highlights that our collective research contributions “have changed both how we look at the world and how we act in the world” (Pillar 1: Growth That Makes a Difference, 2016). Impactful, transformative, and translational research and science is at the core of the mission of the UCI SPPH. This value and commitment to research is reflected in the mission statement, which emphasizes the interconnectedness of research with teaching, service, and health impact. Like the faculty themselves, the Program in Public Health research portfolio is extremely diverse and interdisciplinary, with strong foundations in behavioral, biological, environmental, and physical sciences, as well as mathematics and broad areas across the social sciences with the focus on addressing population-level health challenges. Fostering interdisciplinary collaborations is not only of central concern to the success of a future school, but it is foundational to public health scholarship. The current Program in Public Health faculty are themselves inherently (and intentionally) reflective of a wide variety of disciplines. Solving societal health problems requires this. Among others, the faculty are internally comprised of public health scientists, epidemiologists, biostatisticians, health and clinical psychologists, demographers, biologists, neuroscientists, environmental scientists, occupational health physicians, policy professionals, ethicists, health communication scholars, and social scientists. Research activities cluster around the overarching framework of understanding determinants of health and moving towards actionable solutions to predict and reduce disparities in health and healthcare.

2.1.1 SPPH Faculty

The Program in Public Health has nationally recognized experts in health equity and community engagement, chronic disease prevention and cancer control, health promotion, health services research, environmental and occupational health, and global health (see Appendix B: Faculty and Program Affiliations). Faculty serve on the National Institutes of Health (NIH), National Cancer Institute (NCI), National Institute of Neurological Disorders and Stroke (NINDS), and other prestigious scientific research review boards (e.g., Medical Research Council, UK Research Councils, Wellcome Trust, and European Science Foundation (ESF) College of Expert Reviewers), as well as serving on prestigious journal editorial boards. Research distinctions are numerous and include a Fulbright (Timberlake); The National Academies of Sciences, Engineering, and Medicine–Jefferson Science Fellow (Ogunseitan); the American Heart Association Jeremiah and Rose Stamler Research Award for New Investigators (Odegaard); the Albert Nelson Marquis Lifetime Achievement Award (Bic); National Cancer Institute Evidence based cancer control programs (EBCCP) Award (Hopfer); Fellow, Society of Behavioral Medicine (Hoyt); NIH NINDS Disparities Advisory Board (Boden-Albala); USC Roxanna Todd Hodges Stroke Prevention Award (Boden-Albala); European Commission Marie Curie Intra-European Fellowship (Lu); International
Society for Environmental Epidemiology Mid-Term Career Award (Vieira), and UC Presidential Chair at UCI (Ogunseitan) (see Appendix C: Faculty Biosketches).

Core and affiliated (see Appendix D: Affiliated Faculty) faculty conduct research across areas of public health and collaboration with faculty from other disciplines is intrinsic to public health research. These collaborative research pathways lead to expanding research portfolios, validating Program in Public Health faculty work, and building the future School’s reputation. As the field of public health grows, UCI faculty will continue to advance their knowledge in emerging areas, expanding areas of study and research for the next generation of public health students, professionals, and educators. Examples include the recent NIH call for proposals to integrate health equity and artificial intelligence and the NIH call for Grand Challenges around Pandemic Preparedness. In both large proposals, which UCI public health faculty are responding to, the focus is to understand how to integrate these typically STEM areas with an organized community participatory component towards the goal of health equity.

The creation of knowledge by public health faculty spans a broad range of research activities, including wet and dry laboratory science, quantitative and qualitative research, clinical trials, field observations and sampling, population surveys, human subjects research, and animal studies. The broad, interdisciplinary faculty research provide excellent opportunities for undergraduate and graduate students to engage in basic and applied research that spans across the translational research spectrum as reflected in the growing faculty research funding portfolio (see Appendix E: Research Funding).

### 2.1.2 Research Focal Areas

#### 2.1.2a Health Equity

Faculty integrate an overarching research focus on health equity. This unifying theme across departments focuses on strategies that examine the interaction between the biological, psychological, social, and environmental factors in promoting health with an emphasis on reducing disparities among populations. Faculty have expertise in a range of qualitative methods to explore nuanced research questions related to health disparities and social determinants of health. Specific methods include discourse analysis, narrative analysis, and grounded theory to complement the depth of expertise in quantitative methodological approaches. As evidenced by current affairs around the global COVID-19 pandemic, the Black Lives Matter Movement, and climate change, this research agenda becomes urgent when the burden of disease is unevenly distributed in society and certain populations are disproportionately exposed to risk factors for diseases because of social policies and systematic biases. Program in Public Health faculty members’ multidisciplinary approach to health has created exciting research emphasis areas as described below.

- **Health equity and community-based participatory research** (Boden-Albala, Hopfer, Lakon, LeBrón, Morey, Parker, Ro, Roby, Tanjasiri, and Wu). Program in Public Health faculty are leaders in this area and recognized globally for their work in community-based participatory research. This framework and its associated research identify upstream drivers of health disparities and implicate non-health-related sectors and institutions in the creation of health inequities (institutional racism, education,
criminal justice, and immigration health). By engaging with communities affected by pertinent health issues, scholars and community members can jointly develop research questions, collect, and analyze data, and interpret and disseminate results, ensuring an equitable and mutual process to improve healthcare access, change policy, implement specific community-based programming, and educate community members. This work includes applications of health communication to better target health interventions, as well as the use of health communication theory to understand and convey broader societal threats such as vaccine non-adherence and climate change. Chronic disease research in hypertension and stroke along with cancer research incorporate a strong focus in reducing health disparities among racial/ethnic minority populations, especially among cultural groups reflected in Orange County. Environmental health disparity issues are also investigated among communities across Southern California. This research spans a broad methodological spectrum to include qualitative inquiry, community-based participatory research, epidemiological surveys, and randomized clinical trials with a strong emphasis on chronic disease prevention and recovery in Asian, Latino, and Black communities. This research extends globally, for example, from malaria-affected rural villages in Myanmar and early onset hypertensive communities in Ghana.

- **Racism and social justice (Boden-Albala, LeBrón, Morey, Ro, and Roby).** Racial differences in health outcomes are robust and long-standing. This work investigates how racism—the organized and dynamic system that provides benefits to the dominant racial group while withholding resources from other racial groups—is a key cause of health inequities. A particular focus is on structural racism, which is the larger system of policies, practices, ideologies, and institutions that reinforces racial inequality by creating differential access to resources and opportunities. (e.g., education and criminal justice).

- **Social contexts and health (Boden-Albala, Hopfer, Hakon, LeBrón, and Uban).** Health behaviors and health risks are not randomly distributed within a population. Instead, the social environment and social relationships within them create distinct profiles of wellness or vulnerability to disease. This area identifies aspects of the social environment that serve as health risks and resources such as social networks, family influences, and social support. Some of the current work involves the use of social networks as intervention strategies to reduce both primary and secondary vascular events and digital family networks to increase cancer screening.

- **(Im)migrant health (LeBrón, Morey, Parker, and Ro).** Immigrants to the United States have recognizable health risks and outcomes that distinguish them from the U.S.-born population. Program in Public Health faculty members’ perspective departs from the conventional view, which attributes immigrant health patterns to cultural difference and acculturation. Instead, this research considers how structural forces that arise from conditions in the sending country and contexts of reception in the United States create unique psychosocial and environmental risk factors and resources for immigrant communities. Faculty also work with immigrant and refugee communities in an international context.
• Spatial epidemiology (Bartell, Gillen, Parker, Vieira, Wu, and Yan). This research uses geographic information systems (GIS) techniques in conjunction with modern statistical methods, such as smoothing within generalized additive models and Cox models, to study associations between spatiotemporal locations, other individual-level risk factors, and health outcomes. Current projects focus on associations of perfluorinated chemicals and preeclampsia/pregnancy-associated hypertension, health effects related to exposures from the New Bedford Harbor Superfund site, environmental exposures, environmental health disparity issues in community settings leading to breast cancer risk, and development of improved statistical methods for epidemiological analysis of spatiotemporal patterns of exposure and disease in human populations. GIS techniques, including spatiotemporal modeling, and other advanced data analysis tools are used to investigate the impact of various environmental exposures on health. These exposures include air pollution, soil contamination, noise, and built environment such as green space and neighborhood resources.

2.1.2b Chronic Disease Etiology, Prevention, and Survivorship. Program in Public Health faculty pride themselves on having international recognition in areas of chronic disease research. Working closely with the renowned Chao Family Comprehensive Cancer Center (CFCCC), faculty K. Edwards, Hoyt, Jiang, Milam, Tanjasiri, and Wenzel are experts in cancer control, prevention, and recovery and Boden-Albala is an expert in neurological conditions. The interdisciplinary chronic disease research faculty also include experts in Alzheimer’s Disease (Kitazawa), preventive health behaviors (Schneider), and dietary risk factors (Odegard). What makes the chronic disease research program unique is understanding and acting on the interaction of social, psychological, environmental, and biological determinants. Spanning the entire translational spectrum, the multi-disciplinary expertise of the faculty assures the program’s success. SPPH’s strategic vision to expand research at the community and population level will create a pathway to optimal strategies for reducing morbidity and race-ethnic disparities as well as adds greater impact to the Program in Public Health’s research portfolio around disease etiology and prevention.

Cancer control research spanning the cancer continuum, from etiology to survivorship, represents a major programmatic research focus. Faculty research includes: (a) examination of biobehavioral and environmental influences on cancer and cancer-related outcomes, (b) development of innovative approaches to improve quality of life in cancer survivors, (c) testing of novel biobehavioral interventions in those affected by cancer, (d) conducting clinical trials to improve outcomes and prevent recurrence, and (e) designing and testing culturally tailored clinical trials to increase cancer screening among underserved minority populations in an effort to reduce cancer disparities that impact those living within and beyond a local community. Importantly, DEB houses the CFCCC’s Office of Community Outreach and Engagement, and the faculty of DEB who specialize in cancer research also serve as the coordinating hub of CFCCC’s population science program.

• Cancer detection and survivorship (Hoyt, Lu, Milam, Roby, Tanjasiri, Vieira, and Wenzel). Several faculty specialize in the behavioral and biobehavioral processes related to psychological predictors of screening, coping, and adjustment to cancer, and the improvement of health outcomes and health-related quality of life. Areas in
which they focus and innovate include psycho-oncology intervention testing, biobehavioral mechanisms of obesity after cancer, and the impact of stress on cancer outcomes. Methodological work and clinical trial research include attention to the development and implementation of biobehavioral-informed, patient-reported outcome measures across the developmental and disease trajectory. The group has a concentration of excellence in the areas of adolescent and young adult cancer survivorship, cancer outcomes in Latino survivors, and cancer impact among Asian American populations.

- **Cancer epidemiology (K. Edwards, Jiang, Liu-Smith, Odegaard, Park, and Timberlake).** Cancer research includes such areas of focus as identifying risk factors for cancer, reducing health disparities among minority and immigrant populations, gender difference in incidence and outcome, mechanism of sex hormones in melanoma development, pre-clinical drug development and therapeutic drug resistance, as well as evaluating the interplay between genetic and environmental variables including dietary factors and public health genomics.

- **Organizational and occupational epidemiology (Baker, Schnall, Dobson, Richardson, and Yang).** The recent and ongoing research examines the effects of adverse working conditions on diverse health outcomes including mental health, cardiovascular disease (CVD), CVD risk factors, and musculoskeletal disorders and injuries in diverse worker populations including firefighters, bus drivers, taxi drivers, supermarket workers, day laborers, and hotel workers. The research group has developed several work-organization risk assessment instruments for general working populations, such as an online healthy work survey, and for specific occupational groups (e.g., firefighters, bus, and rail operators), using a mixed methods approach. Faculty have conducted ambulatory monitoring studies on cardiovascular parameters of blood pressure, heart rate and heart rate variability, and salivary cortisol and C-reactive protein in firefighters and taxi drivers. With support of an intramural grant from the UCI Office of Research, the group is conducting a project to create a Southern California Center of Excellence for the Promotion of Healthy Work.

- **Stroke and, cardiovascular disease epidemiology and intervention science (Boden-Albala, R. Edwards, Lakon, and Odegaard).** The program has internationally recognized expertise in the social epidemiology of vascular disease. This research portfolio has focused on defining and intervening on social determinants of disease, including the role of sex, race-ethnicity, socio-economic status, social support, stress, and social networks on vascular disease disparities and patterns across the United States and globally. Faculty expertise includes the conduct of numerous large, multi-site stroke prevention studies in urban and rural communities. Other faculty are involved in environmental causes of stroke and cardiovascular disease. Several large trials including the Discharge Educational Strategies for Reduction of Vascular Events (DESERVE) and Stroke Warning Information and Faster Treatment (SWIFT) trials have documented reduction in disparities gap by race-ethnic group. Researchers are also national leaders in a body of research focused on social justice, inclusion, and the improvement of underserved populations into research studies and trials.
Early life perspectives on exposure, disease progression, and life course (Bartell, Bruckner, Luderer, Uban, and Wu). Faculty working in this area investigate early life exposure to risk factors and how health consequences to these exposures unfold over the life course. This work considers how timing of exposures in utero or very early life (either social or biologic) can impact disease outcomes as well as how the social environment can mitigate or exacerbate disease progression among those exposed. This work includes a multidisciplinary approach to reproductive and developmental effects of occupational and environmental exposures encompassing toxicology, epidemiology, and developmental biology. Current research focuses on: (a) the roles of oxidative stress in mediating ovarian toxicity of occupational and environmental exposures, (b) the developmental origins of premature ovarian failure and ovarian cancer, and (c) the role of antioxidants in protecting against ovarian toxicity. Members of the faculty work in collaboration with the NIH West Coast Metabolomics Center on a study using metabolomics methods to measure the exposome and analyze associations between novel exposures and endpoints of reproductive function in women. Other work examines air pollution and environment factors on pregnancy complications (e.g., gestation outcomes) and birth outcomes in a large population study. This area has a research program on children’s environmental health with an emphasis on community-based epidemiological studies. This program has conducted studies of environmental risks for asthma morbidity among inner-city children; lead exposure pathways among children in Tijuana, Mexico; and DDT and solvent exposure and health effects among children in communities adjacent to Superfund sites in California.

Aging populations (Bondy and Kitazawa). Faculty research examines the impact of environmental factors on the expression of chronic degenerative neurological disorders such as Alzheimer’s and Parkinson’s diseases, as the population ages. This work examines the impact of gene-environment interactions on the molecular pathogenesis of Alzheimer's disease. It analyzes how aging and/or environmental exposures such as copper in drinking water and particulate matter in ambient air perturb physiological functions of astrocytes and microglia and disrupt the inflammatory microenvironment in the brain, leading to neurodegeneration and dementia. Other work includes understanding the neurotoxicity of metals in the aging brain and the protective effects of the hormone melatonin. Other research examines the interactions of environmental exposures and genetic factors on ovarian aging. Accelerated ovarian aging resulting in early menopause is a major risk factor for neurodegenerative diseases, cardiovascular disease, and osteoporosis in women.

Genomics and bioinformatics (K. Edwards and Norden-Krichmar). Faculty working in this area seek to discover the genetic basis of disease, including mechanisms underlying the causes of human diseases, and work to understand how genomic factors interact with environmental and social factors to influence disease and well-being. Their work also emphasizes the need to include diverse and underrepresented populations in genomic research to ensure that everyone benefits from advances in genomics and includes a unique emphasis on the ethical, legal, and social implications of genomic research. Genomic and bioinformatic research spans
a variety of chronic conditions from cancer to cardio-metabolic to neurologic
diseases, as well as infectious and emerging diseases such as COVID-19.

2.1.2c Environmental and Occupational Risk Factors. Faculty conduct research to
understand environmental risk factors and their impacts, and the role of nutrition in health
and wellness.

- Occupational health (Bartell, Bic, R. Edwards, Grant Ludwig, Kitazawa, Kleinman,
  Luderer, Odegaard, Ogunseitan, Richardson, Vieira, and Wu). This research group
  includes faculty with primary focus on core and emerging areas of environmental
  and occupational health such as exposure to contaminated air, water, soil, food, and
  exposure to environmental hazards including climate change and natural disasters.
  Areas of expertise include toxicology, reproductive and developmental effects of
  environmental exposures, and the challenge posed to environmental quality and
  human health by the hazardous nature of electronic waste materials.

- Inhalation toxicology (De Vizcaya-Ruiz, Kleinman and Phalen). The Air Pollution
  Health Effects Laboratory has conducted more than 40 years of research in the areas
  of the pulmonary, cardiovascular, and neurological toxicology of air pollutants,
  particle distribution in the lung, both human and in animal models, and aerosol
dynamics. Research focuses on the roles of inflammation and oxidative stress as
  initiators of cardiopulmonary and neurological injury after exposure to ambient and
  laboratory-generated particle and gas mixtures. The studies involve inhalation
  exposures of human volunteers and laboratory animals to laboratory-generated fine
  and ultra-fine particles and to size-differentiated ambient particles to examine the
  mechanisms by which inhaled environmental contaminants alter homeostatic
  processes that influence cardiovascular and cardiopulmonary physiology and
  thereby cause or exacerbate lung and heart diseases. Other collaborations include
  the UCI Department of Chemistry and UCI Atmospheric Integrated Research (UCI
  AIR), toward integrating aerosol science, atmospheric chemistry, and inhalation
toxicology with the physical and chemical characteristics of tobacco smoke, e-
cigarette smoke, and smoke from water pipes — all of which impact the hearts and
  lungs of smokers.

- Environmental exposures (Baker, Bartell, R. Edwards, Richardson, Vieira, and Wu).
  Research focuses on epidemiological investigations of adverse health outcomes and
  exposure to indoor and outdoor air pollutants, electronic nicotine delivery systems,
  perfluorooctanoate, pesticides, heavy metals, workplace stressors, and other
  environmental stressors. Faculty are currently working with local communities in
  Orange County and internationally on air pollution issues in areas where industrial,
  solid fuel use and other sources of emissions are concentrated.

2.1.2d Global Health (Boden-Albala, Ogunseitan, Parker, Payán, Turner, Uban, Wodarz and
Yan). The program has developed and implemented a specialization in translational global
health while enhancing work on research and capacity-building in global chronic disease.
Faculty are internationally recognized leaders in global health, including malaria research.
As part of this work, the Program in Public Health hosts an NIH-funded International
Center of Excellence for Malaria Research and the faculty lead research in data-driven
assessments of the global burden of disease. Global health researchers are also active
participants in the UC systemwide Global Health Institute, with additional focus on
environmental health and hypertension, and the Grand Challenges in Global Health
Initiatives grant from the Bill & Melinda Gates Foundation, co-directed by Yan. Global
health faculty have created training workshops with United Nations (UN) partners for
health professionals and public health students with the UN and the United Nations
International Children’s Emergency Fund (UNICEF), which provide skills-based training
focusing on multi-level organizational responses for both the acute and subacute phases of
emerging infectious diseases in low, middle-, and high-income countries (Polio, SARS,
Ebola). In addition, faculty take on ethical considerations from a public health perspective,
balancing the risks and benefits to society and the study being conducted.

2.1.2e Health Services/Population Health (Bruckner, Hopfer, Grant Ludwig, Lakon, LeBrón,
Noymer, Ro, Timberlake, and Uban). Strong community ties and a diverse student
population provide opportunities for developing novel training programs and setting up
models to support a pipeline for health services training among underserved and diverse
populations. As the program recruits and hires new faculty, the program will enhance the
range of methodologies including health econometrics, big data analytics, and
implementation science. Biostatistics will address the most pressing health concerns in
public health today and biostatisticians will also develop new methods to utilize
developments in data, including health informatics, big data/e-health records, AI/precision
public health, emerging data trends, implementation science, agent-based modeling, and
compative effectiveness research. Research in this area also focuses on disaster impacts
on academic biomedical research communities and formulating policy recommendations
based on data for multi-hazard disaster resilience of academic research facilities.

2.1.2f Emerging and Infectious Diseases. Public health faculty have a strong global infectious
disease focus, including developing complex mathematical models to understand disease
behavior at the cellular level, understanding mosquito behaviors and malaria transmission,
and exploring HIV on brain development.

- Infectious diseases (Gideonse, Milam, Ogunseitan, Parker, Roby, Uban, Wodarz, and
Yan). Faculty examine the impact of environmental modifications from water
development projects and shifting agricultural practices on the epidemiology of
clinical (severe and uncomplicated) malaria, transmission and pathogenesis and
examination of malaria and dengue, and other vector-borne infectious diseases. This
area of research includes developing mathematical models to analyze viral
dynamics, viral evolution, and interactions between viruses to understand
resistance and vaccination development; spatial epidemiology of infectious
diseases; and landscape genetics of parasites and viruses. Additional research
includes examining environmental dimensions of antimicrobial resistance and
understanding prenatal exposures and the relationship between these exposures
and brain development in early childhood. Faculty are also training students from
malaria-endemic areas to use geographic information systems including
cartography and the analysis of spatial data.

- COVID-19 (Bartell, Boden-Albala, Bruckner, Hopfer, Morey, Noymer, Parker, Vieira,
and Wodarz). UCI public health faculty have been at the forefront of the COVID-19
pandemic in research and practice efforts by: focusing on predicting a surge;
forecasting models based on social activity over time; developing interventions at
the community level based on knowledge and attitudes of students; using
surveillance methods to address the likely underestimation of minimally
symptomatic or asymptomatic cases; engaging in geo-spatial mapping to model the
timing and severity of cases and outcomes; understanding the impact of COVID-19
on vulnerable populations and how eliminating social distancing will impact future
cases; and determining how social isolation messages inform how underserved
communities are coping. Emerging disease research also focuses on the
relationships between human travel and activity patterns, the risk of acquiring
infections, the distribution of pathogens across landscapes, and access to healthcare
facilities.

2.1.2g Emerging Research Areas.

• **Biostatistical methodologies.** Currently, Program in Public Health’s faculty provide a
  small but important contribution to public health biostatistical research approaches.
  Part of this proposal includes the much-needed recruitment of biostatisticians who
  will enhance the work on intervention and implementation studies, apply novel
  methods to the utilization of large data, and contribute to modeling paradigms for
  understanding risk for emerging infections as well as chronic diseases globally.

• **Nutritional science.** Part of the School strategic plan is to integrate a focus on public
  health nutritional science through strategic hiring. These new faculty will contribute
  to two important research areas: nutritional epidemiology of chronic diseases,
  including diabetes, cancer, and vascular disease; and nutrition policy, especially
  related to food insecurity and underserved populations. The SPPH has hired a health
  policy professor to meet the requirements for discipline-specific program
  accreditation, and that new faculty member will augment the program in multiple
  areas. Additionally, one joint faculty member recruited in AY 2020-21 will
  contribute to the significant body of research around ethical issues regarding how
  health policy and healthcare have become political tools, rather than solutions to
  address the need to increase access to care for individuals and communities.

2.1.3 Research Centers

At UCI, like other top institutions, public health emerged as an interdisciplinary field.
Program in Public Health's departmental program structure, implemented July 1, 2020, has
fostered continued expansion of novel collaborations. A few examples are provided. First,
establishing DEB and the DEOH within the Program in Public Health resulted in the
transfer of many former SOM faculty and their partnerships into PPH. The university-wide
COEH, which was concurrently transferred from the SOM to PPH, has strong alliances
among the schools of physical sciences, medicine, computer and information sciences, and
engineering. Additionally, the Program in Public Health co-sponsors the UCI Institute for
Interdisciplinary Salivary Bioscience Research with the School of Social Ecology; Program
in Public Health faculty are working with School of Humanities faculty on a program that
integrates narrative in public health laboratory settings; and they are partnering with
The Program in Public Health also maintains a strong collaborative presence on the main campus through partnerships with existing Organizational Research Units and centers across the University. Our involvement has included sharing resources, including financial and human capital. These partnerships strengthen the Program and the University as a whole. Faculty leaders are involved in the following Centers, Institutes, and ORUs across campus:

- UCI Center for Population, Inequality and Policy – This center facilitates discussion and activities to advance research on socioeconomic factors that directly impact inequality. Tim Bruckner is co-director of the center. Other affiliated faculty include Lakon, Morey, Noymer, Parker, and Ro.

- Center for Occupational and Environmental Health – This campus-wide center (including Schools of Physical Science, Medicine, Engineering) provides awareness to the region to improve occupational and environmental hazards that cause injury and disease. Dr. Ulrike Luderer is the center’s director. The center trains occupational and environmental physicians and nurses, toxicologists, epidemiologists, and industrial hygienists. DEOH faculty are all engaged in training, including Fedoruk and Chang (clinical directors), and Khan (residency program director).

- Public Health faculty Bruckner and Tanjasiri, in collaboration with the Department of Informatics, were awarded a federal grant to fund a program that aims to train the next generation of the public health workforce to be proficient at informatics and technology. The program will support curriculum development, student recruitment and training, paid internships, career development services, and tuition discount for working professionals. UCI will partner with OCHCA and the Department of Continuing Education on program implementation.

- Institute for Interdisciplinary Salivary Bioscience Research (IISBR) at UCI, an interdisciplinary research institute focused on developing knowledge of the biobehavioral processes and mechanisms that underscore social, and behavioral health sciences, led by Public Health (Hoyt, Uban and Thomas) and School of Social Ecology.

- The Center for Environmental Health Disparities Research (CEHDR) includes members across campus and CHOC. CEHDR is part of a UCI-wide Environmental Health Disparities faculty cluster hiring program to foster multidisciplinary collaborations that seek to understand and address the ways in which environmental stress and racism contribute to health disparities in Black communities. This Center fosters new campuswide collaborations and currently includes faculty from Public Health, Nursing, Pharmacy, Medicine, Engineering, Anthropology, and Urban Planning. CEHDR promotes collaboration through shared seminars, community outreach, and graduate student training. Public health faculty include LeBron and Wu (Co-Directors), as well as Bartell, Hopfer, Lakon, Morey, Richardson, Tanjasiri, and Vieira.
The focus of research at APHEL (Air Pollution Health Effects Lab) is on determining the mechanisms by which inhaled toxic chemicals, alone and in mixtures, interfere with the cardiopulmonary system and with respiratory system defenses, using in vitro studies and in vivo exposure studies with laboratory animals and human subjects. These studies examine the role of inflammation and oxidative stress induced by endogenous and exogenous factors in the development and exacerbation of chronic diseases such as asthma, cardiopulmonary injury and exacerbation of lung and heart diseases. The APHEL is fully funded by extramural grants and the COEH and faculty include Kleinman, De Vizcaya-Ruiz, and Phalen.

Solutions that Scale is a university-wide initiative that includes research, a speaker series, and sponsorship of a doctoral student and master’s student. Faculty include Vieira and Ogunseitan (Executive Board Members) and Hopfer and Wu (Affiliates).

The Chao Family Comprehensive Center (CFCCC), the only designated comprehensive cancer center in Orange County, brings together scientists and clinicians in the fight to alleviate the burden of cancer through world-class research, prevention, and the most advanced diagnostics, treatment, and rehabilitation programs. Numerous Program in Public Health faculty work extensively with this Center, many holding leadership roles including participation on the Internal Advisory Board (Tanjasiri is Associate Director for Cancer Health Disparities & Community Engagement, K. Edwards is the Associate Director for Population Science & Cancer Control, Boden-Albala sits on the Internal Advisory Board, Milam is the Cancer Control Program Co-Director, Wenzel is the Director of the Biobehavioral Shared Resource, and Hoyt is on the Internal Advisory Board of the Biobehavioral Shared Resource).

UCI Institute for Clinical & Translational Science (ICTS), funded by the National Institutes of Health, is dedicated to advancing scientific discovery and medical breakthroughs, accelerating discoveries from the lab and translating them to medical care. Numerous Program in Public Health faculty are actively involved. For example, Bartell, Vieira, and LeBrón recently partnered with ICTS and the Henry Samueli School of Engineering to obtain a $5.2 million cooperative agreement with the U.S. Centers for Disease Control and Prevention to study water contamination and health in Orange County. Ogunseitan serves as Workforce Development Director, Hoyt is involved in recruitment initiatives, and Tanjasiri, Hopfer, and Boden-Albala are involved in community engagement research.

The Center for Young Adult Cancer Survivorship Research is an interdisciplinary collaboration between the University of Southern California and UCI. Research focuses on population health, health services and systems, wellbeing, quality of life, and medical outcomes among young cancer survivors under the age of 50. The Center has over 75 affiliates spanning research faculty, clinicians, trainees, and MPH/undergraduate students. Program in Public Health faculty include Milam (Co-Founder and Co-Director), Hoyt, and Ritt-Olson.

The Program in Public Health has established a significant research relationship with the Children’s Hospital of Orange County (CHOC) including quarterly research meetings with numerous faculty (Bruckner, Hoyt, K. Edwards, and Grant Ludwig). In addition, Hoyt has a research affiliation at CHOC and serves on their Psychosocial Oncology Research Workgroup.
• Additional campus affiliations include: UCI Institute for Future Health; UC Irvine Blum Center for Poverty Alleviation; The UCI-Water Institute; UCI Memory Institute for Neurological Diseases (UCI MIND); UC Irvine Graduate Professional Success (GPS) for Biomedical Sciences; UC Irvine Center for Disaster Medical Sciences; Grand Challenges in Global Health Initiative, Precision Health Institute, AIR UCI, Water UCI, UCI Family Medicine Initiatives, UCI Community Resilience Project, and The Digital Health Initiative.

• Plans for SPPH are to support a university-wide center for bioethics that will facilitate further collaborations among every school on campus – from law and business to humanities, social sciences, nursing, and medicine. The recent hire of an internationally recognized bioethicist (Turner) will propel the plans for this center forward.

• Pilot project with the School of Humanities around the impact of the humanities in stem research groups. Humanities students are placed in public health research lab groups to understand the unique perspective they may play in research discussions.

2.1.4 Partnerships with UCs and CSUs to Advance Public Health

Public Health faculty have important partnerships across the UC and CSU systems that advance public health research and training in California. Many faculty were trained at other UC Schools of Public Health and value the role of the UC as the largest public research university in the world. Indeed, most PPH faculty are engaged in cross UC campus research initiatives and collaborations. For example, former PHDP Chair Ogunseitan was a member of the UC-wide Global Health Institute (UCGHI) and Boden-Albala has now been appointed to the UCGHI. Faculty also participate in the California Initiative for Health Equity and Action, a state-wide research translation center that provides a critical link between the University of California, CSU and the state’s health policy community. Other examples of partnerships with UC campuses include Director and founding dean Boden-Albala’s large community hypertension initiative with Arleen Brown at UCLA and Professor Vieira’s multi-PI status with colleagues at UC Berkeley with a NIEHS R01 grant. Professor Edwards has collaborated extensively over the last 20 years with faculty at UC Berkeley and UC Riverside. Professor Wu collaborates with faculty at UC Los Angeles, UC San Diego, UC San Francisco, and UC Davis campuses. Public Health faculty are committed to collaborating with faculty at other UC and CSU campuses to help expand public health capacity and research throughout the state. For example, Professor Tanjasiri has an NCI P20, cancer health equity research partnership with CSUF, and Professor Payán’s recent Tobacco-Related Disease Research Program grant focused on local tobacco policy implementation in Orange County and the San Joaquin Valley with UC Merced. Expansion of faculty and research areas within the UCI SPPH will result in further opportunities for continued collaboration with colleagues across the University of California, in addition to generating new partnerships with other UC and CSU campuses.
2.1.5 Enhanced Capacity for Increasing Extramural Support

The transition to a school and expansion of key research areas is driven by the recruitment of highly specialized faculty. Supported by director and founding dean, Boden-Albala, and led by newly recruited associate dean for research, Dr. David Richardson, faculty aim to develop the SPPH into a renowned academic resource for research and education in public health. In AY 2020-21, Program in Public Health faculty received nearly $20 million in extramural research grants and engaged actively in cross-disciplinary research totaling more than $20.7 million and are on track to easily bypass these numbers in AY 2021-2022 (see Appendix E).

Integral to the public health mission, the transition to a school must include the continued development of a strong research presence. Program in Public Health faculty have built a solid and diverse research portfolio and are committed to pursuing a sustained trajectory of increased funding. Achievement of this goal will be supported by the unit’s recent and planned strategic hiring of internationally recognized researchers, including an associate dean for research. Program in Public Health faculty continue to be engaged in a series of discussions about priority strategies to build their individual and collective research portfolios. These conversations led to the development of faculty-led standing committee for research. This committee was formalized in AY2021-22 with Richardson as an ex officio member (see Standing Committees below).

Creating a sustained research trajectory involves a host of activities such as hosting venues for faculty discussions on scholarship, providing safe spaces for soliciting critique and comment, and building platforms that challenge public health researchers to work together to create research teams. Other specific strategies benefitting SPPH and employed within the SHSCOHS to enhance research through faculty recruitment and retention include:

- Creating a culture of inclusion and diversity that has the prestige and resources necessary to recruit and retain prominent faculty to advance the mission of research excellence;
- Building state-of-the-art facilities such as modern, fully-equipped research labs and teaching clinics, that will attract internationally recognized researchers and clinical scientists who will raise the stature of an already-prominent Program in Public Health faculty; and
- Developing innovative research projects and training programs designed to stimulate research and nurture excellence in key health areas such as chronic disease prevention and management (heart disease, stroke, cancer, diabetes), nutritional science, human development (brain), environmental and occupational health, health equity, infectious disease, community engagement, and global health.

Recruitment efforts have been focused on bringing in top research scholars. For example, newly recruited faculty joining the program in AY 2021-22 also brought with them a robust extramural funding portfolio that included three R01 awards, two with the Centers for Disease Control and Prevention (CDC) and one with the NIH, a T-42 grant from the CDC, and a large PEW Center grant. As recruitment for new faculty continues, the future SPPH will work to sustain this successful recruitment track record. Program in Public Health faculty are confident they are building on a strong foundation of scholarship and are well-poised to grow the academic unit while also expanding its reputation.
2.2 Academic Programs and Teaching

2.2.1 Academic Rigor

Using the framework of health equity, which recognizes multi-level, structural, and historical influences on health, (Peterson, Charles, Yeung, Coyle, 2002), the faculty are committed to educating the future health workforce of California and beyond, through exceptional research programs and learning opportunities. The field of public health is multi-disciplinary and includes quantitative and qualitative approaches to scholarly inquiry as well as a strong training and mentoring mission. Academic rigor is dependent on faculty, students, and the curriculum. The process of ensuring academic rigor includes commitments to a scientific, evidence-based curriculum; diversity of faculty backgrounds, training, and expertise; diverse backgrounds and interests of students; and continually focusing on excellence in student education. This approach to academic rigor ensures that students receive meaningful content in public health science, social science, public health methodologies, and specifically for the undergraduate and Master of Public Health (MPH) degree professional training with a focus on health equity.

At its core, public health provides an academically rigorous science-based curriculum, grounded in STEM disciplines including epidemiology, environmental science, biostatistics, biology, and physical sciences. This rigorous curriculum is complemented by a strong social science base, including but not limited to ethics, behavioral sciences, political sciences, anthropology, sociology, and economics. Indeed, public health in addressing the health and welfare of societies is by its very nature interdisciplinary. For our undergraduate degree, the academic goal is to provide education in public health science and its applications, so when our students graduate, they can take this broad science-based foundation and apply it to doctoral programs, to professional training, or to real world careers including but not limited to public health. The goals of the MPH curriculum and to provide cutting edge training for health professionals integrated with the same STEM and social science framework applicable to a master’s level degree program. The doctoral program is focused on training students for an academic career in public health with a focus on public health research.

2.2.2 Teaching and Mentoring

Public health as a discipline exemplifies the integration of research, application, and teaching. As a field whose mission is focused on achieving health and wellness in all communities, the Program in Public Health is driven to produce research, advance science, and if applicable provide evidence for optimal practice in public health. Thus, public health research informs policy, which in turn influence teaching. Public health students must learn the foundational framework of the field, critically examine research and apply this knowledge to their own research and fieldwork. Training in and awareness of research are necessary and vital to all levels of Program in Public Health programming. For example, the Public Health Honors Program provides an opportunity for undergraduate students that have excelled in coursework to work with faculty mentors and pursue advanced work in independent research. During their fifth or sixth quarter of enrollment, MPH students register for a practicum course designed to provide them with experience working with local organizations in the Public Health field. These experiences allow students to work
with experts in the field to support and engage in research, program implementation, and/or community outreach and development, which also furthers program goals of community outreach.

Doctoral programs maintain a strong mentorship model. The Program in Public Health provides the opportunity for PhD students to work closely with faculty as graduate student researchers contributing to ongoing research studies that result in published studies or articles, program development or implementation, or recommendations for policy change. Research includes understanding clinical public health applications and case studies to achieve health and wellness in the communities, advance science, and create change to influence policy.

Training in public health provides knowledge and competency around five core areas: biostatistics, epidemiology, health policy/management, social determinants of health, and environmental health sciences. The Program's faculty have interdisciplinary backgrounds, training, and expertise in key areas of biological, natural, and social sciences to support the unit's mission, goals, and objectives within a public health framework.

Public health education includes social justice and health equity, community-level environmental sciences, epidemiology, statistical methodology, behavioral science, large data science, artificial intelligence, and other emerging health disciplines. At its core, public health faculty are applied scholars; committed to identifying and reducing the factors that lead to health disparities and negative health outcomes by promoting factors that lead to positive health outcomes. As novel health crises arise, faculty have the depth of experience to shift focus to study and address emerging health needs. This is a considerable strength of faculty and reflects the foundational knowledge and training within the discipline.

Program in Public Health faculty are encouraged to grow and explore new opportunities for research, teaching, and service as new areas of public health emerge. Faculty are at the forefront of the growing field of pedagogical research on public health issues and pedagogical approaches. The growth of public health programs nationwide requires a careful study of best practices and effective teaching strategies to equip a robust public health workforce. Faculty members have expertise in undergraduate education, with a special emphasis on educating first-generation college students. Over time, additional SPPH faculty will be recruited in emerging discipline areas to create new partnerships with community partners and government agencies (both locally and globally). In tandem, students will have a broader and deeper range of research and practice opportunities with a broader range of populations.

The UCI SPPH will hold itself to the highest standards in postsecondary public health education. The School’s goals are aligned closely with the United Nations Sustainable Development Goals (SDGs), which are a blueprint for the future of students. The SDGs outline “strategies that improve health and education, reduce inequality and spur economic growth” (Sustainable Development Goals, n.d.). Examples include reducing inequalities for healthcare access (Goal 10); examining the effects of climate change, clean water...
sustainability, and access (Goal 13); ensuring healthy living and well-being for all at any age (Goal 3); and improving food access and sustainable agriculture (Goals 1 and 11). These goals underscore the very areas that faculty and staff have prioritized and are the same issues with which public health students consistently choose to engage. The Program in Public Health’s communities, including students’ families, face these challenges as part of their everyday lives. UCI’s SPPH will provide opportunities for students to participate in enhanced practice and skills-based learning, in part due to faculty members’ commitments to ongoing expansion of the unit’s domestic and international network of partner organizations and research sites.

Public health faculty are amenable to enrolling students from all UCI schools in courses related to epidemiology, biostatistics, and social determinants of health, among others. Since 2016, UCI’s commitment to team-based healthcare also has increased the focus on interprofessional education (IPE) across the College. Program in Public Health administrators support the SHSCOHS commitment to IPE and, as such, discuss implementation of the IPE work group’s recommendations with faculty. The incorporation of public health into health-focused IPE is an extremely important component in promoting healthy communities.

2.2.3 Academic Programs

The objectives of UCI’s undergraduate and graduate degrees in public health are to create enlightened, inquisitive, forward-thinking professionals who are prepared to create, design, implement, and evaluate effective strategies for promotion of health and wellness in culturally diverse communities and to work collaboratively on assessments of health risk factors and management of evidence-based intervention strategies. Hence, the foundational competencies within these areas cover the main theoretical and methodological subjects and cross-cutting interdisciplinary themes that underpin advanced study, research activities, and professional application in public health.

All undergraduate programs including the Bachelor of Arts (BA) in Public Health Policy, Bachelor of Science (BS) in Public Health Science, minor in public health, and minor in global health, in addition to the MPH, are schoolwide degree programs. Therefore, faculty in all four departments capitalize on their extensive public health expertise to contribute to teaching in these programs. The Doctor of Philosophy (PhD) and Master of Science (MS) programs are administered within department(s) in which they are housed (the PhD in Public Health is co-administered by DPHDP and DHSB).

2.2.3a Undergraduate Programs

The need for undergraduate training in public health was recognized as early as the 2003 report of the Institute of Medicine’s Committee on Educating Public Health Professionals. The report emphasized exposure to public health curricula as “an essential part of the education of an informed citizenry” (Gebbie, Rosenstock, & Hernandez, 2003). Themes around understanding and application of scientific method, and evidence-based data, as well as themes around social determinants of health, health equity, and social justice are critical future life skills for the graduating public health undergraduates. The Committee
also recommended that the BS in Public Health degree was suitable for preparing students
to engage specifically in public health career activities after graduation. These concepts
have remained underlying themes in the development of undergraduate public health over
the last two decades. UCI’s Program in Public Health faculty dedicate themselves to
maintaining the highest level of public health education at the undergraduate level.

Because of the concurrent public health crises of COVID-19, racial injustice, and climate
change, faculty are committed to increasing public health fluency among all students at the
university level so that they can become actively involved in shaping a future that defends
public health science and promotes health equity.

Bachelor of Science in Public Health Sciences and Bachelor of Arts in Public Health Policy. The
Program in Public Health began enrolling students in these baccalaureate programs in
2006. UCI was one of the first UC campuses to offer undergraduate degrees in public health,
a legacy that has grown to be a point of pride for the campus. These programs train
students in public health sciences and their applications including multidisciplinary
approaches to assess population health and to reduce the burden of disease through
preventive strategies that fulfill society’s need for understanding, avoiding, and addressing
risks, while working to foster the conditions in which people can be healthy. Students
enrolled in the BS and BA programs explore both quantitative and qualitative aspects of
public health research and practice. In addition, UCI’s undergraduate training facilitates the
acquisition of analytical and abstract reasoning abilities in key public health sub-
disciplines.

Both undergraduate programs provide a rigorous foundation in core public health science
and social science. The BA curriculum focuses on determinants of health status, social and
behavioral health science, and health policy and management (see Appendix F: BA in Public
Health Policy). In contrast, the BS program draws on disciplines related to the biological
aspects of public health, including epidemiology, genetics, environmental/global health
sciences, infectious diseases, and chronic diseases (see Appendix G: BS in Public Health
Sciences).

To be admitted as first-year students, undergraduate applicants are expected to
demonstrate proficiency through a college-preparatory high school curriculum, as required
by the UCI Office of Undergraduate Admissions. Since 2011, academic characteristics of
freshmen admitted to public health majors have reflected a positive trend. The ten-year
period shows selectivity overall improving from 38.6% to 36% and among California
residents from 37.5% to 32.1%. The mean high school grade point average (GPA) of
students admitted in the AY 2020-21 cohort was 4.01 for all public health freshmen, with
California students averaging a 4.03 GPA; these numbers were up from 3.87 and 3.88,
respectively. Further, total SAT scores of incoming freshmen increased by 69 points, from
1,256 to 1,325 during the same timeframe (UCI Office of Institutional Research Data Hub,
2020). However, the overall selectivity rate is higher due to normal transfers from around
the larger campus and is attributed to the increased visibility of public health as a health
science major.
The global pandemic has led to enhanced communication about public health as a career and, specifically, a career option in the health sciences field. From March through December 2020, public health occupied a 90% market share of UCI communications (UCI Strategic Communications). Continued saturation of the news around public health nationally and regionally will contribute to the anticipated steady state undergraduate enrollment of ~1,300. Further, COVID-19 has uncovered major local, state, and national public health infrastructure gaps, resulting in a call for expansion of the public health workforce (Brisolara & Smith, 2020). As the Program in Public Health transitions to a school with broader faculty expertise, the SPPH will be in a unique position to address this current workforce gap by contributing a diverse group of public health professionals to the field.

Global Health Undergraduate Minor. The minor in global health, through a concentrated portfolio of courses, provides a solid foundation in the environmental, biological, sociocultural, and ethical domains of global health scholarship. This allows students to develop interdisciplinary and encompassing world perspectives on health. Upon completion of the minor, students learn to identify and define the landscape and importance of prevalent global health issues, as well as to analyze and evaluate complex texts relating to global health.

Public Health Undergraduate Minor. The minor in public health provides students with the fundamental knowledge of principles, applications, and skills needed to develop a firm appreciation of health and disease prevention at the population level, and to use this special knowledge to translate their educational experience within their major program of study into innovative approaches for solving problems in healthcare and assessment.

Undergraduate Honors Research Program: The Public Health Undergraduate Honors Research Program provides an opportunity for selected outstanding BA and BS students to pursue advanced work in independent research and earn honors in public health upon graduation. Successful completion of the Honors Program requires three quarters of commitment to supervised undergraduate research with their mentor each quarter. The Program concludes with a presentation and submission of an honors culminating thesis. Many of these students are part of publications and abstracts, making them significantly competitive in their graduate school applications as well as future job applications. In AY 2020-21, 28 students successfully completed the program.

College Population Health Promotion and Wellness Certificate. This program is designed to educate undergraduate students in health promotion principles and practices on college campuses. Higher education environments are where health and wellness are critical factors influencing students' academic success as well as their social, emotional, and physical experiences. The certificate program is offered through a collaboration between the Program in Public Health and the UCI Center for Student Wellness and Health Promotion. Public Health's ongoing collaboration with UCI Center for Student Wellness and Health Promotion was part of the impetus for UCI's new designation as part of the Okanagan Charter.

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Upon graduation, alumni have opportunities through selective employment in the private or public sectors, or through further education in public health, medicine, pharmacy, or other allied health professions, to become the next generation of public health professionals prepared to face emerging challenges to human health from a population perspective. Between 2016 and 2021, students have taken multiple paths upon graduation including: employment in healthcare, the nonprofit sector, government, and education, as well as pursuing graduate education in public health or allied healthcare fields. In 2018, out of 246 undergraduates that completed a survey regarding their contemporaneous employment, the distribution was 37.5% in healthcare organizations, 28.9% in for-profit organizations, 15.4% in academic institutions, 8.5% in non-profit organizations, 4.1% in government agencies, and 5.7% work in other employment sectors.

2.2.3b Graduate Programs

The graduate mission of SPPH is to conduct research that informs effective strategies to reduce the burden of disease and disability in culturally diverse communities in Southern California and around the world through excellence in research, public service, and education provided in our PhD, MS, and MPH graduate programs. Graduate programs in public health are designed to prepare students for leadership roles in an array of careers; these include academic research, teaching, policy, and agency leadership. Through rigorous coursework and training in theory and research methods, students gain in-depth knowledge of the public health field and its overarching mission of promoting the health and well-being of the world’s most vulnerable populations.

The mission of the M.S. and Ph.D. programs is to prepare graduates so they can successfully go on to lead independent and collaborative research careers in academic institutions, to teach at advanced levels of instruction, and to lead research efforts at agencies dedicated to public health at all levels of organization. The MS and PhD programs have a research focus as part of their curriculum mentored by accomplished faculty members on the most pressing public health questions. Faculty anticipate significant interest in admission to the MS and PhD programs as the SPPH gains attention and further distinction.

The mission of the MPH program, as a professional degree, is to train public health professionals to develop and implement effective strategies to reduce the burden of disease and disability in culturally diverse communities in Southern California and around the world. The MPH includes a greater depth of methodological approaches together with a skill-based aspect across the core disciplines of public health. The MPH and MS programs provide students with the skills necessary to conduct basic or applied research to address discipline-specific problems as health professionals.

**MS and PhD in Environmental Health Sciences.** DEOH faculty have interdisciplinary research and teaching expertise across the fields of exposure science, toxicology, risk assessment, epidemiology, urban health, climate change, natural disasters, and environmental health disparities. The department primarily focuses on how exposures in home, community, and occupational settings influence human health and the development and progression of
human disease, with the aim of preventing human illness and disability and promoting well-being.

The graduate programs in environmental health sciences provide students with the knowledge and skills necessary and appropriate to teach and/or conduct basic and applied research in inhalation/pulmonary toxicology, neurotoxicology, reproductive and developmental toxicology, chemical pathology, toxicokinetics, radiation toxicology, exposure sciences, environmental epidemiology, and risk assessment. The curricula are based on a foundation of basic and health sciences, with applications of scientific principles to environmental exposures and their potential health effects. Formal coursework is enriched by a strong commitment to student-professor interaction throughout the programs. An important and integral part of the learning process is an early and intensive involvement of the student in ongoing original research projects in environmental health sciences, especially inhalation/pulmonary toxicology, reproductive and developmental toxicology, biochemical toxicology, chemical pathology, neurotoxicology, exposure sciences, environmental epidemiology, and risk assessment (see Appendix J: MS in Environmental Health Sciences).

Students enrolled in the PhD in Environmental Health Sciences choose one of two tracks: (1) environmental toxicology focuses on laboratory-based studies on the mechanisms of chemical toxicity and the molecular pathology of tissue injury; and (2) exposure sciences and environmental epidemiology investigates measurement and modeling of human exposures to environmental pollutants and other potential hazards and examines associations of those exposures with health and disease outcomes (see Appendix K: PhD in Environmental Health Sciences).

Individuals with an MS in Environmental Health Sciences have a variety of employment opportunities, and graduates pursue careers at institutional environmental and occupational health departments, public health agencies, environmental health agencies, and environmental health/science advocacy or research organizations. Graduates of the PhD in Environmental Health Science are equipped for research careers at academic institutions, to teach at advanced levels of instruction, and to direct environmental health research efforts at a broad range of health-related organizations.

MS and PhD in Epidemiology. Epidemiology is the study of the frequency, distribution, and determinants of disease in human populations. Faculty within the DEB have expertise in epidemiologic design and methods, biostatistics, and bioinformatics. Faculty research largely focuses on the interplay of genetic, molecular, environmental, and nutritional factors on human health and disease, with an emphasis on age-related diseases, cardiovascular disease, cancers, dementia, diabetes, liver and blood diseases, and obesity. Active research programs provide students with many outstanding opportunities to participate actively in cutting-edge research.

Graduate students in the MS and PhD in Epidemiology learn the fundamental principles and methods used to study the distribution and determinants of disease in human populations. The curricula offer a sound foundation in epidemiologic methods and
biostatistics through coursework and research experience with faculty. The MS degree requires students to complete a set of coursework and demonstrate competence in the form of a research-based thesis project. Upon graduation, students in the MS program may choose to work in the field or continue their training in a doctoral program (see Appendix L: MS in Epidemiology). The PhD in Epidemiology provides students with the opportunity to become apprentice members of the research teams involved with current, cutting-edge studies. To earn the PhD, students must complete required coursework and demonstrate evolving research potential and ability through their dissertations. The PhD program is intended to train well-qualified students to be independent contributors to epidemiology or related fields (see Appendix M: PhD in Epidemiology).

Those who complete the MS in Epidemiology are qualified to work in several sectors, including at public health agencies, public health advocacy or research organizations, and health-related government organizations. Graduates of the PhD in Epidemiology are trained for research careers at academic institutions, teaching positions in higher education, and research positions in government and industry.

**MS and PhD in Public Health.** The MS and PhD degree programs are jointly administered by the DHSB and the DPHD. Faculty in these two departments have extensive expertise in health behavior, social determinants of health, social epidemiology, health disparities and health equity, community-based research, biobehavioral health, health communication, global health, infectious disease dynamics, and natural disasters.

The MS degree prepares the next generation of researchers for global health and disease prevention around the world to advance global health research and reduce the burden of disease, especially in the world’s most vulnerable and risk-associated populations. Graduates of the MS program also are prepared to contribute to the improvement of global health (see Appendix N: MS in Public Health). Students admitted to the PhD in Public Health have the option of additionally earning an MS in Public Health (should they not already have a master’s degree) by completing a master’s-level thesis. MS students will engage in thesis research with their faculty advisor. This MS degree is not open to applications from students not enrolled in the PhD program.

The PhD curriculum is designed to prepare students to formulate hypotheses, design and conduct population studies, and evaluate research findings in the context of risk factors, vulnerable populations, and disease outcomes. Doctoral students acquire the research skills necessary to make discoveries that advance understanding of the determinants of health and strategies to prevent disease. Students in the PhD program choose from two research concentrations: *global health*, which investigates the global context of disease burden and the improvement of population health status, or *disease prevention*, which focuses on how human behavior, social constraints, and other contextual factors influence strategies to prevent disease in vulnerable populations (see Appendix O: PhD in Public Health).

**Doctor of Medicine/Master of Public Health.** The MD-MPH dual degree is designed for medical students who wish to acquire competencies in public health and understand the
broader physical and social determinants of health and disease prevention. Students in this program take leave during their fourth year of the MD degree curriculum to enroll in the MPH curriculum.

**Doctor of Jurisprudence / Doctor of Philosophy in Public Health.** The Program in Public Health and the School of Law offer concurrent JD-PhD and JD-MPH dual degree programs. Both were approved by the Divisional Senate in June 2017. These joint programs attract and serve students who have career aspirations well suited for such specialties.

**Master of Public Health.** The MPH is a key degree offered in all schools of public health and is considered the professional degree in public health (see Appendix H: Master of Public Health). Top public health institutions, including Columbia University, Johns Hopkins, and University of California, Los Angeles (UCLA), have large programs designed to meet the increased demand for a public health workforce. As outlined by the Council on Education for Public Health (CEPH), all students must have applied experience that involves research and hands-on work with the community in a public health program. Student training includes a research-focused curriculum accompanied by a required 200+ hour practicum that encompasses the foundational competencies in public health, and students must demonstrate these competencies in final projects with structured guidelines and metrics.

To ensure that students are receiving professional training, students are assigned faculty mentors with professional experience outside of academia who are currently demonstrating work in the field through grant-funded research, work with community or government agencies, or clinical practice. This experience allows students to apply their knowledge and skills in public health situations. Like many top schools of public health, the Program in Public Health has hired an experienced public health professional to oversee the practice components of the degrees. With the measured growth of the MPH program to ~150 students the Program in Public Health is also focused on enhancing the academic value and scholarship of the program, to assure a quality, science-based public health curriculum alongside acquisition of professional skills. Additionally, through workshops and other activities, students will continue to acquire much-needed professional socialization and skills. Over the next few years, as our faculty body continues to grow and the future school undergoes the accreditation process, we will continually review the curriculum to maintain an applied graduate program that leverages UCI's research-intensive environment.

In 2012, following a rigorous self-study process and a site visit by experts in the field, the MPH program was accredited by the Council on Education for Public Health (CEPH). In addition to meeting all CEPH standards, faculty had established a strong foundation in the core competency subjects recommended by ASPPH, in their *Framing the Future* paradigm (ASPPH, Framing the Future, n.d.) (see Appendix I: CEPH MPH Competencies).

MPH students have the opportunity for in-depth pursuit of one of four programmatic emphasis areas, as described below.
1. **Biostatistics** trains the development and application of statistical methods in addressing, analyzing, and solving problems in public health; healthcare; and biomedical, clinical, and population-based research and practice. The U.S. Bureau of Labor Statistics (BLS) projected the occupational outlook for statisticians to grow by 33% between 2020-2030, a much faster than average growth than all occupations (Bureau of Labor Statistics, U.S. Department of Labor, 2021).

2. **Environmental health** entails examination of how the health of a population is affected by biological, chemical, and physical factors in the environment. Public health practitioners in environmental health evaluate workplaces, homes, and other environments for potential hazardous materials and human risk factors. They conduct studies to assess the role of the environment in the development of diseases such as asthma, lung disease, cancer, and mental health disorders. Emphasis is placed on understanding environmental factors and their relationships to disparities. Topics studied in this emphasis include air pollution/water quality, climate change, food safety, natural disasters, toxicology, and the environmental component of emerging issues such as the spread of antibiotic resistance among pathogens.

3. **Epidemiology** involves studying the patterns of disease and injury in populations to prevent and control health problems. Trained epidemiologists investigate occurrences of chronic and infectious diseases to determine what causes them, who is at risk, how the diseases spread, and how to contain diseases to protect the public. Epidemiologists also analyze social and demographic data on disease and injury to develop strategies for disease in specific populations and prevent future incidences of illness. Topics studied in this emphasis include vector control, infectious disease, etiology of cancer and genetic diseases, and the global burden of disease.

4. **Sociocultural diversity and health** together include identifying and responding to the effects of social, cultural, and behavioral factors on individual and population health. Specialists in this area describe how culture, social inequities, and biological factors influence health and apply their knowledge to create preventive interventions to decrease health-damaging behaviors and increase health-promoting behaviors. They study the interaction between policies and the social and behavioral sciences and identify ways to address health inequalities and promote health equity.

There are numerous employment opportunities for individuals with an MPH degree. Graduates pursue careers in behavioral sciences, health education, biomedical/laboratory practice, biostatistics, community health, environmental health science/advocacy, epidemiology, health services administration, public health practice and program management, and maternal and child health.

The MPH program supports and contributes to the vision of the School. By increasing the number of practicum sites, the positive impact on Orange County communities will be greater. MPH students are integral members of faculty labs and contribute to the scholarship of public health by publishing manuscripts and supporting the community.
2.2.3c Future Programs

Although no new degree programs are in active development, faculty are interested in exploring new programming as the SPPH develops, including master’s level and doctoral programs. For example, the creation of a 4+1 BA/MPH and BS/MPH degree would provide prospective students with the opportunity to earn their bachelor’s degree and MPH in five years. It would improve affordability and accessibility for students and likely would appeal particularly to first-generation college students who are eager to return to their communities and apply their knowledge and skills. In addition to addressing students’ needs, this program would enable public health professionals to enter the workforce earlier and accelerate the time it will take to fill the public health workforce gap in California and nationally. Retaining undergraduate public health students, many of whom have expressed interest in a 4+1 program over the years, also would boost the graduate program and build a diverse pipeline of public health practitioners.

2.3 Commitment to Diversity and Inclusion

Diversity and inclusion are critical to addressing unequitable distributions of health impacts through communities, and also to the sharing of ideas and perspectives that are essential to higher education and advanced scholarly research (see Appendix P: Inclusion and Diversity Plan). The PPH Inclusion and Diversity Plan for the School represents a multi-year effort to develop goals and strategies for a broader culture of equity and inclusion by increasing faculty diversity and providing education for faculty, staff, and students. The PPH and future SPPH will continue to leverage campus resources to ensure diverse voices within its faculty, staff and student bodies, whilst also strategically dedicating unit-level allocations and seeking extramural funding toward continuous improvement in the areas of diversity, equity, and inclusion. DEOH Professor Veronica Vieira is the Principal Investigator on the successful proposal to the UCI Black Thriving Initiative Faculty Cluster Hiring Program (BTIFCHP) for the AY 2020-21 call for proposals, in collaboration with Schools of Social Sciences and Engineering, and School of Medicine. The Director and founding dean will support, through pilot funding, research aspects of other PPH-faculty-led BTIFCHP proposals to enhance their likelihood of funding in subsequent campus wide calls for proposals. Additionally, in AY 2020-21 the PPH submitted four requests for Inclusive Excellence Faculty hires; of those, two were approved.

The Inclusion and Diversity Plan for the PPH addresses the unique opportunities to support the diversity in its student communities. PPH has also created and piloted a skills-based mentorship program for first generation students. In addition, to provide access for students from all backgrounds to attend graduate school, the PPH will continue to apply annually for the UC-HBCU (Historically Black Colleges and Universities) Initiative to provide summer internships and skills-training research in public health to undergraduates and master’s level research students as a pipeline for these scholars to attend the future SPPH as PhD candidates. The SPPH will continue to support the UC-HSI (Hispanic-Serving Institutions) Initiative, which strengthens the University’s ability to serve an increasingly diverse student population, and the UC-HSI Doctoral Diversity Initiative, which affords recent graduates from California HSIs opportunities to work with...
UCI faculty on research projects that will include mentoring and guidance to create inclusive efforts for future faculty members of the UC community.

Public health faculty members have been very involved in the Diverse Educational Community and Doctoral Experience (DECADE) program and since 2016, the Program in Public Health has sponsored students to attend the DECADE Competitive Edge Summer Research pre-entry program, which provides incoming PhD students who are underrepresented in their disciplines opportunities to conduct faculty-mentored research and participate in workshops that prepare them to transition successfully to graduate school. For academic year 2021-22, Associate Professor Luohua Jiang, the PPH DECADE mentor, works alongside public health PhD students and personnel in the Graduate Division to promote active mentoring and programmatic activities for a diverse doctoral population.

The Program in Public Health will continue its strong commitment to support a diverse student body through fellowship opportunities. The faculty consistently nominate students for diversity fellowships. The Eugene Cota-Robles Fellowship is the most prestigious diversity fellowship offered at UCI, named in honor of one of the earliest Mexican American professors in the UC system. Two incoming PhD in Public Health students in 2018, and two incoming PhD in EHS students in 2020 received this award. In fall 2021, an incoming PhD Epidemiology student was awarded this honor. This award supports students by releasing recipients from employment or loan obligations that might delay progress in graduate study. The fellowship is designed to place students interested in careers in academic teaching and research on a fast-track towards completing their doctoral degree, and to increase the number of qualified candidates for faculty positions within the UC. The Program in Public Health also awards a Founding Dean’s Diversity Fellowship, one of the most prestigious MPH fellowships, to students with personal experience and connections to diverse cultures. Additionally, the Program in Public Health awards the Latino Excellence and Achievement Award, Public Health Leadership Awards, and has doctoral students as recipients of the National Institute for Health Initiative for Maximizing Student Development (IMSD) fellowships. The faculty also plans to develop a new Founding Dean’s Health Equity Scholarship to support doctoral-level thesis research on health equity, and the strategy for philanthropy includes asking for endowed student scholarships around community and the promotion of diversity.

The academic unit's faculty members represent rich, interdisciplinary academic backgrounds, research interests, teaching profiles, and public health practices. Public health historically has been a female-driven discipline; however, in the Program in Public Health, there is a near-even gender split, with nearly 47% female. The Program in Public Health faculty members also represent Black, Asian, European, Hispanic, and Middle Eastern ethnicities, and many were first-generation college students themselves. As described in Goal #3 in the Diversity Plan (see Appendix P), the School will further diversify its faculty and staff to increase varying perspectives of public health issues as they relate to ethnicities and gender. The School's students will learn from a variety of faculty, including faculty that represent their own backgrounds and identities, enabling them to
relate to the knowledge being disseminated and recognize that public health applies to all types of individuals.

Further, the Program in Public Health supports all opportunities to advance its knowledge about and improve its experiences for staff and students around diversity and inclusive excellence. The Program’s staff and students are regular attendees in the Inclusive Excellence Certificate Program (IECP). In AY 2020-21, 24 of the 86 (or 28%) graduates of the Health Equity Certificate Program, were from the Program: 14 undergraduates, eight graduate students, and two staff members. Moreover, several faculty members are health equity certificate lecturers and, among SHSCOHS participants, the Program in Public Health community represents the highest number of faculty, staff, and student participants in DEI-related training and professional development. Other recent faculty activities in support of the Program’s commitment to promoting diversity and inclusion are listed below.

- Department chair and Professor Karen Edwards, began in 2021, a four-year term on the Divisional Academic Senate’s Council on Equity and Inclusion.
- Director and founding dean Boden-Albala presented at UCI’s Inclusive Excellence Forum in February 2021.
- The Program provides support for student-led organizations, including Health Justice Advocates, who conducted a series of activities focused on the Black Lives Matter movement, social justice, and public health.
- Assistant Professor Alana LeBrón and Professor Sora Tanjasiri were presenters at the Office of Inclusive Excellence’s (OIE’s) AY 2020-21 Advancing Equity in the Age of COVID-19 workshops.
- In AY 2020-22, as one response to the Black Lives Matter movement, faculty held a series of conversations with its graduate students around issues relating to support and inclusion in the Program and on campus. The unit will continue to engage in discussions and formalize the conversations by incorporating speakers and workshops.
- Program in Public Health faculty have participated regularly in OIE’s Confronting Extremism Initiative events and their annual Inclusive Excellence Forum.
- Director and founding dean Boden-Albala has earmarked central unit-level resources to fund an ongoing research scholarship program to support undergraduate, MPH and PhD student engagement in research around health equity, diversity, and inclusion.

To create a welcoming and safe learning environment for all members of the public health community, Program in Public Health leaders support the following:

- Enhancing cultural competency and sensitivity through workshops and strategic planning initiatives;
- Respecting differences in race, religion, ethnicity, national origins, gender identity, and sexual orientation, as well as physical, mental, and emotional abilities, and socioeconomic status; and
- Embracing different beliefs, cultures, and social morals.

To ensure that faculty are equipped to teach a diverse student body, the director and founding dean will continue to work with OIE to create information guides for public health
faculty, that will provide tools, training, and resources in support of diverse learners and inclusive pedagogy. The program has an equity advisor, Professor Sora Tanjasiri, whose role as a member of the director and founding dean’s leadership team, ensures that academic programming and student recruitment practices continue to provide our diverse student bodies with a welcoming community in the Program in Public Health. The Program remains steadfast in its commitment to promote diversity and the values and mission of UCI.

The Program’s diversity initiatives will serve as foundations for the SPPH and its leaders and faculty will continue to work with the OIE to build more programs and opportunities that support a diverse faculty and student population. As the Program transitions to a school, its goal remains to enhance equity in public health broadly. The SPPH will aim to:

- Support a pipeline of diverse students from high school through terminal health degrees;
- Establish paradigm-shifting training programs focused on promotion of diversity and equity, while incorporating UC tenets of accessibility and affordability,
- Continue to monitor and respond to student needs around student success and retention, using campus resources such as the Division of Teaching Excellence and Innovation (DTEI); and
- Promote an infrastructure of research with a focus on health disparities.

### 2.4 Professional and Community Service

Public Health faculty consider themselves well integrated into the intellectual life of UCI overall as well as within the SHSCOHS. The spirit of public health as a discipline is extremely interdisciplinary and as such relies on important partnerships from all schools on campus – from the Claire Trevor School of Arts to the Paul Merage Business School. The goal of the Program in Public Health is to continue to integrate public health as a core focus of university life such that the SPPH will continue to encourage, support, and facilitate collaborations across campus around the broad issues related to public health. Many of the public health faculty have joint appointments and research collaborations, with and without salary, across the campus including involvement in centers affiliated with the Schools of Social Science, Social Ecology, Physical Science, and Engineering (see Appendix C).

The most difficult health problems of our time require interdisciplinary collaborations to produce comprehensive and effective solutions. Public health as a discipline embraces the premise that everything individuals do impacts their health and, therefore, the SPPH must incorporate what the ASPPH refers to as health in all policies (considering transportation, urban planning, and education), to promote effective change in support of healthy and equitable communities.

Continued strategies to unite public health research across the campus include, for example, bringing faculty from different schools together to respond to requests for proposals from the NIH and NSF. Of late, these agencies have sought novel, multidisciplinary approaches to major public health problems—the types of work UCI
faculty have already begun. The Program in Public Health recently brought together faculty from engineering, information sciences, medicine, and nursing to work with faculty to develop a funding proposal for utilizing artificial intelligence/machine learning to reduce health disparities. The application of this systems approach, in which multiple disciplines are valued and at the table, illustrates how the SPPH will build a campus footprint with public health at the center. Another example of public health expanding its presence across campus is through the BTIFCHP, outlined above in the Commitment to Diversity and Inclusion section of this proposal. Therefore, from disciplinary partnerships across the SHSCOHS, to the previously outlined examples, to projects with faculty in humanities and arts on testing and promoting health in the form of narrative or theater, the SPPH will grow in effectiveness and distinction because its faculty will continue to enhance and unite public health-related research among their campus-wide colleagues.

A key mission of public health, as a discipline, is that of public service. In addition to faculty collaborations across campus, which is detailed below, faculty are engaged in numerous affiliations with key stakeholders, community organizations, and health organizations locally and globally, including national governments, UNICEF, and WHO, among others. The integration of community and professional service includes public health faculty serving in service-related roles for community programs and organizations. Public health as an academic program includes a practice requirement at the undergraduate and MPH level, and this integration of a practice component into the public health curriculum includes faculty and community mentoring which helps students gain hands-on experience and apply their skills-based learning. There are over 187 organizations into which the Program places students (see Appendix Q: 2020 Practicum Sites.) Additionally, the Program in Public Health continues to leverage UCI’s diverse student body to create a student-based Ambassadors to Health Program, enabling students to connect with community leaders in order to start conversations about the health needs of underrepresented minority communities and provide professional training to the current public health workforce to further create a consistent foundation of educational and practice-based knowledge.

Program in Public Health faculty are working with organizations and small businesses throughout the county to understand how to mitigate the risk of infectious disease and ensure public safety. As part of its commitment to community service through health equity, the Program in Public Health places a high value on the vision of expanding partnerships with community stakeholders and leaders. For the Southern California region, the Program maintains strong collaborations with organizations such as the Latino Health Access, Coalition of Orange County Community Health Centers, Orange County school districts, and the American Heart Association, to name a few. More notably, the Program serves in partnership with the Orange County Health Care Agency (OCHCA). Never has this partnership been stronger or more impactful than during the COVID-19 pandemic. Early in the pandemic, faculty were performing county-level modeling to understand the timing and severity of surges in cases, hospitalizations, and deaths from COVID-19. This work extended to analyzing and predicting space-time clustering of disease and hospitalization across Orange County based on demographic (age and gender), economic, and socio-cultural factors. The work with OCHCA continued as the Program in Public Health conducted a large-scale, population-based COVID-19 antibody surveillance study in a
sample of approximately 3,000 Orange County residents. Another key service project included estimating the seroprevalence of first responders around Orange County. The Program in Public Health leadership serves the community at large through informational opportunities and continues to be appointed to the OCHCA COVID-19 Vaccine Task Force and Vaccine Hesitancy working group.

UCI’s Program in Public Health partnered with OCHCA and the Orange County Health Equity COVID-19 Community-Academic Partnership in 2020 to offer a workshop to train public health practitioners, students, community leaders, and residents to conduct contact tracing for COVID-19. The Program organized and facilitated a community forum to provide a community context for the Health Equity Contact Tracing Workshop. This equity-focused community workshop was the first of its kind nationally and was but one meaningful activity within a larger community-driven COVID-19 response. Interest in the workshop was overwhelming with nearly 700 interested registrants, including participants from the UCI community; local organizations; universities and colleges across the U.S.; and NGOs. Delivered through popular educational formats, the workshop was designed with a fundamental focus on health equity. This workshop allowed public health practitioners to integrate community knowledge about the impacts of the pandemic and pandemic mitigation strategies on low-income communities of color with established models of manual contact tracing.

Campus Service

Public Health faculty contribute to service at the SHSCOHS and serve on Academic Senate Committees (See Appendix R: Select PPH Service to the Campus). Many faculty also contribute significantly across the campus and UC system in the form of teaching in other programs, teaching a high number of students from other academic units who take public health courses, serving on dissertation committees for non-public health students, or in the intellectual life of other schools through JWOS appointments, contributing to student learning and mentoring and faculty academic and research collaborations. The following text highlights just examples of campus service and collaborations of some of the public health faculty.

In the DEB: Professor Sora Tanjasiri has a JWOS with Asian American Studies, while Associate Professor Andrew Odegaard serves on a dissertation committee for a student in the School of Medicine. Assistant Professor Trina Norden-Krichmar has served on the doctoral committees for five students over the past three years and has joint appointments with the Department of Pharmaceutical Science, the Department of Computer Science, and the Department of Biological Chemistry.

In the DEOH: Professor Ulrike Luderer holds a JWOS in the Department of Developmental and Cell Biology in the School of Biological Sciences, has served on 25 Preliminary Examination Committees since 2004 and mentored more than 40 undergraduate students in the School of Biological Sciences. Professor Scott Bartell has served on eight dissertation committees for students in social ecology, statistics, mathematical, computational and systems biology (MCSB) since 2007, 14 PHD advancement committees since 2008, and has
a long-standing JWOS appointment in the Department of Statistics. Professor Jun Wu is affiliated with the UCI Institute of Transportation Studies, Transportation Systems Graduate Program, and co-mentors PhD students in the Department of Civil and Environmental Engineering.

In the DHSB: Chair and Professor Cynthia Lakon, has served on 17 dissertation and PhD advancement committees since 2009. Assistant Professor Alana LeBrón holds a split appointment with Public Health and the Department of Chicano/Latino Studies in the School of Social Sciences and has been a member of pre-candidate committees for nine students since 2017. Assistant Professor LeBrón also teachers two courses for the Department of Chicano/Latino Studies and three courses for public health, she is also a faculty instructor with School of Medicine PRIME-LC, Faculty affiliate, Leadership Education to Advance Diversity - African, Black, and Caribbean (LEAD ABC), and an associate member of the Chao Family Comprehensive Cancer Center, Cancer Control. Professor Boden-Albala has a JWOS in the SOM, Department of Neurology, serves on the Chao Family Comprehensive Cancer Center Internal Advisory Committee, the ICTS internal advisory Committee, and serves on the Precision Health Institute Advisory Committee.

In the DPHDP: Chair and Professor Lisa Grant-Ludwig has supervised 12 PhD students participating as a member of the dissertation or advancement committee. These students represented the School of Physical Sciences, the Henry Samuei School of Engineering, and the School of Social Ecology at UCI as well as UC San Diego. Professor Dominik Wodarz served on dissertation committees for two students in the joint SDSU/UCI PhD Program in Computational Sciences (he was chair of one of the committees) and was a member of two advancement committees in the MSCB program. Professor Wodarz holds two without salary appointments, one in the department of Mathematics, where he supervised a graduate student and two postdocs, and another in the Department of Ecology & Evolutionary Biology. Professor Guiyan Yan has a JWOS in the School of Biological Sciences and regularly teaches students in Bio198 and Bio199 and advises PhD students from biological sciences. Professor Hoyt has a JWOS appointment in Psychological Science and regularly serves as a mentor to Psychology undergraduates, graduate students, and post-BACC trainees. He also serves on the UROP Faculty Board.

### 2.5 Accreditation, Recognition, and Program Review

CEPH is an independent agency recognized by the U.S. Department of Education to accredit programs and schools of public health. The Program in Public Health overall has been accredited by CEPH since 2012, which includes the Ph.D. in Public Health and the MPH program. (PhD and MS degree programs in Environmental Health Sciences and Epidemiology were not part of the Program in Public Health when the program was last accredited. Accreditation will be sought for all degree programs in the next review). During its initial review, the program received a five-year accreditation term. The program submitted a substantive change notice in 2014 to add two PhD concentrations: global health and disease prevention. The program submitted another substantive change notice in 2017 to add an MPH emphasis in biostatistics. These academic degrees are required to meet CEPH’s accreditation and compliance standards. During AY 2017-18, CEPH conducted
a full reaccreditation review of the Program in Public Health, after which the program was granted reaffirmation through 2025.

Upon approval of the SPPH by the UC Regents, we will need to complete a comprehensive school-focused self-study and provide CEPH with evidence of compliance with the agency's school-level standards. To become a well-rounded school and remain competitive with top public health schools, the disciplines of health policy and biostatistics need to be expanded through faculty recruitment. Health policy is integrated throughout many of UCI's Program in Public Health graduate-level syllabi, and the Program in Public Health offers a BA in Health Policy. A newly allocated 2.0 faculty FTE in biostatistics for the DEB will contribute to building the discipline. The current MPH in Biostatistics is offered in collaboration with the Department of Statistics in the Donald Bren School of Information and Computer Sciences. Biostatistics is considered the sister department to DEB, since it is the development and application of statistical methods that will feed into the methodology of data and analysis, thus resulting in policy changes. The robustness of our faculty representation in this area is vital not only for the students benefit but also for teaching CEPH competencies (see Appendix I: CEPH MPH Competencies).

The Program in Public Health is a member of ASPPH, which promotes standards for excellence in public health instruction, research, and service. ASPPH is a founding sponsor of CEPH. School faculty maintain leadership positions in ASPPH areas of academic affairs, research, and diversity and have served as members of the ASPPH Board of Directors. To be eligible for ASPPH membership, programs or schools in public health must be CEPH accredited.

The Program in Public Health also is a member of the Consortium of Universities for Global Health (CUGH), a rapidly growing, Washington, DC-based organization of more than 170 academic institutions and other organizations from around the world that are engaged in addressing global health challenges. CUGH was established in 2008 with generous funding from the Bill & Melinda Gates Foundation and The Rockefeller Foundation. Being a member of CUGH associates UCI’s Program in Public Health with this prestigious group of organizations and offers distinct and unique advantages to strengthen faculty contributions worldwide. Membership augments the unit’s presence in the global health community; facilitates connections among academic institutions, companies, and governments around the world that have similar priorities; and provides faculty with access to information about employment, research, and training opportunities. Faculty are involved in specific CUGH committees.

Academic program reviews are another important factor in ensuring rigor, excellence, and continuous program improvement. As part of UCI’s academic program review process, the Program in Public Health underwent an external review in AY 2017-2018, with a focus on transitioning to a school. The external committee reviewers were leaders from public health schools across the country. They enthusiastically shared the vision of a new school as they provided feedback, and many of their comments were offered in the spirit of providing guidance to Program in Public Health administrators and faculty about strategies for developing a top-ranked school. UCI’s Divisional Academic Senate expressed particular
interest in the external review committee’s comments during the Senate’s review of the Program in Public Health's departmental reorganization proposals in early 2020. That information is presented below.

External reviewers recommended the following changes within the Program in Public Health:

- Add additional faculty to further reduce the high student-to-faculty ratio to an acceptable level;
- Diversify the graduate student population and the pipeline of diverse public health professionals by creating programs (e.g., 4+1) to support the Program’s large undergraduate student population in affording graduate education;
- Expand faculty engagement across UC schools of public health to engage diverse faculty and increase diversity in perspectives and collaborations;
- Recruit additional faculty who will serve as student mentors (The Program in Public Health has a limited number of faculty who can act as student advisers and mentors, based on students’ professional career goals);
- Develop graduate programming related to health policy and management, as this is a high-need area for the state’s and nation’s workforces;
- Provide more skills-based mentorship for students at the undergraduate and graduate levels;
- Augment curriculum in the areas of quantitative research skills, program planning and evaluation, and public-health-based biostatistics; and
- Develop consistent course sequencing of non-core offerings to improve students’ ability to establish their educational program plans.

Program in Public Health administrators and faculty agreed with the external review committee’s recommendations. The extent to which the Program in Public Health lost ground over time in terms of faculty growth compared to student growth was highlighted through the review process. Regardless of the timing for transitioning to a school, resource and curricular realignments are warranted.

As of AY 2020-21, the Program in Public Health has implemented responsive actions and initiatives, as described below.

- The provost has approved and committed central funding to hire 10 additional faculty (6 of which are already hired), which will reduce the current 96:1 undergraduate student-to-faculty ratio to an acceptable, although not-nearly-ideal ratio. The Program in Public Health has also been awarded the allocated faculty through the BTIFCHP which will increase the FTEs by two (1 FTE to DEOH, 1 FTE to DHSB); The Program in Public Health has also successfully hired on FTE from the Inclusive Excellence Initiative in DHSB and for DEOH.
- The Program in Public Health has been approved, funded and hired additional student advisors to support its growing student body.
- Faculty will engage in developing a proposal to establish a 4+1 undergraduate/MPH program.
Faculty, staff, and students have worked together to develop a formal diversity and inclusion plan which has been endorsed by UCI's vice chancellor for equity, diversity, and inclusion (see Appendix P: Inclusion and Diversity Plan).

Faculty and administrators continue to engage across the UC system, as well as across the UCI campus, with cross-listed and cross-enrolled courses, community workshops, and expanded research.

The Program in Public Health has hired a public health director and has created a skills-based mentorship program for MPH students, an accomplishment made possible because the unit’s faculty grew when the departments were established (additional faculty transferred into the Program in Public Health). Anticipated new hires are supported by the University and include new faculty hires in the areas of nutritional science, health policy and management, and biostatistics, which will be required to achieve CEPH accreditation as a school and to improve the SPPH’s national rankings. *U.S. News & World Report* includes schools and programs of public health in their rankings of the “Best Public Health Colleges and Programs.” Newly-released, the 2023 rankings list UCI’s Program in Public Health as #31 among the nation’s programs and schools over the prior two years, despite the relatively small size of the Program’s faculty. This is ten rankings higher than 2022.
3.0 ORGANIZATIONAL STRUCTURE

Setting the foundation needed to transition the Program in Public Health to the SPPH has required moving from a single academic unit to a larger academic unit of four academic departments, and carefully developing and installing governance structures that not only meet the expectations for shared governance in the University of California, but also serve as a springboard for the SPPH to be a renowned School of Population and Public Health nationally and internationally.

The Program Administration under the director and founding dean Boden-Albala oversees the operations, finance, and administration of the Program, and its four departments. Staff responsibilities and roles are presented in Appendix S: Organizational Chart. The Program in Public Health now has four full-time undergraduate advisors and two full-time graduate program advisors. The latter two positions will provide academic guidance and coordination for graduate students in the MPH, MS, and PhD programs across the departments. A department administrator was successfully recruited for the newly formed Department of Health, Society, and Behavior, rounding out each of the four academic units with a department administrator and senior financial analyst. The Program in Public Health added a director of communications and marketing, a communications specialist/writer/editor to support the director and founding dean in promoting the future school and boosting student enrollment, and senior financial officer to support the current finance director.

To support the Program in Public Health and growing needs of the faculty and students, while transitioning from in-person courses to online/remote courses in 2020-21 due to the COVID-19 pandemic, the Program in Public Health hired temporary staff including an instructional designer, financial analyst, administrative assistant, communications specialist, and contracts and grants analyst. This agile, short-term solution provided administrative support while additional staff FTEs were approved.

Additional administrative positions have been recruited to support the director and founding dean and leadership. These included the appointment of an associate dean of research, an equity advisor, director of MPH program and practice, director of undergraduate programs, and five doctoral directors, supporting each of the PhD programs offered by the Program in Public Health. A director of advancement, and advancement coordinator joined the Program in Public Health to support and improve donor relations, holding split appointments with SHSCOHS.

3.1 Reporting Structure and Role Responsibilities

The director and founding dean of the Program in Public Health reports to the provost and executive vice chancellor, with a dotted line to the SHSCOHS vice chancellor for health affairs. The four department chairs of the future school report to the director and founding dean. Members of the faculty report to their respective department chair (see Appendix S: Organizational Chart). The future SPPH leadership will include an associate dean of faculty
affairs and associate dean of academic affairs. These two roles will work collaboratively to oversee the undergraduate and MPH graduate degrees and to consult with department chairs and faculty in their areas of expertise. The associate dean of academic affairs has administrative responsibilities to the undergraduate and graduate programs to ensure that CEPH competencies and degree requirements are available through course offerings and sequencing. The associate dean of faculty affairs works closely with the elected faculty chair and vice chair, each department chair, and the vice provost for academic personnel on faculty bylaws and policies, as well as new faculty hires and transfers. The director and founding Dean will also appoint a faculty director of accreditation to oversee the accreditation process.

In addition to the faculty administrators, there will be an assistant dean of administration and a director of finance. These staff members work closely together on the administration, finance, operations, and management of the future school. The administrative positions are in the director and founding dean’s office and carry out the School’s mission through communication, management, and program planning and implementation. These individuals will also contribute to the upcoming reaccreditation of the current Program in Public Health and future accreditation process to transition the Program to a school of population and public health.

3.2 Administration

3.2.1 Director and Founding Dean
The director and founding dean oversees and guides the overall development and strategic vision of the proposed school. The director and founding dean works closely with senior leadership including associate deans, senate faculty council representatives and departmental chairs to implement policies, ensure equity among faculty and staff members, increase student enrollment, develop initiatives for research growth, incubate fundraising opportunities, encourage interdisciplinary collaboration, and provide opportunities to prospective students by creating financial pathways and funding programs.

3.2.2 Associate/Assistant Deans

3.2.2a The associate dean of faculty affairs oversees the faculty affairs budgets for the Program, future school and faculty mentoring programs along with senior leadership. Working alongside the director and founding dean, department chairs, elected faculty leadership, and personnel manager, the associate dean works on any issues related to academic personnel including searches, negotiation of faculty recruitment and retention offers, appointments, and merits and promotions.

3.2.2b The associate dean of academic affairs provides school-level leadership, management, and administrative oversight of courses and programs of study. The associate dean is responsible for periodic assessments, required reporting, and accreditation. Additional responsibilities include oversight and implementation of policies and
procedures to ensure undergraduate and graduate programs operate equitably, efficiently, and in compliance with both campus and UCOP rules and regulations regarding academic integrity, probation issues, and grievance processes. The associate dean works closely with the Program in Public Health director and founding dean as well as the associate deans of faculty affairs, research, and student services in support of the mission of the future SPPH.

3.2.2c The associate dean of research provides administrative leadership to expand the research infrastructure of the Program in Public Health and future SPPH by increasing faculty research capacity and extramurally funded research, and to provide mentorship to junior and mid-career faculty.

3.2.2d The assistant dean of the SPPH serves as a key strategic advisor responsible for the entire scope of planning, operations, and resource management for the SPPH. The assistant dean provides executive-level decision support, conducting research and analysis and collaborating with the School leadership to build a suite of programs that align with the mission and vision of the future SPPH. The assistant dean contributes to an environment of innovation, collaboration, and overall educational excellence, establishes instructional collaborations between campus partners and other SHSCOHS schools, enhances and expands the undergraduate and graduate programs, and disseminates information and ideas on the leadership’s behalf. Currently, the director of administration and strategic planning is carrying out the duties and responsibilities of this role.

3.2.3 Department Chairs

Academic department chairs provide academic and administrative leadership for their departments. Their responsibilities include faculty teaching assignments and staff workloads, meeting student needs, and collaborating with school-level administrators on strategic initiatives. Communication and cooperation between chairs and with program/school leadership will continue to be essential to create and nurture a cohesive, collaborative, inclusive culture for faculty, staff, and students. Chairs provide visionary leadership in all departmental matters, including long-range planning, annual budgets, academic programs, personnel, and fundraising. They also represent the department and advocate on its behalf at the school, college, and campus levels. Within the department itself, the chair’s primary function is to coordinate and facilitate the shared activities of the faculty, including academic personnel reviews, teaching assignments, department committee assignments, mentoring, recruiting, retention, and award nominations. Department Chairs meet with the director and founding dean individually on a monthly basis and also as a group on a monthly basis to address teaching assignments.

3.2.4 Academic Directors

3.2.4a Director of Undergraduate Affairs provides strategic leadership, guidance, and support for the academic programs at the undergraduate level and oversees the implementation of the strategy for all undergraduate programs offered by the future School. The director oversees and implement procedures to ensure that undergraduate programs operate equitably, efficiently, and in compliance with both campus and UCOP
rules and regulations regarding academic probation issues, grievance processes, and Office of Student Services, Division of Undergraduate Education. The director works with the Program Curriculum Committee as an ex officio representative.

3.2.4b Director of MPH Program & Practice administers and oversees the MPH program in partnership with the MPH senior graduate advisor, faculty and administration by providing strategic planning for the program that is aligned with the missions of the future SPPH. The director works closely with Student Affairs and MPH mentors to create a community between Faculty, students, and staff in the program and broader community, and provides guidance and mentoring to students on professional development and practicum experiences.

3.2.4c Doctoral Directors work together with the PhD program advisor in student affairs, as well as academic chairs and administration to provide PhD students with mentorship and guidance on course selection, career opportunities, research, and dissertation success. The directors share the responsibility for guiding and improving graduate education and ensuring financial support in collaboration with the Dean’s office.

3.2.5 Administrative Directors

3.2.5a Director of Advancement is responsible for building a portfolio of donors and developing a network of stakeholders that will support the Program and future School by raising funds to support our students, faculty, and all school initiatives. This is a split role within the SHSCOHS.

3.2.5b Director of Communications and Marketing oversees the management, development, and hands-on execution of a communications and public relations strategy with the creation of branding, marketing, social media, events, and feature content designed to build a strong global reputation for a top-tier school of public health.

3.2.5c Director of Finance oversees financial planning and strategic management responsibilities for the SPPH, including oversight for the annual budget process, resource and fund management, professional and self-supporting program revenue, and contracts and grants activity. The director acts as liaison with campus administration and external stakeholders on all financial matters related to the SPPH.

3.2.5d Director of Student Affairs oversees all operations, including the management of administrative services, long-range planning; establishes goals and policies to meet UC system and UCI growth trends and targets; fiscal constraints; and legislative, systemwide and campus rules and regulations. The director works under the general direction of the associate dean/director of academic affairs, and in close collaboration with the assistant dean and director and founding dean. The director coordinates a broad range of student initiatives including identifying and analyzing all issues of significance to undergraduate education at UCI that have relevance to students, programs, faculty, and staff in the Program in Public Health.
3.3 Shared Governance

SPPH will, by design, embrace the spirit, principles, and practice of shared governance that is a hallmark of the University of California. Shared governance reinforces the notion that faculty are at the heart of the academic enterprise of research, teaching, and public service and critical to the quality of academic programs. The goal of shared governance is to collaborate on matters vital to the School and all of its members, and to embody principles and practices that promote a shared understanding. The success of the School relies on the close and healthy collaboration between faculty and administration.

School faculty leaders and administrators have agreed to share the responsibility for assuring that procedures are enacted to promote efficient decision-making, and to assure that all views are heard and considered, particularly when disagreement occurs. School administration will seek input from the faculty leadership on major administrative matters; and likewise, the faculty will seek input from the administration on proposed changes in academic policy and practice.

Duties and authorities for shared governance is delegated from the Standing Orders of the Regents of the University of California under bylaw 40 and organizational structures are codified in the SPPH bylaws (see Appendix T: Faculty Governance Bylaws). As noted, and in the spirit of shared governance, appropriate SPPH staff and administrators are included in standing committees as non-voting, ex officio members. Their participation creates efficiency, community, and shared accountability to the success of the SPPH.

3.3.1 Faculty Council

Faculty Council. Critical to the SPPH organization and function is the faculty council. The faculty council provides a primary means of communication to and with the administration for matters of general concern to the faculty and acts for the faculty on matters delegated by the faculty including allocation of educational and budgetary resources, academic priorities, and the planning and budgetary process within SPPH. The faculty council receives reports from the standing committees of the faculty, appoints ad hoc faculty committees, and provides advice on equity and inclusion. The council consists of faculty chair and faculty vice chair, who are voted into these positions by their faculty peers, at large members from each department, a student representative from each of the academic degree programs and the director and founding dean of SPPH, or a designated representative, as an ex officio, non-voting member. Faculty council meets on a monthly basis and the Chair and Vice-Chair meet bi-weekly with the director and founding dean during the 9-month academic year.

3.3.2 School Standing Committees

The committees established by the faculty to participate in shared governance are listed below.
3.3.2a Educational Policy and Curriculum Committee: The curriculum committee consists of two faculty representatives from each public health department, the faculty director of the MPH program, the director and founding dean of SPPH or a designee, and the associate deans or acting directors for academic and or undergraduate affairs and academic affairs, are ex officio, non-voting members. Also included are non-voting representatives from student affairs. The faculty members represent expertise in curriculum matters at the undergraduate level and for the concentrations within the graduate program. Members are appointed to serve 2-year terms. The Committee is charged with reviewing and recommending to the faculty all matters involving the undergraduate and graduate curricula. The Committee functions to review and oversee curricular issues and to make recommendations to the faculty where faculty endorsement by vote is required prior to sending proposals to the Divisional Academic Senate’s Council on Educational Policy or Graduate Council. The committee also reviews requests for new courses or modifications in existing courses and course evaluations. The committee reviews substantial modifications to class sizes, course scheduling, learning objectives, emphasis areas, and guidelines for TAs. The Committee meets twice per quarter.

3.3.2b Student Affairs Committee: The Student affairs committee is charged with reviewing and recommending to the faculty on all matters relating to the criteria for admission of graduate students, freshmen, and transfer students into the public health degrees. The committee consists of one faculty representative from each SPPH department, the faculty director of the MPH Program, the director and founding dean of SPPH or a designee. Associate deans and directors for undergraduate affairs and academic affairs are ex officio, non-voting members as is the director of student experience in public health. Members are appointed to serve 2-year terms. The Committee reviews and makes recommendations on minimum standards for students to remain in good standing in the program, as well as on issues related to probation, students on contracts, dismissals, and student appeals. The Committee also serves as a portal for requests and recommendations for improving student welfare and morale. The committee meets twice per quarter.

3.3.2c Committee on Research, Facilities, and Library Resources: This committee assists SPPH in developing and reviewing SPPH policies and procedures related to faculty and student research. It is charged with providing advisement and support to the establishment and implementation of SPPH research goals; fostering opportunities for interdisciplinary and interprogrammatic research, coordinating distribution of faculty research resources, and promoting opportunities for success in research productivity, publishing, and funding acquisition. This committee will also advise on research space and facilities within SPPH. The committee includes representation from all academic departments as well as non-voting membership from the Associate Dean of Research. Key priorities to strategically strengthen our interdisciplinary research portfolio are: 1) to strengthen the internal research infrastructure within the school to increase the quantity, quality, and efficiency in extramural grant submissions; 2) support opportunities that will position the school for success in the acquisition of center and training awards; 3) strengthen support research mentoring of junior and mid-level faculty; and 3) recruit faculty with strong potential for funded interdisciplinary research. The committee meets twice per quarter.
3.3.3 Ad-Hoc Committees
Ad-Hoc committees are formed as needed based on recommendations from the Faculty and voted on by the Faculty Council.

3.4 Student Representation
3.4.1 Committee Representatives
Students have several formal avenues for actively participating in governance of the school. First, Public Health students from degree programs housed in departments elect a representative to attend faculty meetings. The student representative alerts faculty of important student concerns and provides updates on student progress and sets priorities for subsequent faculty/student dialogue regarding curriculum, research progress, and student support more generally. Second student representatives from each degree program type (Undergraduate, MPH, and combined PhD and MS) elect a representative who routinely attends faculty council. Third students are able to contact Departments chairs, or the Faculty Chair and Vice-Chair individually to voice concerns. Students meet with the short-list of candidates during open searches, and their feedback is taken into consideration in the final decision-making process. Students involved in the DECADE program work to ensure that underrepresented minorities in the PhD program receive the appropriate support and services to encourage scholarly advancement and graduation within the normative time-to-degree framework.

3.4.2 Student Groups and Programs
3.4.2a Delta Omega. Delta Omega is the honors society for studies in public health. The Delta Rho chapter of the Delta Omega Honorary Society at UCI was launched in 2019 with two faculty, 13 undergraduate and five MPH inductees.

3.4.2b Health Justice Advocates. The goal of Health and Justice Advocates (HJA) at UCI is to take action to impact health and justice-related public policy at the state and national level. The organization is committed to educating stakeholders, engaging with local officials and events, and empowering all to engage in change through monthly general meetings and a variety of events to promote justice.

3.4.2c Global Health Research, Education and Translation (GHREAT). The GHREAT Program is a global health initiative currently housed within the DPHDP. GHREAT is committed to promoting global health awareness and developing a comprehensive global health research, education, and training program for undergraduate and graduate students.

3.4.2d Public Health Association (PHA). The Public Health Association is dedicated to promoting public health through education, service, advocacy, and social engagement. It provides members the chance to explore careers and current issues in the field of public health, serve the UCI campus and greater community through student-led and partnered activities, and network with diverse individuals who aspire to improve public health in
their communities and across the globe. They seek to engage members through bi-weekly meetings and a variety of programs and events.

3.4.2e Public Health Graduate Association. The Public Health Graduate Association is dedicated to building a healthier and stronger community through education, service, advocacy, and research. The PHA Graduate Division is committed to empowering graduate students in pursuing their passions and becoming part of an innovative, collaborative public health professional network. Their members are involved in a variety of community partnership programs, networking events, and volunteer opportunities.

3.4.2f Public Health Diverse Educational Community and Doctoral Experience (PH DECADE). The goal of PH DECADE is to foster an inclusive and supportive environment for doctoral students within the PPH through programming focused on professional development opportunities, faculty mentoring, peer support, and academic climate. Doctoral students volunteer to serve on the executive student council as DECADE representatives who work in conjunction with the PPH DECADE mentor and the university-wide DECADE program. Doctoral students in all degree programs within the PPH have the opportunity to serve on sub-committees and contribute to PH DECADE programming efforts.

3.5 Academic Departments

(For more information on faculty within the academic departments, see Appendix B: Core SPPH Faculty, Appendix C: Faculty Biosketches, and Appendix D: Affiliated Faculty).

3.5.1 Department of Epidemiology and Biostatistics

DEB’s mission centers on improving population health through research, education, community engagement, and translation of discoveries into practice. This mission is supported by an interdisciplinary faculty that includes those with doctoral-level training in epidemiology, biostatistics, community health sciences, molecular biology, and bioinformatics.

Epidemiology is one of the five core disciplines of public health, and all top-10 graduate schools of public health (as ranked by U.S. News & World Report) include an academic department of epidemiology. The department focuses on the interplay of genetic, other molecular, environmental, and nutritional factors on human health and disease with an emphasis on age-related diseases, cardiovascular disease, cancers, dementia, diabetes, liver and blood diseases, and obesity. As a founding department in the future SPPH, the DEB faculty will contribute significantly, not only to the SPPH’s eligibility for CEPH accreditation as a school, but also to the teaching and research enterprise of the nascent school. Further, the extramurally funded research portfolio of the Department is impressive; even though it currently has the smallest faculty, DEB has the highest total amount of extramural research funding of the four departments. The expertise of the faculty and the high level of research funding is critical for growing a strong doctoral program and propelling the department and new school of public health into the top tier of national rankings.
DEB faculty provide oversight for the curriculum and disciplinary expertise in epidemiology and biostatistics. Due to their interdisciplinary nature, the BA and BS are administered at the overall SPPH level, but faculty from all departments contribute to undergraduate teaching and pedagogy. Likewise, the MPH draws upon all faculty for instruction, however, discipline-specific curriculum is organized at the department level. Specifically, DEB faculty provide guidance on curricular and programmatic activities for the MPH emphasis in epidemiology and the MPH emphasis in biostatistics, but the MS degree in Epidemiology and the PhD degree in Epidemiology reside in the Department.

Further, epidemiology and biostatistics play a key role in the SOM and SBGSON. Faculty within DEB anticipate many more opportunities to partner across the SHSCOHS, including greater participation in IPE and enhancing the research mission, especially in building evidence-based health strategies.

3.5.2 Department of Environmental and Occupational Health

The DEOH mission is to conduct interdisciplinary research and teaching across the fields of exposure science, toxicology, risk assessment, epidemiology, urban health, climate change, natural disasters, environmental health disparities, and related disciplines to elucidate how environmental exposures in home, community, and occupational settings influence human health and the development and progression of human disease, with the aim of preventing human illness and disability and promoting well-being.

The World Health Organization (WHO) estimates that environmental factors contribute to 23% of all deaths worldwide and 36% of deaths among children younger than 14 years (Pruss-Ustun, A., Corvalán, C. F., & World Health Organization, 2006). There is an urgent and ongoing need for trained professionals to address the major contribution of environmental factors to disease and mortality. According to the U.S. Bureau of Labor Statistics, employment of environmental scientists and specialists is projected to grow 11% from 2014 to 2024, which is faster than the average for all occupations (Environmental Scientists and Specialists: Occupational Outlook Handbook, 2020). Despite this projected need, there are few academic departments that conduct research and provide training in environmental health sciences in Orange County.

At UCI there already is demand for undergraduate and graduate courses, degree programs, and certifications in environmental health. Environmental health is defined as a core discipline of public health by the ASPPH and a school of public health is the most appropriate home for a department of environmental and occupational health (ASPPH, Framing the Future, n.d.). Students’ ability to explain the effects of environmental factors on a population’s health is a foundational learning objective for accreditation by CEPH (Council on Education for Public Health, 2016). A cohesive DEOH at UCI has the foundation to provide students with the multi-disciplinary training necessary to address public health impacts of current environmental issues in the United States and globally as researchers and practitioners.

The DEOH contributes to the Program in Public Health by providing oversight for the curriculum and disciplinary expertise in environmental and occupational health. DEOH
faculty provide guidance on curricular and programmatic activities for the unit-wide MPH emphasis in environmental health; the MS degree in Environmental Health Sciences and the PhD degree in Environmental Health Sciences are housed within the Department.

3.5.3 Department of Health, Society and Behavior

DHSB’s mission is to create a diverse collective of faculty whose research, teaching, and practice span the areas of health behavior, health behavior theory, health disparities and health equity, social risk factors for morbidity and mortality, health education, systems science, health communication, and integrative approaches to health interventions across the social ecological model. The department’s core values include investigating the etiology of health-behavior-related processes and outcomes, the dynamics of marginalized populations, community-based research and practice, and the creation of theoretically informed health interventions. The interdisciplinary research and practice expertise of faculty makes the DHSB community poised to address complex health issues at the local, regional, and national levels.

The interdisciplinary field focusing on societal and behavioral determinants of health enjoys a long history and a large scholarly presence at existing schools of public health in the United States. Focused interest in understanding health behaviors, and efforts designed to promote healthy “lifestyles,” trace their origins back to the mid-twentieth century (Armstrong, 2009). In addition, the discipline of social determinants of health emerged from epidemiology in the 1970s (Cassel, 1976). More recently, these areas—previously delineated as separate entities—show increasing overlap. This circumstance has arisen due to the recognition among scholars that the interplay of individual behavior with community, structural, and broader social contexts affect health. Scholars interested in this discipline have been trained across diverse fields such as psychology, epidemiology, sociology, social ecology, anthropology, human development, neuroscience, and communication.

DHSB faculty contribute to the visioning process for making the SPPH a premier teaching and research institution in Southern California focused on understanding and addressing multiple social, behavioral, and biological factors that shape the health of the population and health inequities. These factors feed into the work of colleagues in other departments at the SPPH, only solidifying the numerous possibilities of research collaborations among faculty and abundance of knowledge to be passed on to students.

The DHSB is critical to the success of the SPPH. Home to dedicated faculty, the DHSB focuses on health disparities and health equity; social risk factors; health behavior, health education, and health communication; and interventions across the social ecological model. According to the Centers for Disease Control and Prevention (CDC), “addressing social determinants of health is a primary approach to achieving health equity” (Tarlov, 1999).

The broad social behavioral and economic sciences have always been part of core competency areas of public health education. These areas have evolved but remain critical to the public health discipline for public health training to currently address public health
issues, spanning health inequities, behavioral and structural strategies for disease prevention, as well as health policy (ASPPH, Framing the Future, n.d.).

DHSB faculty contribute to the BA and BS, and the MPH’s emphasis in sociocultural diversity. Also, the Public Health PhD degree program is shared by the DHSB and the DPHDP until the end of AY 2024-25, during which time faculty will assess and evaluate the development of future degree programs. The faculty in both DHSB and DPHDP jointly share the program management. The MS degree in Public Health is similarly co-administered.

3.5.4 Department of Population Health and Disease Prevention

The mission of DPHDP is to create, integrate, and translate population-based knowledge into preventive strategies to reduce the societal burden of human disease and disability through excellence in interdisciplinary research, education, and service.

The DPHDP was established in July 2008 as the sole academic unit within the Program in Public Health to provide formal administrative structure for multidisciplinary pursuit of its mission. This forward-thinking mission acknowledges and complements, but does not compete with, traditional subject-based research and training in public health. Departmental activities advance the mission by the adoption of the principles, “Research, Reveal, Reflect, Reform,” to explain this commitment to research, education, service, and strategic growth.

The DPHDP is a focus of excellence in cross-disciplinary public health research, education, and practice at UCI. Until July 1, 2020, when the other three Program in Public Health departments were formally established, the Department was the campus’s center for public health training and service. DPHDP faculty still are committed to creating a motivated cadre of public health professionals who are prepared to implement effective strategies for reducing the burden of disease and disability in culturally diverse communities, based on their broad training in global public health principles, and leading and working collaboratively on precise assessments of health risk factors and the management of evidence-based prevention strategies.

The DPHDP will contribute to the future SPPH by continuing to provide oversight for the curriculum and disciplinary expertise in global health and biological determinants of health. As is the model across the unit, faculty from all departments contribute to the undergraduate and MPH curricula, and the DPHDP faculty provides guidance on curricular and programmatic activities in the areas of global health and biological determinants of health. The terminal PhD (along with the MS) in Public Health are jointly administered by the DPHDP and the DHSB.

3.5.5 Departmental Staff

The existing Program currently has a core administrative, financial, and student affairs staff that provide for the needs of the future SPPH in the areas of personnel, finance, operations, communications, development, research, and support of the undergraduate, graduate and PhD programs. Utilizing staff support at the school-level whenever possible will be cost-effective and prevent duplication of roles within the SPPH’s departments. The department
administrators will continue to assist the needs of the department chair and the faculty. Faculty and student growth in the SPPH will eventually necessitate further administrative staff support, likely dedicated within each department, to support academic personnel, finance, and departmental administration.

3.5.6 Faculty Workload

In a system of shared governance, the faculty and the Director and Founding Dean explored the teaching needs across units, with an eye for equity in workloads across departments. An ad hoc workgroup was formed in March 2020 with representation from each department. The workgroup unanimously recommended (and the director and founding dean agreed) that each department develop its own workload policy based on the expectations and needs of each department. Departments developed their workload policies during the following year, which were subsequently streamlined on the basis of faculty equity discussions conducted jointly by the Faculty Chair and Vice Chair in conjunction with the Equity Advisor. DEB, DHSB and PHDP with faculty on 9-month appointments have course requirements of 2 classes with limited exceptions under exceptional circumstances. EOH, the department with faculty on 11-month appointments have course requirements of 3 classes with limited exceptions under exceptional circumstances. Departmental workload policies include specific guidance that the workload is proportional to the percentage appointment in the department. This workload is sufficient to meet current teaching needs, and the policies will be revisited periodically as the faculty grow and degree programs expand. Workload Policies for all four departments are presented in Appendix U: Departmental Workload Policies. In addition, Professor of Teaching research and scholarly activity guidelines are presented in Appendix V.
4.0 FINANCIAL VIABILITY

UCI’s executive administrators, including the chancellor, provost and executive vice chancellor, and vice chancellor for health affairs, agree that transitioning the program to a school is a strategic priority for the campus (see Appendix W: Resource Commitments). Past resource allocations for the Program in Public Health have not kept pace with student growth. Fiscal health is critical for growth. This proposal seeks approval for resources necessary to secure the prominence of UCI by supporting an internationally recognized school of public health engaged in training, research, and practice. As a school of public health, goals include:

- Prominence as a top-15 school of public health in six years;
- Prominence as a national model of undergraduate education within three years;
- Prominence as a national model utilizing population and public health methodologies toward reduction of health disparities and inequities; and
- Prominence as a national model of health, wellness research, and practice.

4.1 Student Enrollment

**Undergraduate Programs.** The global pandemic and high volume of mainstream media communications about public health as a career are generating increased interest in public health majors. Faculty anticipate the BS in Public Health Sciences and the BA in Public Health Policy degree programs will hold steady at ~1,300 undergraduate students across the two degrees, with enrollments distributed at approximately 35% public health policy and 65% public health sciences.

**Graduate enrollment projections.** The Program in Public Health currently has a robust doctoral program with ~90 students enrolled across four programs. While the expectation of schools at UCI is that the number of PhD students will reflect 10%-15% of the undergraduate student population, the program is comfortable maintaining a steady state of ~90 doctoral students per year, with plans to reevaluate this number following the transition to a school. It is the expectation of the PhD program to provide up to five years of support until graduation by the end of the 5th year. During the pandemic, there were delays in graduating some doctoral students in the five-year period resulting in a few students working towards graduation in Year six. The 6-year graduates are not included in the estimates.

The Program in Public Health has targeted slow and steady growth for its MPH program to ~150 students by Year six averaging a 15% growth rate per year. The Program in Public Health’s commitment to this growth is accompanied by the faculty’s commitment to provide a strong educational experience for students; the appointment of an MPH administrative director and implementation of an MPH faculty oversight committee; and the program’s ability to contribute to the much-needed public health workforce, including “mending the broken public health infrastructure and replacing the aging workforce population” (Sellers et al, 2019).
• **DEOH.** Table 1 below demonstrates steady graduate enrollments overall and a slight increase in the Environmental Health Sciences degrees to increase from current AY 2021-22 of 22 students to 25 students in the PhD program through AY 2025-26. Table 2 demonstrates the MS program degrees projected to increase from six to 10 students between AY 2021-22 and AY 2025-26. Enrollments in the Environmental Health concentration of the MPH are estimated to encompass 8% of total MPH students, with projected growth from six to 12 MPH students by Fall 2025, shown below in Table 3.

• **DEB.** Graduate enrollments in the epidemiology degrees are projected to remain stable at 13 to 17 PhDs, described in Table 3, and from eight to 10 MS students between AY 2021-22 and AY 2025-26, reported in Table 3. Enrollments in the Epidemiology and Biostatistics concentration of the MPH are projected to grow from 42 to 79 MPH students by Fall 2025, comprising 52.5% of total MPH enrollment.

• **DPHDP and DHSB.** As reported in Table 2, graduate enrollments in the Disease Prevention concentration (sociocultural diversity and health) of the Public Health PhD are projected to remain stable at ~36 PhDs through AY 2025-26. Table 4 below shows the enrollments in the Sociocultural Diversity and Health concentration of the MPH, which is projected to grow to ~56 MPH students by Fall 2025. This concentration is expected to comprise 37.5% enrollment of the total MPH degree program.

• Graduate enrollments in the Global Health concentration of the Public Health PhD are projected to remain stable with ~12 PhDs through AY 2025-26. As displayed in Table 2 below, the PhD in Public Health consists of two concentrations: Global Health with an estimated 25% enrollment of the two concentrations and Disease Prevention with 75% estimated enrollment. The MS degree does not admit students directly. Enrollments in the Population Health and Disease Prevention MPH/MD and MPH/JD are projected to grow from one to ~3 MPH students by Fall 2025, as seen in Table 4, comprising 2% of MPH total enrollment.

Table 1. PhD Enrollment Projections by Academic Year

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<tr>
<td>PhD in Public Health - Concentration in Global Health</td>
<td>9</td>
<td>12</td>
<td>12</td>
<td>12</td>
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<td>12</td>
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<tr>
<td>PhD in Public Health - Concentration in Disease Prevention</td>
<td>26</td>
<td>32</td>
<td>36</td>
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<td>36</td>
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<tr>
<td>PhD in Epidemiology</td>
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<tr>
<td>PhD in Environmental Health Sciences</td>
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<td>21</td>
<td>23</td>
<td>24</td>
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<tr>
<td>Total PhD student enrollment</td>
<td>66</td>
<td>80</td>
<td>88</td>
<td>89</td>
<td>89</td>
<td>90</td>
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### Table 2. Masters Enrollment Projections by Academic Year

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<tbody>
<tr>
<td>MS in Epidemiology</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<tr>
<td>MS in Environmental Health Sciences</td>
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<td>5</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>10</td>
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<tr>
<td>Total Masters student enrollment</td>
<td>18</td>
<td>11</td>
<td>18</td>
<td>18</td>
<td>19</td>
<td>20</td>
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### Table 3. MPH Enrollment Projections by Academic Year

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<tbody>
<tr>
<td>Epidemiology and Biostatistics (52.5%)*</td>
<td>30</td>
<td>31</td>
<td>52</td>
<td>60</td>
<td>68</td>
<td>79</td>
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<tr>
<td>Environmental Health (8%)</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
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<tr>
<td>Sociocultural Diversity and Health (37.5%)</td>
<td>22</td>
<td>32</td>
<td>38</td>
<td>43</td>
<td>49</td>
<td>56</td>
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<tr>
<td>MPH/MD and MPH/JD (2%) (note: joint degree students can select from the tracks above)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total student enrollment</td>
<td>58</td>
<td>70</td>
<td>100</td>
<td>115</td>
<td>130</td>
<td>150</td>
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</table>

* Note that Epidemiology and Biostatistics though combined in the Table are separable tracks.

### 4.2 SPPH Budget

The SPPH budget is found in Appendix X: SPPH Budget. The following narrative describes the budget document as it is presented, first by outlining the different sources of revenue built into the school’s financial model, then by detailing projected expenses. The budget spans 2020 to 2026 to provide proposal reviewers with a snapshot of the Program in Public Health resources and cost commitments before hiring the director and founding dean and through the first six years of school build out. The budget for the SPPH does not include future self-supporting degree programs; however, these programs have the potential to provide additional financial resources for the SPPH. The plan reflects a level of fiscal viability to ensure the SPPH is built on a solid financial foundation and in alignment with UCI’s standards of excellence.
4.2.1 Revenues

4.2.1a Base/Core Budget Estimates

Permanent Faculty Base 19900. The base/core budget proposes to utilize permanent faculty FTE (19900) across departments in the SPPH. The breakdown includes a total of 36.0 current FTE from faculty members across four departments in the school, 3.0 FTEs from open recruitments, and new hires from a request to the provost and executive vice chancellor for 10.0 FTEs over five years to support the formation of a new school.

The budget utilizes the permanent faculty FTE from the COEH to the DEOH. The COEH has FTEs supported by permanent 19900 state funds (from the State of California Labor Code) that can be assigned to any health sciences school. COEH faculty FTE are appointed as regular faculty in academic departments, specifically the DEOH. As COEH faculty lines become vacant, they revert to the COEH. This process enables the Center to recruit and hire FTE faculty that align most closely with the strategic mandate of the COEH.

The budget assumes that the campus continues to allocate across-the-board increases, incremental increases for merits and promotions, and funding for the director and founding dean’s salary. During her tenure as director and founding dean, her professorial salary will be held in abeyance until her return to full-time faculty status.

As faculty retire or separate, it is assumed that standard campus budgetary practices will be followed, and funds associated with these FTE will be allocated by the director and founding dean to hire faculty where most needed to support the teaching and research objectives of the school.

The school will grow and expand faculty expertise by submitting proposals through campus hiring initiatives such as Career Partners, diversity and inclusion, and distinguished scholars’ programs. The Program in Public Health has had success with recruitment of productive junior faculty through the Presidential Postdoctoral Fellow program and Career Partners Program. Additionally, through the funding awarded from the BTIFCHP, the Program in Public Health is in the process of placing ads to recruit two faculty members following this award.

Leadership has been working closely with the provost (Hal Stern) and academic planning and institutional research, and the vice provost of academic personnel (Diane O’Dowd) on recruitment efforts and faculty salary/set-up costs. Start-up costs are NOT included in the provost budget for SPPH mainly because each faculty candidate has very different needs. Faculty distribution in the Program in Public Health is almost equally bench to public health clinical science scholars. When recruiting new faculty, the start-up allocations have widely varied depending on the recruit. Start-up packages range from $160K to $1.6M, for those focused on bench science or high output computational work. The Program in Public Health has needed and will continue to need support from the Provost Office for start-up packages when recruiting higher-level candidates. The Program has also been resourceful in collaborating with other campus units and groups within SHSCOHS.
The success of these recruitments includes provision start-up packages that were provided by the provost and sometimes supplemented by the Program in Public Health. To ensure such successful recruitment and as part of our budget we have made a commitment to reinvest core campus support, carry-forward balances, and the School’s professional fees to assist in offsetting deficits should the provost be unable to fully fund a position. UCI is in a period of conservative economic investment, however leadership, including the vice chancellor for health affairs and the provost, as well as other leadership in the UC, agree that building a top-ranked school of public health is a top priority and will be backed by campus resources. Salary hiring components continue to be challenging as competitive public health off-scale salaries have increased. The Program in Public Health is currently working with academic personnel to examine the off-scale component of public health salaries across the UC system.

Permanent Teaching Assistant (TA) base 19900. The budget includes salary and wages associated with permanent funding for 11.75 FTE TAs. The SPPH plans to utilize permanent funding from undergraduate workload model allocations and campus initiatives to increase base funding for TAs to keep pace with graduate enrollment growth and MPH and undergraduate instructional needs. As a school, we will continue to reassess TA needs and request additional TA lines if the situation calls for more FTE TAs.

Permanent staff allocation 19900. The budget includes salary and wages associated with permanent staff FTE allocated across departments and units in the school, including 3.0 FTEs for undergraduate academic advisors, 1.0 FTE for Practice and Community Engagement, 1.0 FTE for graduate academic advisors, and 11.5 FTEs for departmental staff support and for schoolwide administration. Reflected in Permanent Campus Support of the budget snapshot, the Program in Public Health requested and received campus funding to support 2.0 additional FTEs for undergraduate academic advisors, 1.0 additional FTE for a graduate academic advisor, and 2.0 additional FTEs for schoolwide administrative support. Measured growth in the MPH program over the next six years is likely to allow for some additional staff hiring potentially after Year six.

Benefits Allocation. Base benefits for current faculty, academic student employees (TAs), and staff are provided per campus allocation models, and units are responsible for coverage of annual increases. The budget assumes that faculty benefits for new hires will be allocated at campus-approved Composite Benefit Rates (CBR). This includes any incremental increases associated with merits, promotions, and across-the-board increases.

Permanent Unallocated 19900. The budget includes unallocated 19900 funds held in reserve and used to help support school operations and any permanent or temporary strategic initiatives such as annual benefit increases, career partner appointments, equity increases, and retention offers.

Indirect Cost Recovery (ICR). Following the current campus allocation model, ICR is returned to academic units based on the amount of overhead generated by the unit. ICR allocation is provided to the program from the campus annually at a rate of 17%. The annual allocation to the program is calculated as follows: 50% allocated at the program...
(school) level, 25% allocated based on the PI’s department, and 25% allocated to the associate dean of research to provide faculty research incentive support. Department chair distribution to faculty will be in accordance with the department’s incentive program.

4.2.1b Unit Income

Current year budget allocation – Director and founding dean’s office operations. The budget includes campus support of temporary funds in AY 2020-21 to support the director and founding dean’s office operations. Funding includes support for strategic planning, accreditation support, operations, conference room equipment, consultants, and ASPPH program membership costs.

Current year budget allocation – Support for clinical faculty and shared staff (COEH). Funding provided by the COEH to support clinical faculty and shared staff supporting the Center for Occupational and Environmental Medicine clinic operations.

Current year budget allocation – Summer Session. The SPPH will continue to offer undergraduate courses during the summer session providing undergraduate students with additional course enrollment options for degree completion that meet campus and school time-to-degree goals. The campus uses a distribution model to share student fee revenue with schools using base and efficiency rates determined by course enrollments and student credit hours.

Current year budget allocation – Undergraduate Workload Formula Allocation. The budget includes projected temporary funding from the undergraduate formula workload model originally based on student credit hours and enrollment growth, but due to the flattening of growth in undergraduate enrollment at the campus level, the model will provide temporary resources to units where shifting enrollments require additional instructional support for TAs and Unit 18 (lecturer) salaries. The budget assumes that undergraduate enrollments will remain steady at ~1300.

Current year budget allocation – Nonresident Supplemental Tuition (NRST). Consistent with campus policy on incremental campus allocations of master’s NRST; $4,000 per student is distributed based on incremental growth in nonresident students at the master’s level to provide fellowship support to international PhD students in their second, third, or fourth year prior to advancement to candidacy, and to international MFA students in their second or third year. The budget allocation assumes conservative steady state in nonresident students at the master’s level, although this should increase as MPH enrollments increase.

Professional Degree Supplemental Tuition (PDST). Income from the supplemental professional degree fees for MPH students is approximately $7,500 per year per student. One third (33%) of all professional degree income must and will be returned to aid (RTA) graduate students in the program via fellowships and stipends. The revenue, less 33%, supports operations and program activities such as instruction, software, seminar speakers, employment, memberships, and testing fees, and must directly benefit MPH students. The Regents approved a multi-year 5% annual increase plan for the UCI MPH through AY 2022-23, at which time the SPPH will need to submit a new multi-year
proposal. For purposes of the proposal, the SPPH will submit a continued annual increase of 5% for years AY 2023-24 through AY 2025-26, as shown in the budget when market demand will be evaluated against competitive programs at other UCs and local public health MPH programs to ensure cost does not surpass market value. If an annual rate percentage increase is approved, the school will also increase MPH student RTA from 33% to 44%. If the new multi-year proposal is not approved, the school will not increase the RTA and will divert other operational funding to continue the needed support of the MPH students. In respect to other UCs offering MPH professional programs, UCI has and is projected to continue to have one of the lowest fee rates, strengthening the rationale to continue an annual increase of 5%. Appendix Y provides the comparison of professional fees for MPH programs across the respective UCs.

All income received from the supplemental professional fees will support the MPH students and the MPH program, providing neutrality with the expenditures projected. The budget breakdown in Appendix X outlines projected expenses in line with expected revenue, resulting in a net zero.

*University Student Aid Program (USAP - also known as master's block funding).* This allocation from campus student fee funds is distributed to programs based on RTA methodology derived from MPH program enrollments. The Graduate Division manages these block accounts. Currently the funding model averages about $3,851 per MPH student tuition paid (students with waivers and part-time students would affect this allocation).

*Graduate Division Support (ASE Remissions/TAs/GSRs).* The budget includes academic student employee funding to cover remission costs when students serve as a teaching assistant, teaching associate, or reader. These funds are managed by the Graduate Division, and they cover the quarterly student services fees, tuition, and graduate student health insurance premiums (GSHIP) for ASE appointments of 25% or more. The annual allocation is tied to the number of permanent budgeted TA FTEs.

The unit’s model of TA allocation will focus on each department’s contribution to undergraduate teaching and needs. Doctoral student support will use a hybrid model that includes GSR and TA appointments, philanthropic funding, and block funding. The director and founding dean has initiated an incentive program to cover GSR tuition costs thereby allowing increased GSR recruitment. School resources will be used to fund tuition and fees for all doctoral students within normative time-to-degree. To recruit the highest caliber students, the unit is planning several diversity and other focused research scholarships to offset student program costs.

*Graduate Division Block Model Support (Projected).* The budget assumes an annual allocation to all PhD programs in the School from the Graduate Division based on a formula that incorporates the number of enrolled students, new students over baseline, MS to PhD conversions, and degrees conferred. The funds can only be used for PhD students and are paid as fellowships or fee remissions. Uses may include awards, tuition and fees, quarterly stipend, travel stipends, fellowships, etc. Projected graduate support by degree program was made using the Block Model Allocation template and current graduate program data.
Graduate Division Flexible Fund Support (Projected). The Graduate Division provides funds in support of unit priorities: this can include student recruitment activities, top off/recruitment incentive funds, professional development, fellowships, stipends, or travel for students.

SOM Block Grant Allocation. The budget includes SOM graduate student support to DEB and DEOH in AY 2020-21 from the SOM’s block funds.

SHSCOHS Graduate Program Support (Temporary). SHSCOHS provides tuition and stipend support to the DEB and DEOH at similar levels (approximately $45K/resident) previously provided by the Department of Medicine for up to three first-year students, two of which could be nonresidents, for cohorts in AY 2020-21 and AY 2021-22. This includes funding in AY 2020-21 and AY 2021-22 at levels previously provided from Biomedical Education Assistance Program (BEAP) funds to DEB and DEOH faculty who support doctoral students on their grants.

Philanthropy/Gifts/Naming Gift. Fundraising will be a critical component of school success and the director and founding dean is working to develop relationships with donors and foundations. There is the potential for philanthropic gifts from individuals, private foundations, corporations, and alumni. The Program’s alumni base is young and establishing their careers and the Program in Public Health is focused on engagement strategies to keep them involved with the SPPH. Fundraising priorities include graduate student fellowships, faculty research seed funding, lab and research space, endowed chairs, cross-country and international training programs, and a dedicated building.

The director and founding dean continue to work with the director of development and constituent relations, executive director of development, and UCI Health Advancement personnel to develop relationships and steward donors through the Brilliant Future Campaign.

We have developed a realistic plan to steadily increase philanthropy over time as seen in the budget. As of July 2021, a seasoned director of development and a coordinator share a joint appointment with the Program in Public Health and the UCI School of Nursing to assist in philanthropic efforts, a position that has not been previously filled. The director and founding dean have been in ongoing talks with members of the community and various groups that are extremely interested in investing in public health at UCI. The director and founding dean is spending upwards of 50% time around these efforts. As a result of these efforts, the director and founding dean already received a gift from a community group, meeting the fundraising goal of AY 2020-21, as stated in Appendix X: SPPH Budget. Additionally, the director and founding dean is in significant conversations for approximately $14 million in endowment commitments for faculty and students being announced this academic year. In Fall 2021, the Program in Public Health will convene its Public Health Advisory board, which will focus on strategic efforts around fundraising. This includes the significant current conversation for a $50 million school naming gift.
Permanent Campus Support. The budget includes investment and funding commitments from the Office of the Provost and Executive Vice Chancellor to support the establishment of the SPPH through permanent FTE for salary, wages, and fringe benefits for faculty and staff and for associate dean stipends.

Temporary Campus Support. The budget includes temporary strategic funding from the Office of the Provost and Executive Vice Chancellor to the SPPH to support operations for the new departments that have transferred to the Program in Public Health. The budget assumes the future School will continue to request temporary funds until outside sources of revenue (e.g., gifts/philanthropy, professional fees) increase and can generate additional funding support (see Appendix X: SPPH Budget).

Faculty growth. We expect to continue the recruitment of outstanding faculty who are public health scientists and scholars. These faculty will necessarily meet the rigorous criteria that are reviewed by the Council for Academic Personnel (CAP) for FTE positions. Faculty are being recruited in areas where gaps in the current program have been identified, including health policy, biostatistics, and nutrition. Faculty recruitment is dependent on several factors, including accreditation and faculty discipline. CEPH has requirements for the minimum number of faculty in each of five specific disciplinary areas within a school of public health. The traditional core knowledge areas in public health are biostatistics, epidemiology, social and behavioral sciences, health services administration (health policy), and environmental health sciences. The faculty recruitment plan strategically aligns with CEPH requirements and the accreditation timeline as the Program transitions to a school. Prior to the program's expansion to four departments, public health faculty within the program did not have a deep representation of the core areas of public health that would lead to an affirmative accreditation of the future SPPH. The recruitment plan fills the gap of those core areas.

The success of SPPH necessarily requires new faculty recruitments. This included the need to recruit four faculty in biostatistics and three in health policy to be eligible for CEPH accreditation as a school. Three of the recent hires were in the health policy content area and two in biostatistics out of the eight successfully filled positions in the last 2 years, including successful appointments via the Chancellor’s Postdoctoral Fellow Program and the Inclusive Excellence hire. There is a current plan for four additional faculty searches spanning the areas of environmental and occupational health, health policy, and public health nutrition science.

A final consideration in our recruitment plans is our ability to compete with top public health schools. To attract the very best students, UCI’s SPPH must recruit faculty whose research and scholarship align with market demands more broadly, now and in the future. Curricula in areas not currently offered will be expanded as faculty in those areas are recruited.

Faculty Salaries. The budget assumes salary, wages, and fringe benefits associated with permanent FTE allocated to departments in the SPPH, plus appointments for the director and founding dean and associate deans. Additional costs include stipends and fringe
benefits for four associate deans (academic affairs, faculty affairs, research, undergraduate program) and department chairs.

SPPH faculty primarily teach in BA, BS, MS, MPH, and PhD programs and generally hold state-funded FTE. All faculty salaries are based on the academic salary scales determined by the University of California Office of the President (UCOP). Faculty in all departments will adhere to UCs outside activities policy (APM-025). SPPH faculty will hold a mix of academic-year (9-month) and fiscal-year (11-month) appointments, with each department committed to a single type of appointment in support of equity in faculty employment. Of the four Program in Public Health departments, DEOH has a mix of clinical and academic faculty and, therefore, is the only department whose faculty hold 11-month appointments.

Most existing faculty have retained their original appointment type since the new departments were approved in July 2020. The Program in Public Health worked with the Office of Academic Personnel to coordinate appointment conversions for those faculty who transitioned from one appointment type to another. Faculty transferring from SOM were given the option to stay on the compensation Plan (HSCP) or to move off the HSCP and participate in the Negotiated Salary Trial Program (NSTP). If they chose to continue in the HSCP, they have dual appointments, 51% and 49%, in the SOM and the Program in Public Health, respectively. There was departmental faculty consensus that DEB FTE faculty will move to academic-year appointments. DEOH FTE faculty elected to retain fiscal-year appointments.

The SPPH will also include In-Residence (Academic Senate) faculty and, although these appointments are funded through external sources (non-permanent, non-state), teaching opportunities will be available to these faculty members. As of September 2021, there are two open in-residence faculty positions with final candidates identified and offers being finalized, as well as recently accepted offers with two faculty members, one joining DEOH in January 2022, and one joining DHSB in October 2021. The SPPH expects to hire faculty across all professorial and professor of teaching ranks (assistant, associate, and full). The Faculty series included in the SPPH are listed in Appendix Z: Professorial Series.

The hiring strategy coincides with the site visit and CEPH accreditation for the substantive change from a program to a school of public health with at least a minimum of primary instructional faculty per degree program offered. The additional faculty will also provide the SPPH with opportunities to begin to reduce the current 96:1 student-to-faculty ratio with the objective to approach the campus target of 49:1.

Faculty salaries are projected to increase annually by 3% to 7% from across-the-board increases, merits, and promotions on a regular two-year to three-year cycle depending on the faculty cycle of review. Benefits were calculated using the established UCI campus CBR.

Non-Senate Academic Faculty Salaries. This line item includes salary, wage, and fringe benefits for non-senate academic faculty in the Health Sciences Clinical series.

Appointments of non-Senate faculty will help support the Occupational Medicine Residency Program and clinical operations of the Occupational and Environmental Medicine program. Benefits were calculated using the established UCI campus CBR.
Staff Expenditures. Undergraduate academic advisors facilitate the academic development of ~1,300 public health students in the BA in Public Health Policy and BS in Public Health Sciences majors and assist them in achieving their academic, personal, and professional goals by providing high-quality academic advising and guidance. The report of the External Review Committee for the Academic Program Review of the Program of Public Health, dated June 18, 2019, concluded, “Undergraduate advisors are stretched thin, many times working 80 hours a week. The advisors seemed to be under-resourced compared to other comparably large units on campus. Thus, additional student services support is strongly recommended.” The Student Affairs team (supporting ~1,300 undergraduates and almost 200 graduate students) originally consisted of five staff members; as of August 2021, the team has grown to nine staff members, including an assistant director of graduate affairs (MS/PhD Program), a senior graduate advisor (MPH Program), and a student services coordinator who assists students with academic advising, and health and wellness support. With growth in MPH enrollments, additional administrative student support will be possible with the revenues received. The SPPH will continue to garner resources from campus or school revenues to ensure students receive the academic guidance to support successful degree completion and career outcomes.

Department staff include department administrators, financial analysts, and administrative and student workers. The growth of the Program in Public Health from a program with one department to a school with four initial departments has necessitated the reassignment of some departmental staff to more schoolwide oversight. These staff will comprise schoolwide operations and central office staffing in areas such as executive-level assistance to the director and founding dean, finance, program development, human resources and academic personnel, class scheduling and instructional support, accreditation management, facilities and operations, information and educational technology, and communications. Further consolidations may be necessary in the short-term to ensure consistent staff support to all faculty in the SPPH. This will include continuing to build out research infrastructure as the research enterprise continues to expand.

Staff salaries and wages are projected to increase annually by approximately 3% to 5% for merits, equity, and reclassifications, as determined by campus. Staff retirements and separations that vacate permanent career FTE in the School will be evaluated closely to ensure gaps in staffing and service are met and redeployed or reassigned as needed in the organization. New hires are budgeted at the 25th percentile to the midpoint of the UC Career Tracks salary scale. Benefits were calculated using the established UCI campus CBR.

Additional lab and Occupational and Environmental Medicine resident expenses, including salary, benefits, and stipend support for tuition and travel will be covered by revenue generated from clinical activity and grant support.

Instructional Expenditures. Budget expenditures include TA salary, wages, and benefits plus readers and learning assistants for classroom and instructional support. TA, reader, and learning assistant allocations will be coordinated at the SPPH level and distributed using a model developed by the director and founding dean’s leadership team and department chairs. TA slots are allocated in 50% appointment increments, which includes tuition remission. Unit 18 (lecturers) will be hired on a limited ad hoc basis to support instruction
until faculty growth and student enrollment increase. This will ensure time-to-degree goals are met for student degree completion. The SPPH will utilize funding from campus initiatives such as the undergraduate workload model allocations to increase permanent funding for additional TA FTE or to provide additional instructional assistance. Benefits were calculated using the established UCI campus CBR.

**Academic Programs and Return-to-Aid.** The budget includes expenditures related to programmatic activities in support of undergraduate students and co-curricular activities, including recruitment, orientation, engagement, academic and career advising, wellness and academic progress, practicum, commencement, and graduate program matriculation.

Professional degree programs mandate that one third (33%) of the PDST revenue is returned to student aid, which most often is used to fund fellowships to attract and support highly qualified MPH candidates, especially those who might not otherwise be in the socioeconomic bracket to afford graduate professional education. Additional programmatic expenditures include support for students completing the Certified in Public Health Examination, CEPH and American Public Health Association memberships, ASPPH conference participation, student awards and recognition, student services support, and travel and career development. Programmatic expenses will also include incoming faculty assisting in instructional support for MPH students. Expenses incurred equal the annual income received, resulting in a net zero.

PhD support from block funding will generate support in the form of fellowships, stipends, research/dissertation funding, and fee remission. This funding provides graduate students with opportunities to work closely with faculty who can provide mentorship, research experience, and academic development so the student can advance to candidacy within time-to-degree goals of the SPPH and campus.

**Operating Expenditures.** Human Resources and payroll functions in the SHSCOHS are centralized and schools assume a shared services fee of 1% of all payroll, which is included in the budget.

Expenses across the program and departments include the cost of services, supplies, and materials in support of functional operations. This includes general office supplies and printing, equipment, telephone and electronic communications, mail, memberships, software, colloquia and events, faculty recruitment costs, communications, and website, branding and marketing, external relations and stewardship, alumni engagement, facilities and maintenance, information technology, professional development, and travel.

**Carryforward Balances.** The SPPH plans to reinvest core campus support carryforward balances into school operations, highest-priority dean initiatives, and minimal reserve levels are expected during the transition and first few years as a School, resulting in a short-term deficit as the school is built. Increasing philanthropy efforts, indirect cost recovery revenue, and necessary shifting of operational needs will assist in eliminating the deficit. Core campus support, carryforward/reserves are shown in the budget breakdown in Appendix X. At steady state, the SPPH will maintain a reserve balance of at least 10% of
annual operating expenditures in core funds, in line with campus policy and budget office guidance.

4.3 Facilities and Capital Requirements

However, through the generous donations of both Susan and Henry Samueli and Sue and Bill Gross, construction has begun on a landmark 9-acre health sciences complex that promises to be a national showcase for health training and research. Estimated to be completed by June 2022, the site will include a state-of-the-art, five-story, 108,200-square-foot building for the SHSCOHS. Faculty of SPPH will have offices on the 3rd floor with some additional space for networks, secure data rooms and clinical research, with the administration on the 5th floor. Indeed, the Program in Public Health has been an active voice in the planning for of the facility. Shared instructional space in both buildings will be outfitted with state-of-the-art educational technology tools to support research and instruction in classrooms, as well as seminar rooms, group collaboration areas, media connection spaces/technology zones, private data storage areas, wireless access, and server rooms. Some of these shared installations and technical support (shared jointly within the schools under COHS) will include computing equipment, instructional computing software, audio visual equipment, communication tools (e.g., flat screens/digital displays, video conferencing systems, docking stations, digital wireless systems and accessories, and powered loudspeakers) to enhance the learning environment and support collaborations. Shared access to classrooms, conference spaces, and lecture halls will be available on a scheduling system within the SHSCOHS units, and there will be study spaces strategically placed throughout the new buildings available to students. These spaces will include three 50-seat computing labs, and flexible seminar and classroom spaces that will accommodate 16-90 students. These facilities will ease the burden of graduate classroom space access. However, undergraduate space will continue to be needed across the campus. Further, to support the SPPH’s large undergraduate population, it will continue to house the Public Health Undergraduate Student Affairs and Advising Office on the main campus. Many public health researchers conduct long-term research that requires wet lab space. The campus falls significantly short of wet lab space and two of the existing spaces, the Faculty Research Facility and Air Pollution Health Effects Laboratory, will close within the next five years. Plans are in place for the construction of the first Health Sciences Instruction and Research Building (2025) and a second building within the next ten years. These two buildings, fitted with wet lab space and dedicated to SHSCOHS faculty will allow public health faculty to continue with current and future long-term research plans. Public Health faculty and administrators are active participants in these discussions.

Faculty work extensively with the Chao Family Comprehensive Cancer Center. Construction has begun to build the Comprehensive Cancer and Ambulatory Care Center, a Center for Advanced Care, and a Center for Child Health (planned openings 2023) at the new Irvine North Campus Medical Complex. This expansion will broaden the opportunities for public health faculty to collaborate with other campus scientists and clinicians in fighting the burden of cancer through research, and treatment and rehabilitation programs.
4.3.1 Facilities/Computing Resources

The quality of school facilities greatly impacts a student’s learning in direct and indirect ways. Modern state-of-the-art facilities will attract world-class faculty and scientists, allowing SPPH students to work with and learn from experts in the field. Students will have accessibility to work with a broader set of students and faculty given the magnitude and expanse of the new buildings. These collaborative opportunities will enhance students’ inter-professional training across the SHSCOHS. Currently, undergraduate and graduate students have access to general assignment classrooms and computing labs offered in the current facilities.

The faculty provided input regarding the need for dedicated rooms to house servers and other computing and IT equipment in the new buildings as research programs continue to grow and the needs for computational equipment increase. Updates to HPCC, including speed and data program management, combined with the ability to purchase additional computing time and storage using discretionary funds and grants (including CORCL grants) have alleviated some of the previous barriers of access to computing needs.

Computer and IT needs will grow as research and academic programs expand. In response to these needs, OIT is adding a new virtual computer lab, internet connectivity services, in-person computer lab reservation system, access to loaner computer equipment, and remote computer access. Our faculty continue to rely on campuswide computing resources, including specialized services such as the High-Performance Computing clusters maintained by the UCI Research Cyberinfrastructure Center, the Virtual Computing Lab, and UCI Sites.

Research data are stored in a variety of ways depending on the faculty member. Faculty members can store their information on the Public Health share drive that is provided by Health Sciences. The SHSCOHS will continue to work with the SPPH to ensure all the needs of its faculty, staff and students are met as the SPPH grows.

The Program’s statistics courses regularly are scheduled in lab space through the support of OIT staff that provide a high level of services for faculty research programs. They support server acquisition, system administration, application installation and management, data storage, and data security compliance. Data on servers are backed up regularly, with additional backup for disaster recovery. The Research Cyberinfrastructure Center provides infrastructure for high-performance and high-throughput computing and research data storage and analysis that is accessible to all UCI ladder-rank faculty and those who are eligible to serve as primary investigators on extramural grants. The SPPH will explore funding options (e.g., philanthropy, indirect cost recovery, and the Council on Research, Computing, and Libraries) that will allow for the purchase of high-performance computing services (nodes) for faculty who need this type of research support. UCI uses OnCore for clinical trial management.

The Program in Public Health IT-Network/Security staff member provides desktop support, email, Wi-Fi, virtual private networks, networking, and telephone services. The Program in Public Health benefits greatly from the support of OIT services for teaching.
support services, computer lab space and smart classrooms, and educational technology
support (Canvas Learning Management Software).

4.3.2 Library Resources
UCI has multiple discipline-specific libraries available to faculty and students, including the
Science Library and the Grunigen Medical Library. The Grunigen Medical Library,
established in 1983, is one of the leading teaching hospital libraries in the country, with an
impressive 25-year history. Housed in the Forest J. Grunigen, M.D. Library and Medical
Education Center at the UCI Medical Center, the library is the largest medical library in
Orange County. The library provides access to thousands of journals and books, and an
extensive array of bibliographic, reference, image, statistics, and video resources. The
Grunigen Medical Library serves the educational, research, and clinical needs of health
professionals, students and researchers at the UCI Medical Center and College of Health
Sciences, and throughout the Orange County region. In addition to the physical libraries,
the students have web-based library access 24 hours a day, 365 days a year for their
research needs.

UCI's Science Library is one of the largest consolidated science, technology, and medicine
libraries in the nation, containing the collections and services that support research and
teaching in the schools of Biological Sciences, Engineering, Information and Computer

The health sciences are rapidly evolving, and the SPPH faculty and student body will
continue to need assistance identifying the latest public health informatics tools, digital
innovations, etc. As a growing research unit, the SPPH's library needs are likely to increase.
Currently, faculty work in close collaboration with librarian Hector Perez, MPH, for their
teaching and research library needs. Hector's public health background makes him an
excellent resource for faculty and students. Faculty regularly invite Hector to give
demonstrations to graduate students on conducting library database searches. Students are
also required to make one-on-one appointments with a reference librarian to learn how to
use these databases for research assignments and to improve their information literacy.

Available services for students include 1:1 tutorials or group workshops and training on
the use of on-line resources/databases, literature searches, research guides, theses and
dissertation support and services. The Program's undergraduate students, especially its
honors undergraduate students, utilize librarian time to understand how best to conduct
systematic searches in the ever-growing field of public health and cognate fields. The
Program in Public Health's growing graduate student body will also need library support.
Other more diverse library needs are common across the health sciences, including
accessing clinical trial reports, OMICS literature, and relevant literature in the fields of
social science, public health law, architecture, bioethics, and policy. Over the next few years
as our library resource needs grow, SPPH will work with the Dean of Library Sciences to
strategize ways to meet new school needs. Additionally, the Program in Public Health will
work with the other SHSCOHS schools to find ways to combine resource needs and avoid
redundancies.
4.3.3 Technology and Distance Education Support

The Program in Public Health computing needs are supported by both the UCI Office of Information Technology and UCI Health Information Services. The Program in Public Health currently has a full-time dedicated Programmer Analyst who provides individual assistance to students, staff and faculty in selecting computer hardware, configuring software, and coordinating access to HIPAA-compliant data repositories for protected health information obtained during research. The Program also has an assigned Instructional Designer, who assists faculty with creating user-friendly Canvas courses for the entire program and troubleshoots with faculty and students for any technical issues with Zoom and Canvas.

The Program in Public Health currently has a dedicated IT Systems Analyst assisting with computing needs. As the School grows and needs increase, it will be critical to have a dedicated team of IT support personnel to handle issues and provide recommendations for data management programs and secure storage solutions.

The newly formed Office of Education in the SHSCOHS will provide additional support in the form of a dedicated instructional designer who will work with each school’s academic affairs teams to ensure faculty are well-versed on how to best support students using UCI technology, including Canvas, YuJa, and Zoom.

The SHSCOSH-IT department is planned to support the shared unique needs of each school. This will include a dedicated IT analyst for all academic units within the SHSCOHS. The SHSCOHS-IT will also partner with OIT and Health Information Sciences Department (Health IS) to strategically align and integrate IT services and to resolve challenges and limitations.

The collaboration of the schools within the SHSCOHS will allow faculty to share resources and best practices to further support students as we adjust to a new model of hybrid teaching, virtual learning, and in classroom education technology.

Furthermore, a series of research grants around health informatics have included budget requests to support additional computing and IT infrastructure. A recent grant included funding for a part-time data manager, and the director and founding dean has matched this funding, increasing the position to a full-time position in service to the faculty.

Additionally, the University has an entire division dedicated to the success of teaching. The Program in Public Health continues to leverage the DTEI resources, workshops, and funding available to enhance teaching, and specific strategies for remote, hybrid, and on-ground teaching and education. The Program’s graduate students and faculty participate in learning communities, active learning training, and pedagogical programs to enhance teaching skills and better understand student learning. Program in Public Health faculty also partner with instructional designers in DTEI for the development of ILTI-funded online courses.
5.0 NEED FOR THE SCHOOL OF POPULATION AND PUBLIC HEALTH

5.1 Societal Need for Professionals, Researchers, Faculty, or Academics in the Field

The future SPPH at UCI will respond directly to California Workforce needs. In April 2005, the Office of Health Affairs at the University of California published a report entitled, “Workforce Needs and Enrollment Planning,” (University-wide Health Sciences Committee, 2005). The findings were very clear: There will be a shortage of health professionals in California. This report further provides data that supports the need for the SPPH, as follows:

- There are more individuals over the age of 65 in California than in any other state at the time this report was published, and it is projected that there will be a 58% increase in people aged 65-74 by 2025;
- Roughly 7% of Californians have a severe mental illness and 41% report poor mental health status;
- 51 of 58 counties have at least one federally designated Health Professional Shortage Area;
- Among Californians aged 19-64, 23% lack any form of health insurance; and
- 18.5% of children live below the federal poverty line.

As the population continues to grow in California, the demand for “culturally and linguistically competent health providers is growing, fueled by increasing need and growing demand to improve access to care, reduce disparities in health status, and improve health outcomes in the most diverse state in the nation” (Office of Health Affairs, 2005, p. 1).

UCI is answering the call to develop a diverse next-generation of public servants by engaging in research and care focused on advancing a paradigm-shifting model of wellness for populations and communities throughout California, including Orange County. The unique ability of UCI’s Program in Public Health to focus on health equity allows for the integration of research on all aspects of health from environmental to social science which can be translated into actionable strategies to address public health issues as they emerge. The prominent example of this was the rapid design and implementation of a health equity contact tracing workshop during COVID-19 which fulfilled a university-level need to develop a contact tracing workforce as well as an Orange County community need to train community health workers. UCI’s Program in Public Health was the first UC institution to address this urgent need.

The California Future Health Workforce Commission delivered their final report, “Meeting the Demand for Health,” in February 2019, outlining the recommendations for action to “embrace bold steps to create and sustain the health workforce that communities need now and will need in the future,” (California Future Health Workforce Commission, 2020). The priority and vision for the workforce includes three distinct strategies:

- **Strategy 1:** Increase opportunity for all Californians who want to advance in the health professions;
• Strategy 2: Align and expand education and training to prepare health workers to meet California’s health needs; and
• Strategy 3: Strengthen the capacity, effectiveness, well-being, and retention of the health workforce.

The trend in public health education is reflected by increases in market demand for students graduating in public health disciplines from both public and private institutions. These trends reflect:

• increases in need to educate not only at the graduate and doctoral levels, but also at the undergraduate-level;
• markets for self-sustaining programs such as nutritional science and bioethics;
• the need for additional and continuing public health training for the current public health professional workforce; and
• new areas that have emerged or innovative population health methodologies: big data informatics, implementation science, and health services research.

Due to an extremely strong and unique model of undergraduate training in public health, the SPPH is positioned over the next six years to transition into a renowned school of public health. This proposal reflects the minimum infrastructure and resources needed to make that important transition. This transition includes emphasis in teaching excellence, resources to enhance its teaching and research portfolio, and continued focus on public health service and community engagement. The SPPH is poised to leverage strengths in social determinants of health and health disparities, given that many faculty are internationally recognized experts leading large national and global programs, which aim to reduce the disparities gap.

The future of higher education in the U.S. will be interwoven with public health themes around social justice, health disparities, community, understanding and defending science, climate change, and health and community/civic responsibility. The transition of the Program in Public Health to the SPPH will solidify its role as a leader in this larger educational transformation. Further, this transition is a critical step in developing the future SPPH in ways that promote attainment of global leadership in research, training, and service, by enabling the unit to meet the strategic goals listed below:

• Attract and retain a distinguished faculty with backgrounds that reflect California’s rich ethnic and cultural diversity and who are committed to transdisciplinary research on the effects of genetic, molecular, and environmental factors affecting human health and disease;
• Offer advanced training to highly qualified degree candidates, both domestic and international;
• Train students on principles and methods used to study the distribution and determinants of disease in human populations such as diabetes, obesity, and other metabolic diseases; cardiovascular disease, cancer, age-related diseases, and cognition; as well as the environmental, social, dietary, and genetic determinants of health and health disparities;
Perform research that ranges from the molecular level to the population level and that utilizes state-of-the-art technologies and big data to elucidate relationships between exposures to environmental contaminants and other environmental factors and biochemical, psychosocial, physiological, and pathological changes in diverse populations;

- Collaborate throughout UCI, other UC campuses, and the world to maximize the SPPH’s resources and impact;
- Understand the exacerbation and pathogenesis of environmentally caused illnesses and develop approaches to prevent those illnesses. Progress in these areas will act as catalysts for engendering scientifically-based public health advances and public policy decisions;
- Lead the effort in evidence-based programming by expanding work in nutrition and lifestyle factors;
- Create new programs and structures to facilitate interdisciplinary, problem-based scholarship and teaching; and
- Successfully compete for the NIH program, project, and graduate training grants.

The Program in Public Health is a nationally recognized program, in part because of the unique undergraduate structure. The transition to the SPPH will allow measured growth of the MPH program, which constitutes the highest market demand. As importantly, the SPPH and its resources will strengthen the robust doctoral program, thus securing the legacy of the future SPPH.

### 5.2 Student Demand for the New School

With over ~1,300 undergraduate and graduate students in public health, most of whom are first-generation college students or underrepresented minorities, the SPPH will have a unique opportunity to nurture a new generation of public health leaders who reflect the rich multicultural diversity of the community. While the Program in Public Health undergraduate degree has been nationally recognized by public health colleagues for its pedagogy and for its commitment to training a diverse student body, the recognition of the graduate degree programs has been slower, in part due to the *program* versus *school* status of the public health academic unit at UCI. A fundamental difference between a program in public health and a school of public health is that schools of public health typically offer a broader range of different degree options and accompanying faculty expertise from which students can choose.

From an accreditation perspective, a school of public health must offer both master’s and doctoral degrees and must offer multiple concentrations at both levels, whereas *programs* are free to have one degree offering or many. Public health graduate students are savvy and more likely to choose *schools* over *programs* because of concerns over limited course offerings in *programs*, limited access to resources in *programs*, legitimacy and/or reputation of the PhD degree from a *program*, and concerns over degree competitiveness in the job market. In addition, *school* status is more likely to attract top PhD applicants and be properly resourced, because of larger faculty with more access to extramural funding, including philanthropy. Finally, the plan for the SPPH includes significant growth for
graduate students and faculty. With evidence that public health workforce needs are expanding, the SPPH and its accompanying resources will have sufficient capacity to train a large and diverse student body as a pipeline for this expanding workforce.

Additionally, the plan to transition to the SPPH creates opportunities for undergraduates, non-UCI students, and non-traditional students (those already in public health but seeking higher degrees) to complete graduate level degrees within a formal school structure. Attaining school status validates its faculty and the academic disciplines of public health. Indeed, there are resources for students and faculty at UCI, and nationally that the Program in Public Health cannot pursue and secure because of its program status.

For AY 2020-21, UCI received the highest number of California applicants before the COVID-19 outbreak. There is increased interest in UCI, and a higher perception of the value of this school. In AY 2020-21 MPH acceptances have already doubled. But there is difficulty with being under-resourced and unable to compete with better-resourced schools of public health. Becoming a school will add more value, garner more resources, and attract more graduate students. This is especially true during a pandemic and post-pandemic when public health is the discipline referenced by government agencies on reopening communities and businesses, and public health practitioners are sought after to find solutions.

Strategies to which faculty and administrators are considering to meet workforce needs, student demand, and growth in the MPH program include the following:

- Increase training areas including public health: epidemiology, environmental health, social determinants of health, biostatistics, nutrition, global health, health policy, and management;
- Develop a 4+1 BA-BS/MPH curriculum that will enroll the top 10% of undergraduate students. For example, the creation of the 4+1 program will provide opportunities for students that are seeking to complete their undergraduate degree in less time than so that they can return to their communities and implement programs relevant to the populations’ public health needs;
- Create need-based funding to provide scholarships and fellowships in support of increasing access, diversity, and equity;
- Develop diversity training grants that will help move students from undergraduate programs to professional health careers;
- Build relationships with organizations to provide students with practicums in real-life settings domestically and internationally, providing them with opportunities both to apply their knowledge in their home communities and to apply their skills in real-life settings that could lead to employment. By developing new degrees and expanding the graduate program, students can remain at UCI to complete their graduate degrees. As an example, if the top 10% of the ~1,300 undergraduate students are enticed to remain at the new SPPH, in its first year as a school, there would be 130 students in the MPH program in addition to external candidates.
5.3 Need and Demand Not Fully Met by Existing UC Schools/Programs

UCI’s public health faculty is fully integrated into collaborative efforts with the schools and programs of public health across the UC. While each school/program has its unique strengths, the UCI SPPH will address several unmet public health needs throughout the State of California.

In the UC system, there are currently three schools of public health, and several others offer public health degrees that sit in departments or other programs or schools that have different core priorities. Appendix AA: UC Comparison outlines the programs in public health across the UC system. UC Berkeley and UCLA are top schools of public health, both in California and nationally. UC San Diego was approved over the last two years to build a school of public health, and in the early stages of growth. All these schools and programs cover similar discipline areas, as they must address common accreditation requirements under the umbrella of public health. However, UCI is unique in serving a diverse undergraduate student population as a Hispanic- and Asian-Serving Institution combined with its mission and commitment to focus on health equity in research, teaching, and service. For example, UCI led the efforts across the UC programs in development of a health-equity focused COVID-19 contact tracing curriculum, which was instrumental in training a local community contact tracing workforce for diverse populations in Orange County. Over 700 participants, including some from outside of California, enrolled in the workshop last year to learn how to work with local and underserved communities on tracing, education, and delivery of care.

The undergraduate program is larger and more diverse than almost any other program in the country. California is the most populous state in the U.S., with over 20 million people in Southern California alone and over 3 million people in Orange County (comparable to the size of some states that have their own school of public health), and the pandemic revealed a neglected public health infrastructure across California and the nation. President Biden’s proposal to create a workforce of 250,000 public health practitioners is a call to rebuild our national public health infrastructure, which has declined by all measures in the last two decades. There is a large workforce need, and clearly a societal need to educate students in all fields and the public with basic public health concepts, principles, and policies that are essential for everyone’s well-being. As pointed out by UCI faculty senate members, given this pressing need, “it is legitimate to argue that every UC campus should have a school of public health.”

Even if each UC school had its own public health school/program, there would still be a workforce training need at the national level. The current capacity of the national public health educational system is not sufficient to replace existing losses and attrition:
- 22% of current public health workers plan to retire in the next 5 years;
- 25% reported plans to leave the profession within one year for other reasons;
- 55% of the public health workforce is over 45 years of age; and
- almost a quarter of public health professionals are eligible for retirement, and state and local health departments have lost a quarter of their workforce since 2008.
The U.S. Bureau of Labor Statistics report is useful but must be updated to reflect what was revealed during the pandemic – the public health infrastructure in the country and in every state is either nonexistent or insufficient to meet demands. Among the current public health workforce, the population is aging out and there is not adequate training for emerging infectious disease, chronic-disease and addressing significant health disparities.

The COVID-19 pandemic revealed the massive inequities in populations nationally and specifically in Orange County, in the very communities in which UCI Program in Public Health researchers are actively engaged. Orange County is the 6th largest county in the state with large, underserved communities that schools like UCLA are not addressing. Additionally, the Program in Public Health serves undocumented migrants and the immigrant population coming into California from the southern border. The Program in Public Health’s work in these populations is unique as it will not only support the efforts of addressing these populations, but also the PPH’s 68% diverse public health undergraduate student population to provide these future public health professionals the tools be leaders in public health in their communities.

The work of the faculty and the research conducted within the communities that UCI supports are providing data that will help us understand these failures and redesign our health systems, affecting state and national health policies on how care is provided to underserved populations, including vaccinations, improving health communication to non-English speaking communities, developing programs that address the effects of chronic disease, and ensuring that public health is included in all relevant policies and decision-making.

Even as a program, the Program in Public Health has set itself apart from the other UC schools and programs through its commitment to and partnership with Orange County, and especially with the Orange County Housing Authority (OCHCA). Growth of this partnership concurrently with the formation of a school offers unique opportunities. For example, students engage in government-related practice or research experiences that lead to ease of access to health-related government jobs. There is a skill-set specifically related to working in the public health government sector. Few institutions of public health around the state or country have been able to leverage this unique model, which will continue to contribute to novel designs for promoting healthy communities. The SPPH will nurture this relationship with OCHCA and work to translate it to other UC campuses.

Academic settings for public health within the UC vary. The UCI SPPH will sit within the SHSCOHS, in a unique arrangement in which the four health sciences schools (SPPH, SPPS, SBGSON, SOM) and the UCI Health system work collaboratively, sharing a commitment to excellence and equity in health. Through this model, the lens of health is expanded to include new approaches to reduce morbidity and mortality at the population and individual level. The enhancement of interdisciplinary teams and the use of population-level methodologies is more likely to achieve real time measurable and impactful health outcomes.
The overarching commitment of the SPPH towards health equity continue to inform the trajectory of research, teaching, and practice in the School and because of the unique collaboration within the SHSCOHS, the SPPH will take on a leadership role to unite a health sciences campus (UCI SHSCOHS, UCI Health, SOM, SBGSON, and SPPS) in promoting diversity and reducing disparities across the UCI community and beyond. SPPH faculty will share within SHSCOHS best practices towards inclusion, diversity, and disparities research. Building a model promoting diversity and health equity spanning the entire healthcare system fulfills an unmet need across the UCs. Supporting and training the largest and most diverse undergraduate public health student body along with a growing diverse graduate workforce will serve the health needs of communities throughout California and beyond.

Understanding the contextual issues of the global landscape, the faculty focusing on global health are world-renowned in research on infectious diseases and chronic disease in low- and middle-income countries. SPPH is positioned to become a pre-eminent academic center for global health equity research across the UCs. Finally, addressing the science of clean air and water, the state funded COEH and leaders within the SPPH can serve as a think tank for climate change and health as they seek to understand the changing environment/climate and its impact on population health.

### 5.4 Recruiting Qualified, Competitive Students

Historically, public health education has primarily been focused on graduate training. However, the UCI Program in Public Health has grown out of a unique and large undergraduate program. Much of the growth around SPPH will be in its graduate programs. Strategies for growth will come in part from the development of new degrees and opportunities for an affordable and accessible path to the MPH professional degree through the 4+1 (BA or BS + MPH) program. Efforts to identify and recruit the most diverse and brightest students from California, across the country, and around the globe will include strategies that highlight the Program in Public Health’s focus on social justice and health equity with training in a supportive environment promoting diversity and inclusion (see Appendix P: Inclusion and Diversity Plan), including scholarships for research supporting this commitment. SPPH faculty will be represented at all major public health conferences and provide outreach to prospective candidates. SPPH communications and marketing will provide messaging highlighting the significant research and training opportunities associated with the unique positioning of the new school.

### 5.5 Employment Opportunities

The job market for public health graduates is promising. According to an article in *U.S. News & World Report* about online public health degrees, between 2016 and 2026, the SPPH can expect to see a projected rise of 16% in jobs for health educators and community health workers; approximately 19,200 new positions. Jobs for environmental scientists and specialists have a projected growth of 11%, which will add roughly 9,900 positions during the aforementioned time frame (Online Public Health Masters Programs and Degrees, 2017). These statistics are prior to the COVID-19 pandemic, which may result in more interest in public health.
Employment of epidemiologists is projected to grow 5% from 2018 to 2028, about as fast as the average for all occupations. Biostatisticians have the largest projected growth increase, at 30% between 2018 and 2028, which is much faster than the average for all occupations. Individuals with the MPH can expect the (median) salary during their first year out of college as depicted in Figure 2 below.

Graduates of the UCI MPH program will find employment where there is a commitment to preventing disease and promoting health and well-being both in the public and private sectors. Students who earn a professional graduate degree have a competitive edge over students who complete their education at a bachelor's degree level or have an MS/MA. The curriculum of the MPH degree at UCI is designed to combine knowledge of the core disciplines in public health science with leadership, communication, and problem-solving interprofessional skills to meet the needs of culturally diverse communities locally and globally. Earning an MPH will allow graduates to pursue supervisory positions and career advancement opportunities that may be unattainable without an advanced degree. Students may also wish to combine an MPH with a medical or law degree to increase opportunities for employment.

**Figure 2. Bureau of Labor Statistics Median Salaries, Select Public Health Professionals**

![Median Salaries](https://www.usnews.com/education/online-education/public-health-masters-degree)

Coursework and practice experiences in the MPH program can also prepare students to pursue doctoral programs in public health.

The PhD is a research-based degree that prepares the candidate for research and teaching positions in institutions of higher education. The DrPH is a professional degree that prepares candidates for careers as practitioners in high-level administration or teaching. The PhD in Public Health prepares graduates to initiate independent and collaborative research careers in academic institutions, to teach at advanced levels of instruction, and to
Graduates of the PhD in Public Health will be well positioned for employment at research universities, government agencies, or private sector organizations including research institutes, hospitals, and public health foundations.

5.6 Fit within the UC system and within the Segments

The distinctive mission of the University is to serve society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge. That obligation, more specifically, includes undergraduate education, graduate and professional education, research, and other kinds of public service, which are shaped and bounded by the central pervasive mission of discovering and advancing knowledge. (*UC’s Mission*, n.d., para. 1)

In alignment with the University of California’s mission statement, the future SPPH is committed to research, teaching, and public service, under a framework of health equity. As evidenced throughout this proposal, SPPH faculty’s commitment to research is evidenced by its ranking #31 of schools and programs of public health nationwide. Many faculty were trained at other UC campuses and value the role of the UC as the largest public research university in the world. Further, faculty in the Program in Public Health have important partnerships across the UC and CSU systems that advance public health research and training in California.

Expansion of faculty and research areas within UCI SPPH will result in further opportunities for continued collaborations and partnerships across the UC and CSU campuses, among other public and non-profit colleges and universities, and government agencies. The research section of this pre-proposal describes specific strategies being employed to build on the unit’s momentum in growing this important research portfolio.

Each of the public health schools across the UC system contribute in unique ways to research, practice, and teaching in public health. As part of a large public educational system, these schools and programs also collaborate to tackle health problems and elevate the level of research across the entire UC system. The ultimate goal is to maintain the prominence of the University of California as the preeminent public university conducting groundbreaking research in Public Health globally.

The SPPH will leverage the strong teaching reputation of its faculty to train a diverse student body in public health at the undergraduate level while growing the reputation of its graduate programs. The initial years as the SPPH will also include focus on faculty growth with a focus on expertise in health policy, nutrition, and biostatistics. Finally, given the historic events of the present age (COVID-19, Black Lives Matter, and catastrophic climate
change), postsecondary public health educators have a responsibility to integrate concepts and strategies around social determinants of health into a larger university agenda. This specific contribution is consistent with the UC mission to provide long-term societal benefits. SPPH faculty and administrators are well-poised to partner in new ways with leaders at UCI, and across the UCs, to accomplish these goals.

There is also a strong fit with the missions of the UC and the SPPH in terms of commitment to public service. Indeed, the discipline of public health is integrally connected to the concept of public service as it is focused on achieving health and well-being in communities.

The SPPH will fit well within UCOP’s overall health sciences mission to “provide leadership, strategic direction, policy guidance, and advocacy to advance the health science goals at individual campuses as well as the overall system.” (University of California Health, n.d., para. 2).

5.6.1 Strategic Direction

The SPPH will engage in strategies that promote the Regents Policy 4400: Policy on University of California Diversity Statement. The SPPH will leverage its foundational commitment to health equity in its broadest application and provide input and strategic direction as it engages with schools at other UC Health Sciences campuses to promote diversity, inclusion, and equity in health. Conversations across the UC Health Sciences leadership include identifying successful systemwide approaches to this mission including enhanced recruitment processes, training programs, and assurance that cultural competencies are embedded across health science curricula. The SPPH will engage in reviewing and adopting best practices in outreach, recruitment, and education and will continue to evaluate and share its own best practices (e.g., 4+1 program, NIH’s T35 research program) to support a pipeline of diverse students for a health science workforce.

5.6.2 Policy Guidance and Advocacy

The mission of public health practitioners is to create change in policy through research and programs. It is apparent that public health is part of every aspect of education, business, government, and policy. Decisions for the safety and the well-being of communities rely on public health research. Although living in uncertain times, the goal in public health remains the same: keeping communities healthy. That message is now more important than ever. As part of SPPH research and teaching, collaborations will expand and link the faculty across the UC system, deepening and strengthening advocacy for government policy change. This is especially pertinent to environmental health issues and global health.

5.7 Fit within UCI

The UCI SPPH focuses on preparing a diverse public health workforce trained to be researchers, practitioners, and leaders closely aligns with the pillars of UCI’s strategic plan. Establishment of a school of population and public health offering undergraduate, MPH/MS, and doctoral degrees has long been consistent with the UC’s charge to offer high-
quality doctoral degrees, as well as systemwide interest in increasing enrollment in professional schools. SPPH will contribute to UCI’s overarching goals, as described below.

5.7.1 Growth that Makes a Difference

The strategic plan of SPPH is to increase graduate enrollments (MS, MPH, PhD) from ~181 in AY 2021-22, to ~260 students in AY 2025-26. Moreover, this growth is aligned with future-forward projections for healthcare needs. The MPH degree is a professional degree and those with MPH degrees are sought out in government, community, and academic sectors. Recently, there has also been an increase in the need for MPH-level graduates as private industry expands to include work groupings around social responsibility and health promotion as well as occupational and environmental health. The California Master Plan for Higher Education delegates to the UC exclusive responsibility in public higher education for doctoral-level education in the health professions.

5.7.2 First-in-Class

Set within the overarching commitment to diversity, SPPH will continue to engage a diverse student body with the goal of “expanding our capacity to improve lives.” Importantly, UCI is already a leader in promoting diversity among students. In 2018, UCI was ranked first for doing the most for the American Dream in the New York Times College Access Index, which is based on a combination of the number of lower- and middle-income students who are enrolled and the cost of tuition (Top Colleges Doing the Most for the American Dream, 2017). SPPH will continue to train a diverse next-generation of public servants at baccalaureate and graduate levels by engaging in research and patient care focused on advancing a paradigm-shifting model of wellness for populations and communities throughout the state of California.

5.7.3 Fit within the SHSCOHS

The Program in Public Health’s research, teaching, and service connect us with the main campus as well as the SHSCOHS. The director and founding dean Boden-Albala, has the same reporting relationship to the provost, authority, and responsibilities as do the deans of the existing 14 schools at UCI. As a lead academic administrator, director and founding dean Boden-Albala interacts biweekly with all other deans. Likewise, other administrators and faculty interact as colleagues with their counterparts across the campus. The Program in Public Health is and will continue to be involved in all processes related to undergraduate and graduate students at UCI. The PPH already is fully integrated with UCI’s academic endeavors. Faculty contribute notable service both to the Divisional Academic Senate and to the SHSCOHS, as evidenced in Appendix R.

5.7.4 Expand the Quality and Impact of UCI Health

The Program in Public Health already contributes significantly to the promotion of inclusion and diversity and to the reduction of disparities through practices within their academic unit. Moving forward, the SPPH, working with UCI Health, SOM, SBGSON, and SPPS, will collaborate in developing for the SHSCOHS a model to promote diversity and health equity. SPPH faculty and administrators also will be a full partner in realizing the
SHSCOHS’s vision for IPE, in which the College provides research for evidence-based community and patient care strategies to reduce morbidity and mortality. Including the SPPH in the SHSCOHS as a fourth school will enhance the ability of the College to capitalize on synergies across professional health-related schools and institutes to enrich research experiences for undergraduate, professional, and graduate students as well as trainees and faculty; and integrate collaborative models to achieve health equity in communities both locally and nationally.

In summary, the establishment of the SPPH not only fits with the UC mission, but it is strategically aligned with the goals of the UCI campus for promoting improved education, advancing cutting-edge research, and addressing community healthcare needs and improvements in human health overall. Further, the SPPH is financially viable and will address important needs for training diverse professionals, researchers, and faculty in SPPH. UCI’s chancellor, provost and executive vice chancellor, and vice chancellor for health affairs agree there are critically important benefits for establishing the SPPH which is a priority in the University’s strategic plan.
REFERENCES


Appendix A:
Letters of Support
January 5, 2021

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology
Susan and Henry Samueli College of Health Sciences
3080 Anteater Instruction and Research Building
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dr. Boden-Albala,

I’m writing to express my strong support for the proposal to establish a School of Population and Public Health, an integral component part of the Susan and Henry Samueli College of Health Sciences at UCI. The proposal as submitted outlines the significant benefits of creating the new school, which capitalizes on and builds upon the strengths of UCI and UCI Health.

I anticipate strong collaboration of the School of Population and Public Health with the School of Pharmacy and Pharmaceutical Sciences, the School of Medicine, and the Sue and Bill Gross School of Nursing, in the areas of research, didactic and clinical instruction, and community service. Further, working closely with UCI Health, including the UCI Medical Center and the Susan Samueli Integrative Health Institute, the new school will position faculty, and support development of the students (undergraduate, graduate, professional, and post-graduate), as leaders in the fields of population and public health in California and Nationally. The new school is a key part of distinguishing UCI as a leader at the forefront of team-based education and developing strategies to reimagine health and wellbeing.

We are strongly dedicated to the successful development of the school. I commit to support from the College to facilitate inter-professional education, research and care, and provide access to shared facilities such as classrooms and simulation space. Additionally, I look forward to expanding upon the excellent foundation of the existing program in public health, which has already proven to be a leader of the community and University.

Thank you for your consideration of this proposal.

Sincerely,

Steve A.N. Goldstein, M.D., Ph.D.
Vice Chancellor, Health Affairs
Distinguished Professor, Pediatrics, Physiology & Biophysics, and Pharmaceutical Sciences
Susan and Henry Samueli College of Health Sciences

DMS 93 - Item 1-87
January 8, 2021

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology
Susan and Henry Samueli College of Health Sciences
3080 Anteater Instruction and Research Building
University of California, Irvine 92697-3957

Re: Support for Establishment of the UCI School of Population and Public Health

Dear Dr. Boden-Albala,

On behalf of the Susan and Henry Samueli College of Health Sciences (SHSCOHS) at the University of California, Irvine (UCI), I completely support the establishment of the UCI School of Population and Public Health. I am proud of UCI’s current Program in Public Health and its recognition as one of the largest and most diverse undergraduate programs of its kind in the country. The Program in Public Health has been a leader in areas of research including infectious disease, chronic disease and the social determinants of health. Most recently, the SHSCOHS and the entire UCI campus has benefitted from the critical role the program’s leadership and faculty have taken in managing the response to the COVID-19 pandemic while continuing to actively support community efforts focused on policy decisions, surveillance programs and contact tracing.

The transition of the Program in Public Health to the School of Population and Public Health will help to strengthen such community partnerships and engagement. Further, the school will be strategically positioned to address the broader need for competent public healthcare providers to serve in Orange County and throughout the State of California as the demand continues to grow due to population increases amidst ongoing healthcare equity concerns. As a program, the distinct undergraduate structure and diverse student body has created a successful pathway for developing a culturally competent workforce. As a school, UCI will be able to offer improved educational opportunities, recruit students with a broader range of degree options and programs including master’s and doctoral degrees, expand the complement of faculty expertise for teaching and research, and enable greater access to extramural funding to support faculty and student efforts.

The SHSCOHS is dedicated to reimagining the education of the next generation of healthcare professionals and our evidence-based approaches strongly advocate for training that takes place in interprofessional, team-based environments. The Program in Public Health has been an equal
partner together with the School of Medicine, School of Nursing, and School of Pharmacy and Pharmaceutical Sciences in a model that promotes collaboration, diversity and inclusion, and educational innovation. The unique arrangement of the SHSCOHS infrastructure comprised of these four health sciences schools working alongside UCI Health will distinguish itself from other University of California schools and programs in its ability to tackle the unmet public health needs throughout the state.

I am extremely excited about the prospect of the new School of Population and Public Health and its contributions towards elevating the educational and research opportunities at the SHSCOHS. I look forward to supporting and collaborating with the School as it becomes an internationally recognized top ranked school.

Sincerely,

Khanh-Van Le-Bucklin, MD, MEd
Associate Vice Chancellor, Education
UCI Health Affairs
Susan & Henry Samueli College of Health Sciences
Vice Dean, Medical Education
UCI School of Medicine
January 10, 2021

TO: Howard Gillman, Chancellor

RE: Support for UCI School of School of Population and Public Health

As Chair of the Department of Population Health and Disease Prevention, I write to express my unwavering enthusiastic support for the proposed School of Population and Public Health.

Since joining the Program in Public Health in 2006, I have eagerly anticipated a time when we would work with new colleagues from across campus to collectively build a key unit of the new Susan and Henry Samueli College of Health Sciences. I look forward to expanded opportunities for collaboration in new interdisciplinary and translational research with members of new departments in our forthcoming school. As more faculty are hired, the departments plan regular opportunities for faculty to engage in meaningful activities, including professional development, collaborative research, committee service, celebrations and other opportunities to build a school-wide community.

I will work with the school administration, including chairs of other departments, to ensure appropriate faculty teaching and service workloads, and equitable access to resources. In the past year, we met repeatedly to discuss logistics of teaching assignments and develop a program-wide 2-year teaching plan. Existing department resources, including facilities, finances, and staff, already serve as the foundation for the school and have been utilized by the dean according to her priorities.

Faculty and staff of the Department of Population Health and Disease Prevention are fully committed to building a highly-ranked school, and we are grateful for the support of the administration. Together, we will build a world-class School of Population and Public Health.

*Fiat Lux!*

Lisa Grant Ludwig, Ph.D.
Professor and Chair
Population Health and Disease Prevention
January 6, 2021

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Health, Society and Behavior
Professor, Department of Neurology, School of Medicine
Susan & Henry Samueli College of Health Sciences
3080 Anteater Instruction and Research Building
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dr. Boden-Albala,

On behalf of the Department of Environmental and Occupational Health, I enthusiastically support the establishment of the UC Irvine School of Population and Public Health. As a nationally recognized Program in Public Health, I anticipate that establishment of the school will enhance health and well-being both locally and globally and will ensure the training of future leaders in health. The UC Irvine Program in Public Health has continued deep growth of the faculty research enterprise, has the most diverse public health undergraduate student programs in the country, and strong support of community partners that have contributed to the success of public health at UC Irvine.

I am the Chair of the Department of Environmental and Occupational Health. Establishing a school has been a goal of our faculty for many years. We are eager to work with new colleagues in the new school to build the foundation for a strong Samueli College of Health Sciences. We especially look forward to expanded opportunities for collaboration in new interdisciplinary research with members of the new school. As more faculty are hired, the department plans regular opportunities for faculty to engage in social activities, professional development, and research talks to learn more about each other and build a schoolwide community.

I will work with the school administration and other Public Health department chairs to ensure appropriate faculty teaching and service workloads, and equitable access to resources. The Department of Environmental and Occupational Health is home to the state-funded Center of Occupational and Environmental Health and NIOSH funded Occupational Medicine training program. Existing departmental resources, including facilities, finances, and staff, will serve as the foundation for the school and are available now for the dean to utilize where most needed.

The faculty and staff of the Department of Environmental and Occupational Health are fully committed to building a highly-rated SPPH, and we are grateful for the support of the administration. As a program, it has already proven to be a leader of the community and University. I am extremely excited to be part of the new School as it becomes an internationally recognized top ranked school.
Sincerely,

Verónica Vieira, DSc
Professor and Interim Chair
Department of Environmental and Occupational Health
Program in Public Health
January 11, 2021

TO: Howard Gillman, Chancellor

RE: Support for UCI School of School of Population and Public Health

As chair of the Department of Epidemiology and Biostatistics I write to express my enthusiastic support for the proposed School of Population and Public Health (SPPH). The department of Epidemiology and Biostatistics is one of four departments now under the program in public health and we are excited about forming a new SPPH. As Chair of this department I have worked with the campus and school administration, chairs of the other three SPPH departments, faculty, staff and students to envision and begin forming a new school of public health. I look forward to continuing to promote close and healthy collaboration between faculty, other SPPH departments and school administration to ensure a rigorous and top ranked SPPH.

In my role as chair, I am committed to ensuring appropriate faculty teaching and service workloads and equitable access to resources; in fact, the chairs have already met multiple times to coordinate teaching assignments in order to best serve all of our students now under the program. Further, staff in the Department of Epidemiology and Biostatistics have also made significant contributions to the development of the new school, providing expertise, support and strategic planning to the school’s administration as well as coordination between the departments. Finally, with support from the school the chairs and departments are planning regular opportunities to work together to build a school-wide community that will support all students, staff and faculty equally under this new umbrella.

I am fully committed to building and establishing a highly ranked SPPH at the University of California, Irvine and appreciate the commitment and unwavering support of the campus in moving this process forward.

Sincerely,

Karen L. Edwards, PhD
Professor and Chair, Department of Epidemiology and Biostatistics
Susan and Henry Samueli College of Health Sciences
December 22, 2020

TO: Howard Gillman, Chancellor
RE: Support for UCI School of Population and Public Health

I am the Chair of the Department of Health, Society, & Behavior and I write to express my wholehearted and unequivocal support for the proposed School of Population and Public Health.

Establishing a school has been a goal of the department—and me personally—for many years. We are very enthusiastic about the opportunity to work with new colleagues in the new school to build a key unit of the new Samueli College of Health Sciences. We especially look forward to expanded opportunities for collaboration in new interdisciplinary translational research with members of the new school.

As more faculty are hired, the departments plan regular opportunities for faculty to engage in social activities, professional development, and research talks to learn more about each other and build a school-wide community.

I will work with the school administration, including the chair of departments wherein my faculty hold joint appointments to ensure appropriate faculty teaching and service workloads, and equitable access to resources; in fact, we have already had several preliminary discussions about the logistics of teaching assignments, and we are seeking ways to ensure that teaching loads are equitable across departments.

Existing departmental resources, including facilities, finances, and staff, will serve as the foundation for the school and are available now for the dean to utilize where most needed. The faculty and staff of the Health, Society, & Behavior are fully committed to building a highly-rated SPPH, and we are grateful for the support of the administration.

Cynthia Lakon
Associate Professor
Interim Chair
Health, Society, & Behavior
Program in Public Health
5 January 2021

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology
Susan and Henry Samueli College of Health Sciences
3080 Anteater Instruction and Research Building
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dean Boden-Albala,

The UCI Libraries enthusiastically support the establishment of the UC Irvine School of Population and Public Health (SPPH). I have consulted closely with University Librarian Lorelei Tanji in writing this letter. The pre-proposal presents a compelling case for the establishment of this new school and outlines the anticipated benefits to UCI, the community, the State of California, and the world. The School’s commitment to equity, community, and diversity resonates strongly with the mission and priorities of the campus.

Library Collections:
The Libraries look forward to working with faculty and students in the School to meet their information and research needs. The Libraries’ existing collection strategies will be able to address the initial information needs as the Program in Public Health transitions to the School of Population and Public Health. We look forward to reviewing the proposals for the 4+1 baccalaureate and MPH program designed to appeal to first generation students, as well as the self-supporting programs leading to the Master of Nutritional Science (MSN), the Doctor of Public Health (DrPH) in Epidemiology and the DrPH in Health Policy in Management.
Pages 28-30 of the proposal highlight the anticipated growth in student and faculty FTE anticipated between now and AY 2025-2026. As just one example, the MPH student enrollment is planned to grow from 60 to 300. And there are ambitious plans for new academic degree programs. Faculty and graduate students will need additional new research resources as these plans are developed and implemented. The Libraries’ pay for licensed content based on the University’s FTE, so changes to the overall University wide enrollment do have an impact on the budget. As long as the campus continues to fund the Libraries’ collections budget (annual serials inflation, new library collection acquisitions, and library support for Self-Supporting Graduate Professional Degree Programs), we believe we can address the research, instructional, and patient care needs of the School as it grows over time.

Library Services & Staff:
The UCI Libraries provides a range of services and tools to assist faculty and students with research-related reference queries, library instruction, information/data literacy, etc. Our existing team of health science librarians provide evidence-based medicine support for SOM classes that have been acknowledged in accreditation as supporting learning outcomes. We already have a librarian, who has an MPH (Hector Perez-Gilbe), and provides collection development, reference, and library instruction support. He serves as the Research Librarian for Health Sciences, Medicine, Public Health, Pharmacology, Pharmaceutical Science and is well positioned to address the interdisciplinary needs of SPPH. Hector has knowledge of the existing program and developed relationships with current faculty and student, and he looks forward to supporting the future programs and constituents of the School of Population and Public Health.

Areas of potential collaboration include those programs that will teach students to use and analyze data and those programs that will rely on large data for research. The Libraries have recently hired a Data Curation Librarian.

The proposal notes that the School will establish, on an Ad Hoc basis, a Committee on Research, Facilities, and Library Resources. The Libraries are currently represented on the
College of Health Sciences Library Committee and on an ex-officio basis on UCI’s The Council on Research, Computing, and Libraries and we will look forward to collaborating with this Ad Hoc committee in whatever ways are most meaningful and appropriate to advance the School’s goals.

In summary, the UCI Libraries are pleased to support this proposal to create the University of California, Irvine School of Population and Public Health. And we look forward to providing the library collections, services, and staff that will support its success.

Respectfully,

John P. Renaud
Associate University Librarian for Research Resources
UC Irvine Libraries
PO Box 19557
Irvine, CA 92623-9557
Tel: (949) 824-5216
jrenaud@uci.edu
Date: January 7, 2021

Bernadette Boden-Albala, MPH, DrPH  
Director and Founding Dean, Program in Public Health  
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology  
Susan and Henry Samueli College of Health Sciences  
3080 Anteater Instruction and Research Building  
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dr. Boden-Albala

I am pleased to wholeheartedly support the establishment of the UC Irvine School of Population and Public Health (SPPH). As Founding Dean of the recently established School of Pharmacy & Pharmaceutical Sciences (SPPS) at UC Irvine, my experience with and understanding of proposals makes me uniquely qualified to conclude that the strength of your proposal precisely demonstrates that the new school of Population and Public Health will be a positive force within its own right and a very welcomed collaborative partner for our school moving forward.

Building on the nationally recognized Program in Public Health, one of the largest and most diverse undergraduate programs in the US, the impact of the new school will be extensive and dynamic. Using this as a base, the strength of the four current departments (Epidemiology & Statistics; Environmental & Occupational Health; Health, Society & Behavior; and Population Health & Disease Prevention) coming together as a new cohesive school will provide a strong distinction, and highly regarded social impact for the Susan and Henry College of Health Sciences and the UCI campus as a whole. Truly this is a case where the value of the whole will be greater than that of the individual elements; thus, supporting establishing a school is the natural next step.

The future of healthcare and community well-being lies within teams of healthcare professionals strategically functioning in concert to optimize prevention and treatment of disease in individual patients and populations. Having the new School of Population and Public Health alongside the School of Medicine, School of Nursing, and School of Pharmacy and Pharmaceutical Sciences within the UCI Susan and Henry Samueli College of Health Sciences and the UCI Health system will garner a distinct advantage for the COHS, the UCI campus, and communities both locally and globally. Already, the SPPS has interprofessional education with SPPH built into its Doctor of Pharmacy program that launches in the fall of 2021. As such, our faculty have begun to pursue collaborative teaching and research within the SPPH BS program. I believe these types of partnerships, and many yet unimagined, will thrive between SPPS and the new SPPH thus, enhancing our recruitment and retention of diverse cohorts of students, faculty & staff.
I look forward to working with Dean Boden-Albala, her faculty, staff and students and enthusiastically support the establishment of the new School of Population & Public Health at UCI.

Sincerely,

Jan D. Hirsch, BS Pharm, PhD, FNAP
Founding Dean
School of Pharmacy & Pharmaceutical Sciences

Jan Hirsch
January 5, 2021

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
3080 Anteater Instruction and Research Building
University of California, Irvine
Irvine, CA 92697-3957

Re: Support for Establishment of the UCI School of Population and Public Health

Dear Dr. Boden-Albala,

On behalf of the School of Medicine, I enthusiastically support the establishment of the UCI School of Population and Public Health.

As a nationally recognized program in public health I anticipate establishment of the school will enhance health and well-being locally, and globally, to ensure the training of future leaders in health.

The UCI Program in Public Health has continued deep growth of the faculty research enterprise, has the most diverse public health undergraduate student programs in the country, and the strong support of community partners who have contributed to the success of public health at UCI.

Educating the next generation of healthcare professionals is most effective when training takes place in team-based environments. Working within The UCI Susan and Henry Samuei College of Health Sciences and UCI Health, the program in public health has been an equal partner together with the School of Medicine, School of Nursing, and School of Pharmacy and Pharmaceutical Sciences in developing strategies to reimagine health and wellbeing.

As a program, it has already proven to be a leader of the community and University. I am extremely excited about the prospect of the new School of Population and Public Health and am committed to supporting and collaborating with the School as it becomes an internationally recognized top ranked school.

I have greatly enjoyed our collaborations since your arrival to UCI, and under your leadership I am certain that the school will recognize all of its lofty goals!

Sincerely,

Michael J. Stamos, MD
Dean, UCI School of Medicine
March 17, 2022

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology
Susan and Henry Samueli College of Health Sciences
3080 Anteater Instruction and Research Building
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dr. Boden-Albala,

On behalf of the Sue & Bill Gross School of Nursing, I am very excited about the plan for a future School of Population and Public Health and enthusiastically support your proposal for establishing this School. Based on the stellar research of your faculty, the diversity of your undergraduate program, and the striking need to train a diverse workforce, a UCI School of Population and Public Health will be of great societal need.

Your focus on a number of critical areas of science, including areas such as environmental and occupational health, epidemiology, cardiovascular disease, and health policy, closely intertwined with Orange County and Southern California communities that experience significant health disparities, make your program of significant societal value in mitigating the social determinants that negatively impact health and well-being locally, and globally. As part of the UCI Susan and Henry College of Health Sciences, strengthening the domain of public health will strengthen the entire College of Health Sciences structure; leading to innovative and life changing interprofessional training and community-focused activities among all health professional students.

Educating the next generation of healthcare professionals is most effective when training takes place in team-based environments. At the UCI College of Health Sciences, the Program in Public Health has been an equal partner, together with the School of Medicine, the Sue & Bill Gross School of Nursing, and the School of Pharmacy and Pharmaceutical Sciences, in developing strategies to reimagine health and wellbeing.

As Dean of the Sue & Bill Gross School of Nursing, I am committed to supporting and collaborating with the School of Population and Public Health as it becomes an internationally recognized top ranked school.

Sincerely,

Mark Lazenby, RN, PhD, FAAN
Dean & Professor
Sue & Bill Gross School of Nursing
January 4, 2020

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Departments of Population Health and Disease Prevention and Epidemiology
Susan and Henry Samueli College of Health Sciences
University of California, Irvine
3080 Anteater Instruction and Research Building
Irvine, CA 92697-3957

Dear Dr. Boden-Albala

I am happy to offer my enthusiastic support for the proposal to establish a new School of Population and Public Health at the University of California, Irvine. Public health faces many critical challenges, both old and new, and needs innovative and interdisciplinary approaches to meet these challenges. The COVID-19 pandemic has brought into even sharper focus the importance of public health education, research, and practice.

The UC Irvine proposal for a School of Public Health builds on the strengths of the university especially its diverse public health undergraduate programs, strong faculty, outstanding research in epidemiology, linkages with community partners and opportunities to leverage and collaborate with the other health science schools at UCI including Medicine, Nursing and Pharmacy. The proposed school at UCI has exciting opportunities to focus its work on decreasing health disparities.

I understand you will be seeking accreditation from the Council on Education for Public Health. I believe that is an important aspect of your proposal.

As the Dean of the UCLA Fielding School of Public Health, I recognize how important it is that Schools of Public Health in the UC system work together. I am committed to working cooperatively and synergistically with you to improve the health of the people of California and throughout the world. I look forward to future interactions and collaborations between our institutions.

Best wishes in your process.

Sincerely,

Ron Brookmeyer, Ph.D.
Dean
Distinguished Professor of Biostatistics
UCLA Fielding School of Public Health
Bernadette Boden-Albala, MPH, DrPH  
Director and Founding Dean, Program in Public Health  
Professor, Department of Population Health and Disease Prevention and Department of Epidemiology  
Susan and Henry Samuei College of Health Sciences  
3080 Anteater Instruction and Research Building  
University of California, Irvine 92697-3957

Support for Establishment of the UC Irvine School of Population and Public Health

Dear Dr. Boden-Albala

On behalf of the School of Public Health at UC Berkeley, I enthusiastically support the establishment of the UC Irvine School of Population and Public Health. As a nationally recognized Program in Public Health I anticipate that establishment of the school will enhance health and well-being locally, and globally, and ensure the training of future leaders in health. The UC Irvine Program in Public Health has continued deep growth of the faculty research enterprise, has the most diverse public health undergraduate student programs in the country, and strong support of community partners that have contributed to the success of public health at UC Irvine.

Educating the next generation of healthcare professionals is most effective when training takes place in team-based environments. The UCI Susan and Henry Samuei College of Health Sciences and UCI Health, the program in public health has been equal partner together with the School of Medicine, School of Nursing, and School of Pharmacy and Pharmaceutical Sciences in developing strategies to reimagine health and wellbeing.

As a program it has already proven to be a leader of the community and University. I am extremely excited about the prospect of the new School of Population and Public Health and are committed to supporting and collaborating with the School as it becomes an internationally recognized top ranked school. I am very much looking forward to building strong collaborations between our schools to work to improve the health of the people of California and the world.

Most Sincerely,

Michael C Lu, MD, MS, MPH  
Dean
Appendix B:
Core SPPH Faculty
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karen L. Edwards, Ph.D.</td>
<td>Professor and Chair</td>
<td>Genetic epidemiology, chronic diseases, diet and nutritional epidemiology, Gene x Environment interactions, ethical, legal and social issues of genomic information in public health and clinical research and practice</td>
<td>• Associate Director for Population Science &amp; Cancer Control, UCI Chao Family Comprehensive Cancer Center (CFCCC)</td>
</tr>
<tr>
<td>Rufus D. Edwards, Ph.D.</td>
<td>Professor</td>
<td>Human exposures to air pollution, indoor air pollution, paint emissions, Emissions of climate-altering pollutant species, health co-benefits</td>
<td>• Environment/Climate Advisory Committee for the Global Alliance for Clean Cookstoves</td>
</tr>
<tr>
<td>Deborah Goodman, Ph.D., M.D., M.P.H.</td>
<td>Associate Adjunct Professor</td>
<td>Cancer epidemiology, chronic disease prevention</td>
<td>• Breast Health Specialist, Athena Breast Health Network/Wisdom Study, University of California, Irvine, CA</td>
</tr>
<tr>
<td>Luohua Jiang, Ph.D.</td>
<td>Associate Professor</td>
<td>Multilevel and longitudinal data analysis, latent variable modeling, chronic disease epidemiology and prevention, health disparities research</td>
<td></td>
</tr>
<tr>
<td>Joel Milam, Ph.D.</td>
<td>Professor</td>
<td>Young adult cancer survivorship, Positive psychology, HIV prevention/control</td>
<td>• Co-Leader of the Cancer Control Program at the Chao Family Comprehensive Cancer Center (CFCCC)</td>
</tr>
<tr>
<td>Trina Norden-Krichmar, Ph.D.</td>
<td>Assistant Professor</td>
<td>Bioinformatics; genetic factors in human diseases; gene expression analysis; methylation; non-coding RNA; metagenomics; medical, environmental, and marine genomics; pharmacogenomics and computational drug discovery</td>
<td>• UCI Genomics High Throughput Facility (GHTF) Advisory Board, Member</td>
</tr>
<tr>
<td>Andrew O. Odegaard, Ph.D.</td>
<td>Associate Professor</td>
<td>Diet, nutrition, lifestyle, physical activity, fitness, obesity, body composition, metabolic disorders, type 2 diabetes, cardiovascular disease, cancer, Alzheimer's, cognition, translation</td>
<td>• UCI Research Cyberinfrastructure Center Advisory Board, Member</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• UCI Institute for Genomics and Bioinformatics (IGB), Member</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• UCI Chao Family Comprehensive Cancer Center (CFCCC), Member</td>
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<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Research Focus</th>
<th>Professional Experience</th>
</tr>
</thead>
</table>
| Sora Park Tanjasiri, Dr.PH, Ph.D. | Professor         | Cancer health disparities, cancer prevention, breast, and cervical early detection, community-based participatory research | • Board chair, Orange County Asian Pacific Islander Community Alliance;  
• Advisory member, Orange County Women's Health Project  
• Member, Cancer Plan Advisory Committee, California Dialogue on Cancer  
• Member, Priority Population Initiative Evaluation Team, California Tobacco Control Program  
• Founder and member, Orange County Cancer Coalition  
• Associate Director, Cancer Health Disparities and Community Engagement, UCI Chao Family Comprehensive Cancer Center |
<p>| Elizabeth Thomas, Ph.D.      | Professional Researcher | Biomarkers, epigenetics, gene expression, psychiatric disorders, neurodegenerative conditions |                                                                                         |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean Baker, M.D., M.P.H.</td>
<td>Professor Emeritus</td>
<td>Environmental epidemiology, work stress, occupational and environmental medicine</td>
<td>Home Department: Department of Medicine</td>
</tr>
<tr>
<td>Scott Bartell, Ph.D.</td>
<td>Professor</td>
<td>Environmental epidemiology, exposure science, statistical methods</td>
<td>UCI Department of Statistics (JWOS faculty) UCI Academic Integrity Review Board (AIRB)</td>
</tr>
<tr>
<td>Stephen Bondy, Ph.D.</td>
<td>Professor</td>
<td>Neurotoxicology</td>
<td>Judge of “Best Papers published in IJMS 2019-2020” UCI Academic Integrity Review Board (AIRB)</td>
</tr>
<tr>
<td>Wayne Chang, M.D., M.S.</td>
<td>Clinical Professor</td>
<td>Occupational and environmental medicine</td>
<td>American College of Occupational and Environmental Medicine Western Occupational and Environmental Medical Association</td>
</tr>
<tr>
<td>Andrea De Vizcaya Ruiz, Ph.D.</td>
<td>Associate Professor</td>
<td>Environmental toxicology and respiratory system effects of inhaled contaminants.</td>
<td>Member, International Society for Exposure Science Member, International Society for Environmental Epidemiology</td>
</tr>
<tr>
<td>Name</td>
<td>Academic Title</td>
<td>Department</td>
<td>Affiliations</td>
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</tr>
</tbody>
</table>
| M. Joseph Fedoruk, M.D., C.I.H, D.A.B.T. | Clinical Professor | Occupational and environmental medicine | • American College of Occupational and Environmental Medicine  
• Western Occupational and Environmental Medical Association |
| Scott Hardy, M.D.             | Associate Clinical Professor | Occupational and environmental medicine  | • American College of Occupational and Environmental Medicine  
• Western Occupational and Environmental Medical Association |
| Thomas Warner Hudson, M.D.    | Associate Clinical Professor | Occupational and environmental medicine  | • American College of Occupational and Environmental Medicine  
• Western Occupational and Environmental Medical Association |
| Alya Khan, M.D., M.S.         | Assistant Clinical Professor | Occupational and environmental medicine  | • American College of Occupational and Environmental Medicine  
• Western Occupational and Environmental Medical Association  
  
  *Home Department: 49% Environmental and Occupational Health, 51% Dept. of Medicine* |
| Masashi Kitazawa, Ph.D.      | Associate Professor | Neurotoxicology, Alzheimer's disease, neuroinflammation | • California Breast Cancer Research Program Council Member  
• Water UCI, Core Committee |
| Michael Kleinman, Ph.D.       | Adjunct Professor | Neurological and cardiopulmonary effects of inhaled particles; inhalation toxicology | • Member, International Society for Exposure Science  
• Member, International Society for Environmental Epidemiology |
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Role</th>
<th>Research Areas</th>
<th>Affiliations</th>
</tr>
</thead>
</table>
| Ulrike Luderer, M.D., Ph.D., M.P.H. | Professor                         | Reproductive and developmental toxicology; ovarian cancer; occupational and environmental medicine | • Chair, California Prop 65 Developmental and Reproductive Toxicant Identification Committee member, Biomonitoring California Scientific Guidance Committee  
• Associate Editor, Toxicological Sciences  
• Board of Reviewing Editors Member, Biology of Reproduction  
• Society for the Study of Reproduction, Public Affairs Committee member  
• Society of Toxicology member; Endocrine Society member |
| Robert Phalen, Ph.D.          | Professor                         | "Inhaled Aerosols", Pulmonary Physiology, and "Particulate Air Pollution" | • Director, Air Pollution Health Effects Laboratory  
• Board Chair, California Society for Biomedical Research  
• Fellow of The Academy of Toxicological Sciences  
• Full Member of eight professional societies and Fellow of three |
| David B. Richardson, Ph.D.    | Professor                         | Occupational and environmental epidemiology             | • California Breast Cancer Research Program Council Member  
• Water UCI, Core Committee |
| Veronica Vieira, D.Sc.        | Professor and Chair               | Spatial epidemiology, environmental epidemiology, Exposure assessment, geographic health disparities | • California Breast Cancer Research Program  
• Council Member Water UCI, Core Committee |
| Jun Wu, Ph.D.                | Professor                         | Exposure science, and environmental epidemiology, environmental health disparity | • Member, International Society for Exposure Science  
• Member, International Society for Environmental Epidemiology |
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Affiliated</th>
</tr>
</thead>
</table>
| **Bernadette Boden-Albala, M.P.H., Dr.P.H.** | Professor, Director and Founding Dean       | Social epidemiology, cardiovascular disease, social determinants of health in stroke patients and those at high risk for stroke, network analysis, and intervention research  

*Joint appointment with Department of Neurology*                                                                                                                                                                                                 |  

- American Heart Association Stroke Council, NYC Affiliate  
- NYC American Health Association Board of Directors  
- NE Cerebrovascular Consortium Community Education Chair  
- NYSDOH Cardiovascular Workgroup - Pre-hospital cardiac/stroke, Workgroup Chairperson  
- CSTA National Workgroup (Educational Competencies, IRB/Clinical, Regional)  
- CSTA National Community Engagement Outcomes Workgroup  
- AHA National Stroke Council Advisory Committee  
- AHA National Committee on Behavior Change for Improving Health Factors, Council on Nutrition, Physical Activity and Metabolism and Epidemiology and Prevention  
- NINDS INSPIRE Working Group to improve recruitment and retention  
- NINDS Stroke Disparities Solutions Training and Education teleconference and Scientific Working Group  
- OC Health Equity COVID-19 Community Academic Partnership  
- JWOS, Department of Epidemiology and Biostatistics  

| **Tim Bruckner, Ph.D.** | Professor                                  | Perinatal and life course epidemiology, economic downturns and health, mental health  

*Joint appointment with Department of Population Health and Disease Prevention*                                                                                                                                                                                                 |  

- Population Association of America, Member  
- International Union for Scientific Study in Population, Member  
- Society for Epidemiologic Research, Member  
- Society for Perinatal Epidemiologic Research, Member  
- Interdisciplinary Association for Population Health Science, Member  
- Health Policy Consultant to the World Health Organization  
- Epidemiology Consultant to the World Bank  

| **Theodore Gideonse, Ph.D.** | Assistant Professor of Teaching            | Public health discourse, medical anthropology, substance use and abuse, HIV/AIDS, public health ethics  

*Joint appointment with Department of Population Health and Disease Prevention*                                                                                                                                                                                                 |  

- Association of Schools and Programs in Public Health, Academic Affairs Section, UCI representative  
- Association of Schools and Programs in Public Health, Framing the Future: Education for Public Health 2030 Initiative, Inclusive Excellence through an Anti-racism Lens Expert Panel, Member  
- Community-Academic Consortium for Research on Alternative Sexualities, Institutional Review Board |
<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Research Interests</th>
<th>Affiliations</th>
</tr>
</thead>
</table>
| Suellen Hopfer, Ph.D.      | Assistant Professor | Vaccine and climate change communication; design and implementation of communication interventions in clinical, community & social media settings, MOST trial designs | • California HPV Vaccine Roundtable Founding Member  
• UCI Chao Family Comprehensive Cancer Center  
• UCI Center for Environmental Health Disparities Research  
• UCI Center for Virus Research  
• National Comm. Assoc. American Public Health Association |
| Cynthia Lakon, Ph.D.       | Associate Professor and Interim Chair | Social networks, ecological and systems models of health, social support, decision making, youth, and drug use | • American Public Health Association, Member  
• International Network for Social Network Analysis (INSNA) Member  
• Society for Prevention Research Member |
| Alana LeBrón, Ph.D.       | Assistant Professor | Structural racism and health equity; community-based participatory research; environmental racism, policy, and structural interventions to promote health equity  
*Joint appointment with Department of Chicano/Latino Studies* | • Member, American Public Health Association  
• Community Resilience Projects, Faculty Advisory Board Member, 2017-Present |
| Brittany Morey, Ph.D.      | Assistant Professor | Racial and ethnic health inequities, neighborhoods and health, structural racism, and immigration | • Center for the Pacific Asian Family, Board member and Board Development Chair  
• Asian & Pacific Islander Caucus for Public Health, former 2-term Executive Board Member  
• Interdisciplinary Association for Population Health Science, Member  
• American Public Health Association, Member |
| Denise Payan, Ph.D.        | Assistant Professor | Health policy, obesity, nutrition, food security, state policymaking, advocacy coalitions, evaluation, global health | • Editorial Board Member, *Health Education & Behavior Journal*  
• Member, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Network of Minority Health Research Investigators (NMRI)  
• Affiliate, Center for Information Technology Research in the Interest of Society (CITRIS) and the Banatao Institute  
• Member, Society for Public Health Education (SOPHE)  
• Member, American Public Health Association (APHA) Member, Academy Health |
| Annie Ro, Ph.D.            | Associate Professor | Social determinants of immigrant health, health demography, discrimination and health, social epidemiology | • Interdisciplinary Association of Population Health Sciences (editorial board)  
• Population Association of America  
• American Public Health Association |
| Dylan Roby, Ph.D.          | Associate Professor | Health reform, health policy, program evaluation, immigrant health, racial and ethnic inequities, health insurance coverage. | • Member, American Public Health Association  
• Member, AcademyHealth  
• Faculty Associate, UCLA Center for Health Policy Research |
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Specialization</th>
<th>Affiliations</th>
</tr>
</thead>
</table>
| Miryha Gould Runnerstrom, Ph.D. | Associate Professor of Teaching                    | Medicaid, health care spending, chronic disease management | • Adjunct Associate Professor, UCLA Fielding School of Public Health  
• Standing Advisory Committee Member, Maryland Health Benefit Exchange |
| Anamara Ritt-Olson, PhD     | Visiting Professor (Associate Professor In-Residence Appointment pending) | Undergraduate public health pedagogy, behavioral and environmental influences on human health and well-being | • ASPPH, Academic Affairs Section Representative and Member of the Scholarship of Teaching and Learning Taskforce  
• Environmental Design Research Association, Member  
• American Public Health Association, Member  
• NASPA Student Affairs Administrators in Higher Education, Member |
| Leigh Turner, Ph.D.         | Professor                                          | Mental health and well-being among diverse adolescents and young adults. Child, adolescent, and young adult survivors of cancer. Digital methods of interventions to address multiple health risk and health promoting behaviors. | • Director of Training & Engagement CERES network  
• Research Professional, Oncology, Childrens Hospital Orange County, CHOC  
• Member, MELD group SEER program, Cancer Registry of California  
• Health Behavior Cluster Leader, Southern California Center for Young Adult Survivorship  
• Wellness Committee Chair, University High School, Irvine, CA  
• Board Member, National Charity League, Irvine, CA  
• Covid Task Force member, IUSD, Irvine, CA  
• COVID advisory Committee, University Synagogue, Irvine, CA |
| Kristina Uban, Ph.D.        | Assistant Professor                               | Fetal programming, prenatal exposure to substances, development, brain, cognition, behavior, mental health, neuroendocrine function, salivary bioscience, multi-model MRI, socioeconomic status | • Children's Hospital Los Angeles  
• Adjunct Research Faculty, Advisory Board for FASD Communities  
• Member, Society for Neuroscience (SIN)  
• Member, International Society for Developmental Psychobiology  
• Member, Research Society on Alcoholism (RSA)  
• Member, FASD Study Group (FASDSG)  
• Member, Flux Congress |
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Affiliations</th>
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</thead>
<tbody>
<tr>
<td>Hans-Ulrich Bernard, Ph.D.</td>
<td>Professor Emeritus</td>
<td>Human papillomaviruses (HPVs) and cervical cancer. Transcription of HPVs. Epigenetic of HPVs. Evolution, taxonomy, and epidemiology of papillomaviruses</td>
<td>Faculty Director, Global Engagement Office, UCI</td>
</tr>
</tbody>
</table>
| Zuzana Bic, Dr.P.H., M.U.Dr. (MD) | Professor of Teaching       | Preventive care, lifestyle medicine, worksite wellness, and health, college health, health literacy, and promotion                                                                                         | Population Association of America, Member  
International Union for Scientific Study in Population, Member  
Society for Epidemiologic Research, Member  
Society for Perinatal Epidemiologic Research, Member  
Interdisciplinary Association for Population Health Science, Member  
Health Policy Consultant to the World Health Organization  
Epidemiology Consultant to the World Bank |
| Tim Bruckner, Ph.D.          | Professor                    | Perinatal and life course epidemiology, economic downturns and health, mental health  
*Joint appointment with Department of Health, Society, and Behavior*                                                                                                                                       | Institutional Representative, Southern California Earthquake Center  
Chair, Seismological Society of America, Government Relations Committee  
Member, Seismological Society of America, Diversity, Equity and Inclusion Committee  
Member, Seismological Society of America  
Member, American Public Health Association  
Member, American Geophysical Union |
| Lisa Grant Ludwig, Ph.D.     | Professor and Chair          | Earthquakes, natural hazards, earthquake hazard and risk reduction policy, disaster resilience and preparedness, informatics                                                                             | Program member of the UC Irvine Chao Family Comprehensive Cancer Center (CFCCC)  
Co-Director and core faculty, UCI Interdisciplinary Institute for Salivary Bioscience  
Consulting psychologist at the Memorial Sloan Kettering Cancer Institute  
Research Visiting Professor, Children’s Hospital of Orange County (CHOC) |
<p>| Michael A. Hoyt, Ph.D.       | Associate Professor          | Biobehavioral processes related to psychological adjustment and coping with cancer and other health-related adversity; common mechanisms related to the onset and recovery from physical illness |                                                                                                                                                                                                             |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Expertise</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yunxia Lu, Ph.D.</td>
<td>Associate Professor</td>
<td>cancer etiology and prevention, cancer prognosis, obesity epidemiology</td>
<td>• Associate Member, Cancer Prevention, Outcomes &amp; Survivorship Program, Chao Family Comprehensive Center</td>
</tr>
<tr>
<td>Andrew Noymer, Ph.D.</td>
<td>Associate Professor</td>
<td>Demography. Epidemiology of infectious disease. Historical epidemiology. Social epidemiology</td>
<td>• Director of Workforce Development, Institute for Clinical and Translational Science</td>
</tr>
<tr>
<td>Oladele Ogunseitan, Ph.D.</td>
<td>Professor and UC Presidential Chair</td>
<td>Global health, the environmental burden of disease, One Health, Microbiology, and Pollution prevention</td>
<td>• Visiting Professor in Epidemiology; Faculty of Tropical Medicine, Mahidol University; Bangkok, Thailand</td>
</tr>
<tr>
<td>Daniel Parker, Ph.D.</td>
<td>Assistant Professor</td>
<td>Spatial epidemiology, global health, tropical medicine, infectious disease epidemiology and ecology, GIS, anthropological demography</td>
<td>• Visiting Professor in Epidemiology; Faculty of Tropical Medicine, Mahidol University; Bangkok, Thailand</td>
</tr>
<tr>
<td>Sharon M. Stern</td>
<td>Senior Lecturer Emeritus</td>
<td>Environmental Health/Ecology. Active in research focusing on applied ecology, environmental pollution, and remediation</td>
<td>• Chao Comprehensive Cancer Center</td>
</tr>
<tr>
<td>David Timberlake, Ph.D.</td>
<td>Associate Professor</td>
<td>Epidemiology, marketing and policy issues in tobacco control</td>
<td>• UCI Center for Study of Cannabis</td>
</tr>
<tr>
<td>Lari B. Wenzel, Ph.D. (Secondary appt.)</td>
<td>Professor</td>
<td>Improve health outcomes and health-related quality of life (HRQoL) for cancer survivors.</td>
<td>• NCI Symptom Management and Quality of Life Steering Committee</td>
</tr>
</tbody>
</table>

DMS 120 - Item 1-114
| Dominik Wodarz, Ph.D. | Professor | Develop and test the efficacy of NCI-funded biobehavioral interventions  
*Joint appointment with School of Medicine*  
Co-Chair of the Mentorship, Education and Training Committee, Biobehavioral Shared Resource (BBSR) | mathematical biology; mathematical models of infectious diseases and immune responses; mathematical models of cancer and its treatment; mathematical models of ecological and evolutionary processes  
Editor, Biological Theory: Integrating Development, Evolution  
Editor, Mathematical Biosciences  
Editor, PLOS ONE  
Associate Editor: PLOS Computational Biology |
| Guiyun Yan, Ph.D. | Professor | Ecological and molecular epidemiology of infectious diseases, ecology of disease vectors, environmental modifications and impact on vector-borne diseases, global health  
Ad hoc member, NIH VB study section  
Appendix C: Faculty Biosketches
BIOGRAPHICAL SKETCH
DO NOT EXCEED FIVE PAGES.

NAME: BARTELL, SCOTT MICHAEL

eRA COMMONS USER NAME: sbartell

POSITION TITLE: Professor

EDUCATION/TRAINING

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>Completion Date</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of California, Berkeley</td>
<td>B.A.</td>
<td>05/1991</td>
<td>Environmental Sciences</td>
</tr>
<tr>
<td>University of Washington, Seattle</td>
<td>M.S.</td>
<td>07/1994</td>
<td>Environmental Health</td>
</tr>
<tr>
<td>University of California, Davis</td>
<td>M.S.</td>
<td>06/2001</td>
<td>Statistics</td>
</tr>
<tr>
<td>University of California, Davis</td>
<td>Ph.D.</td>
<td>12/2003</td>
<td>Epidemiology</td>
</tr>
</tbody>
</table>

A. Personal Statement

I have extensive training and experience in environmental health research, specializing in historical exposure reconstruction, pharmacokinetic modeling, and environmental epidemiology for per- and polyfluorinated substances (PFAS) and other toxicants. I have developed novel statistical approaches for these analysis in a variety of settings, including Bayesian pharmacokinetic calibration of external exposure models, Bayesian measurement error adjustment of pooled survival analysis for lung cancer after occupational exposures, application of machine learning techniques to develop a screening tool for cognitive impairment, choosing efficient epidemiologic sampling designs and data analysis using multi-stage sampling, and novel applications of statistical smoothing in dose-response modeling, mixtures analyses, and geospatial epidemiology. From 2007-2011 I directed the UC Irvine exposure research center for a multi-university epidemiological study of 70,000 individuals exposed to PFOA in the Mid-Ohio Valley (the C8 Health Project/C8 Science Panel studies). We successfully conducted retrospective fate and transport modeling to estimate historical concentrations of PFOA in drinking water and air, linked individual geocoded residential histories and behavioral questionnaires to these source concentrations to produce historical exposure estimates for each consented individual, converted individual exposure estimates to predicted annual serum concentrations based on a pharmacokinetic model that we developed, and “validated” the exposure model by comparison to 2005-2006 serum PFOA measurements. These estimated annual serum concentrations were used as the primary exposure metric for many of the C8 Science Panel health studies. We subsequently extended this work using formal uncertainty analysis with traditional and Bayesian methods to determine the impact of exposure model uncertainties on epidemiologic associations with preeclampsia (NIH grant R21ES023120, for which I served as PI). I have also designed and implemented a longitudinal pharmacokinetic study of 200 individuals highly exposed to PFOA, developed an internet-based serum PFOA calculator based on our pharmacokinetic model, served as a co-investigator on a study of prenatal exposure to PFAS and child growth and development in a different study population (NIH grant R01 ES021447), and contributed to research on PFAS biomonitoring in other populations, and published Internet-based calculators to estimate serum concentrations for four different PFAS chemicals as a function of water concentrations and time. Our newest PFAS study (Award U01 TS000308), for which I serve as PI, is an investigation of PFAS exposures in Orange County, California, and various health outcomes using clinical measurements, questionnaires, historical exposure reconstruction, and pharmacokinetic modeling; this project is part of the CDC/ATSDR national Multi-Site Study advancing knowledge on PFAS and public health. I am also actively engaged in several other
funded research projects on COVID-19 surveillance, DDE exposures and metabolic effects, and pesticide biomonitoring.

B. Positions and Honors

Positions and Employment

1996 Research Consultant (ASPH Intern), Radiation Studies Branch, U.S. Centers for Disease Control and Prevention, Atlanta, GA.
1996-2000 Research Scientist, Department of Environmental & Occupational Health Sciences, University of Washington, Seattle, WA.
2003-2006 Assistant Professor, Department of Environmental and Occupational Health and Department of Epidemiology, Rollins School of Public Health, Emory University, Atlanta, GA.
2006-2012 Assistant Professor, Program in Public Health, Department of Statistics, and Department of Epidemiology, University of California, Irvine, CA.
2012-2019 Associate Professor, Program in Public Health and Department of Statistics, University of California, Irvine, CA.
2019-present Professor, Program in Public Health and Department of Statistics, University of California, Irvine, CA.

Selected Professional Service and Honors

2010 New York City Fire Department and Department of Health and Mental Hygiene, Expert Panel on World Trade Center Cancer Research
2012-2014 National Academies, Committee to Review the IRIS Process
2012-2015 US Environmental Protection Agency, Chemical Assessment Advisory Committee
2014-2017 State of California, California Environmental Contaminant Biomonitoring Program Scientific Guidance Panel
2016 International Agency for Research on Cancer (World Health Organization), IARC Monographs Working Group Volume 117: Pentachlorophenol and Some Related Compounds Subgroup Chair, Section on Exposure Data
2018 State of Michigan, PFAS Science Advisory Panel
2019 Interstate Technology & Regulatory Council, External Reviewer for PFAS Team
2019 US Centers for Disease Control, Agency for Toxic Substances and Disease Registry, Pease PFAS Historical Reconstruction Expert Panel

C. Contribution to Science

1. Perfluorooctanoic acid (PFOA) and other per- and polyfluoroalkyl substances are emerging contaminants with relatively scarce data on human exposure, pharmacokinetics, and health effects. In 2005 I joined the C8 Science Panel team, a multi-university research effort to study PFOA exposures and epidemiology in a highly exposed community of over 70,000 individuals near a major production facility in West Virginia. Our studies have documented faster excretion of PFOA than previously observed in humans, a high correlation between measured and predicted PFOA serum concentrations using detailed exposure reconstruction, an association between PFOA exposure and preeclampsia, evidence that observed associations between PFOA serum concentrations and glomerular filtration rate may be due to reverse causation, and epidemiological findings for a variety of other health outcomes. My role in these studies was co-PI on the exposure reconstruction and half-life studies (PI for subawards to UC Irvine), and co-investigator on the epidemiological analyses. A few of our many publications are highlighted below.


2. The Anniston Environmental Health Research Consortium was funded by a CDC/ATSDR cooperative agreement to study environmental exposures to polychlorinated biphenyls (PCBs) and health outcomes in a highly exposed community in Anniston, Alabama. We designed and implemented a randomized survey of 1110 households, with clinical visits and blood samples for 765 participants. Findings include: demographic factors and consumption of local fish, livestock, or clay as significant predictors of total serum PCB concentrations\(^a\); and epidemiological associations of serum PCBs with systolic and diastolic blood pressure\(^b\), diabetes among younger women\(^c\), and serum lipid concentrations\(^d\). My role in the consortium was co-investigator from 2003-2005 and co-PI after 2005.


3. I also contribute by developing statistical methods for environmental exposure assessment. In particular, I have proposed new statistical models for biomarker-based exposure assessment and the integration of exposure reconstruction data and exposure biomarkers, using both frequentist\(^a\)\(^b\) and Bayesian\(^c\) methods. We successfully implemented these methods in epidemiological studies of mercury and PFOA, and our simulations suggest that the Bayesian methods may be advantageous to traditional approaches under several types of exposure misspecification\(^d\). I conceived the statistical models and derived the estimators for each of these studies.


4. My environmental health research methods contributions include a mathematical analysis demonstrating that bias from ongoing background exposures may be a larger threat to the validity of half-life estimates derived from exposure cessation studies than is widely believed\(^a\). This work reveals that traditional half-life estimates computed from the change in log serum concentration divided by the change in time, or using log concentration regression, often overestimate the intrinsic biological half-life even when background exposures contribute only a small fraction of...
Based on these findings I developed non-linear mixed effects models that estimate and adjust for background exposures in half-life studies, and implemented them in a study of urinary metabolites after an administered polycyclic aromatic hydrocarbon exposure in humans. I also created an internet-based Javascript calculator that uses this ongoing background exposure model to facilitate better understanding of the relationship between PFOA water and serum concentrations for other researchers, physicians, journalists, and millions of people who have consumed PFOA-contaminated water. I performed the mathematical derivations and non-linear statistical analyses for all these publications.


As a methodologist I often collaborate with other researchers to select, guide, or conduct complex statistical analyses of environmental health data. Examples include: longitudinal analysis of particulate matter exposure, ambulatory heart rate variability, and arrhythmia using time-lagged generalized estimating equations; development of a Bayesian linearized multistage model for carcinogen dose-response assessment allowing for hormesis or monotonicity; analysis of mercury emissions and censored autism counts using Bayesian Poisson mixed effects models; and development of an R package for geospatial analysis of individual-level data with adjustment for confounders using generalized additive models. I served as co-PI or co-investigator on these studies.


D. Research Support

ACTIVE

U01 TS000308 (Bartell) 09/30/2019 – 09/29/2024
CDC/ATSDR
Role: PI

UCI PFAS Health Study
This study, along with other studies in the CDC/ATSDR PFAS multi-site health study, will determine whether modelled and measured serum concentrations for per- and polyfluoroalkyl substances (PFAS) are associated with a variety of cross-sectional health outcomes in child and adult participants.

R01 ES030364 (Chatzi) 02/01/2020 – 10/30/2024
NIH (Subaward from University of Southern California)
Role: Co-I

Effects of DDE exposure on adipose tissue function, weight loss and metabolic improvement after bariatric surgery: A new paradigm for study of lipophilic chemicals
The primary goal of the project is to test the hypothesis that higher levels of persistent chemicals like the DDT
metabolite, DDE, that are concentrated in fat, are associated with reduced weight loss and reduced improvement in metabolic health after bariatric surgery. We seek to identify molecular pathways, altered by DDE in fat tissue, that underlie these effects.

(Bruckner and Boden-Albala) 05/01/2020 – 04/30/2021
Orange County Health Care Agency
Role: Co-I
Population-Wide Surveillance of COVID-19 Antibodies in Orange County
This study consists of a population-based survey and COVID-19 antibody test for 5,000 adults living in Orange County, CA, the 6th largest county in the US, to determine the prevalence of exposure to SARS-CoV2.

SCP 5593788 (Bartell) 07/01/2020 – 06/30/2022
Syngenta
Role: PI
Use of human biomonitoring data in pesticide risk assessments: developing a Bayesian combination method and a pesticide case study; developing a framework for best practices
The goal of this project is to develop and apply Bayesian statistical methods for combining traditional forward dosimetry with biomarker measurements in order to generate more realistic estimates of population variability in pesticide exposures.

MA-042-21010600 (Vieira) 9/28/2020 – 12/31/2020
Orange County Health Care Agency
Role: Co-I
COVID-19 Emergency Responders Surveillance Study
The goal of this project is to determine the seroprevalence of COVID-19 antibodies and its relationship to exposure factors among paramedics and firefighters in Orange County, CA.

COMPLETED (last three years)
U24 DK097154 (Fiehn) 07/01/2017 – 08/31/2018
NIH/NIEHS (Subaward from UC Davis, to PI Luderer)
Role: Co-I
NIH/West Coast Metabolomics Center Pilot Grant: The Exposome and Reproductive Function in Women
Investigate relationships between reproductive endpoints (follicular phase length, follicular phase LH and E13G concentrations, preovulatory LH surge concentrations, and periovulatory E13G slope and concentration) and xenobiotics in urine, using both targeted and untargeted analyses for comprehensive exposure profiling.
BIOGRAPHICAL SKETCH

NAME: BIC, ZUZANA

eRA COMMONS USER NAME (credential, e.g., agency login): zbic

POSITION TITLE: Professor of Teaching, Department of Population Health & Disease Prevention

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles University, Prague, Czech Republic</td>
<td>MUDr. (MD)</td>
<td>06/1980</td>
<td>Medical School (MD)</td>
</tr>
<tr>
<td>Loma Linda University, Loma Linda, California</td>
<td>DrPH</td>
<td>06/1997</td>
<td>School of Public Health, Doctor of Public Health, Preventive Care – Lifestyle Medicine</td>
</tr>
</tbody>
</table>

A. Personal Statement

I can say about myself that I love teaching and therefore I put a lot of creativity and effort into my teaching materials. I also understand that students face challenging problems and I always try to help them. I think students appreciate it as shown by their comments in every evaluation. I enjoy the challenges of developing and teaching new courses and online courses and providing the services for the school and for the community. I developed new courses on topics – nutrition and global health, introduction to alternative and complementary medicine, drug abuse and its prevention, stress management essentials, public health program for the corporate world, international public health practices, public health communication, seminar-educating instead of mediating, introduction to public health, case studies in public health practice. During my career I have been involved in research, clinical counseling, education and health promotion, book writing, and administration. Of all these activities I like teaching and health promotion the best. I received UCOP grants total $345,000 ($150,000+ $110,000+ $ 85,000+ $67,000) for developing online cross-campus classes (PH1 and PH2 were offered in Fall 2016, PH 120 was offered in Fall 2018, PH 121 will be offered Winter 2020 and PH 147 will be offered Fall 2020). I regularly teach 3 classes every quarter with an average 200 students in the class, I also teach 2-3 classes during summer. When I think about myself I think in these terms - the professor-advisor; mentor for undergraduate research with various topics in the lifestyle medicine, mentor for PHA (Public Health Association), author, pedagogical innovator regarding online classes, MOOC classes and certificates, director of student experience in public health practice, instructor of classes for GHOEAT/Nutrition and Global Health/ leader in the international education/8 years of summer travel programs with students, and active member of the Study Abroad. I developed MOOC, a massive open online course/PhBhlth 1 class; and participated with my 3 sections for MOOC class Society, Science, Survival: Lessons From AMC’ The Walking Dead. Under my mentoring students in the class PubHlth 198 Directed studies (Topic: “Stop Diabetes with ADA certificate) submitted grant-proposals and received grants directly for ADA: $ 5,000 proposal “Por Tu Familia Fair” from Aetna $3,000 from Allergan$ 40,000 from Aetna$ 7,000 from Allergan,$15,000 from Weingart Foundation$ 2,500 from Angels Baseball Foundation. I advised PHA (Student Public Health Association). PHA under my mentoring established “Annual Undergraduate Public Health Summit the 1st in 2016, and 2nd in 2017. I also advised SIM (Studies for integrative medicine undergraduate student association). Under my mentoring students developed the annual “Health Fair” for underserved communities in OC-Crescent Free Clinic, Anaheim. https://www.crescentclinicoc.org/.

I mentored MPH students for abstract submission for the APHA conference. I developed a certificate “College Population Health Promotion and Wellness” in cooperation with UCI Center for Student Wellness & Promotion. The Certificate in College Population Health Promotion and Wellness http://publichealth.uci.edu/cphpw/#/ is designed to educate undergraduate students in college health promotion principles and practices. College campus and universities are unique environments where health and wellness are critical factors influencing a students’ academic success, as well as their social,
emotional, and physical experiences. For those who wish to work in the public health field, more specifically on a college campus, some experience in understanding this unique environment is preferred and/or required. The Certificate in College Population Health Promotion and Wellness requires students to complete five (5) courses in college health related studies, participate in two mandatory trainings, and attend three (3) workshops on a variety of health topics. In addition, students will be required to shadow a professional staff member for four (4) hours from the Center for Student Wellness & Health Promotion. Students will be presented with their Certificate prior to graduation in the Undergraduate Honors Program. I travelled in 2016 with students to Bali for the UCI Summer Travel Program (I taught classes: PH 121 and PH 100 International Public Health Practices). I developed a new syllabus for class PH 100 International Public Health Practices. I received numerous awards for teaching the last one was the Award nomination #2718 “ASPPH Teaching Excellence Award”. My overall rating of my teaching is 3.6 – 4.0 (on a scale of 1-4 with 4 being the highest) and 7.9 – 9.0 (on a scale of 1-9 with 9 being the highest). I also applied a pedagogical innovation - I gave PH students the opportunity to be online designers with ideas and scientific suggestions for PH1, PH2 and PH 120 class. Student’s time was financially supported from the UCOP awards (2 awards: PH1 and PH2). I believe that students become interested in learning if they see the commitment and dedication from the instructor. I strongly believe that it is very important to motivate students to apply their knowledge. I meet with students every week and we discuss the research. If I have a group of students working on their research projects I always let students choose their research leader from the group. My philosophy is to let students work in the group and with a research leader, by doing this I try to prepare students for a real-life situation in the public health field. Students are discovering the importance of organization skills and various other responsibilities when working in the group. For other research projects I also combine undergraduate students with their research leader and one graduate student MPH (if the student is interested in the research topic) as a supervisor for the group and a specific community leader (American Diabetes Association). I meet with them every week – this research group was very successful with a published paper Assessment of Diabetes risk among UCI campus population. I strongly believe that this approach enhances students’ knowledge, creativity and application of their knowledge.


B. Positions and Honors

Positions and Employment

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
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<tbody>
<tr>
<td>1980–1983</td>
<td>Candidate of Science, Institute of Hygiene &amp; Epidemiology, Prague, Czech Republic</td>
</tr>
<tr>
<td>1998-2002</td>
<td>Assistant Adjunct Professor of Medicine, Preventive Care &amp; Integrative Lifestyle Management, University of California, Irvine, The Chao Family Comprehensive Cancer Center, Orange, CA</td>
</tr>
<tr>
<td>2002-2006</td>
<td>Assistant Clinical Professor, College of Medicine - Hematology/Oncology, University of California, Irvine The Chao Family Comprehensive Cancer Center, Orange, California</td>
</tr>
<tr>
<td>2001-2005</td>
<td>Lecturer in the Kinesiology &amp; Health Promotion Department, California State Polytechnic University, Pomona, CA</td>
</tr>
<tr>
<td>2005 – 2010</td>
<td>Lecturer PSOE, Department of Population Health and Disease Prevention Program in Public Health, University of California, Irvine</td>
</tr>
<tr>
<td>2008-present</td>
<td>Administrative academic position: Director of the Student Experience in Public Health Practice, Program in Public Health, University of California, Irvine</td>
</tr>
<tr>
<td>2010 -2016</td>
<td>Lecturer SOE, Department of Population Health and Disease Prevention, Public Health Program (2010 -tenure), University of California, Irvine</td>
</tr>
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2014 – 2016 Administrative academic position Director of Undergraduate Education, Program in Public Health, University of California, Irvine
2016 – 2019 Senior Lecturer SOE, Department of Population health and Disease Prevention, Program in Public Health, University of California, Irvine
2019 – present Professor of Teaching (step III), Department of population Health & Disease Prevention, Program in Public Health, University of California, Irvine

Other Experience and Professional Memberships

1980 MUDr.,(MD) state examination, Prague, Czech Republic
1980–1983 Member, Czech Medical Society of J.E. Purkinje
1995 Leading ANAD (National Association of Anorexia Nervosa and Associated Disorders) Support Group, organized by New Directions for Women, Inc., Costa Mesa, CA
1998 Certified Preventive Care Specialist (American Board of Preventive Care), DPC-00800.
1991–2015 Member, American Preventive Care Association
1996–1998 Preventive Care Specialist, Family Medical office, Medical Plaza, Tustin, CA
1997–1998 Preventive Care Specialist, Family Medical office, Medical Plaza, Irvine, CA
1998-1999 Lecturer for “Lifestyle for Living” (a program for prostate cancer prevention), Newport Beach, CA
1999-2001 Preventive Care Specialist, Director and Founder of Preventive Care & Lifestyle Medicine Clinic, Tustin, CA
1998-2015 Member and temporary speaker for CMESN (Continuing Medical Education Speakers Network), Santa Ana, CA
1995–1998 Member, National Association of Anorexia Nervosa & Associated Disorders
1995–2010 Professional Member, American College of Sports Medicine
1998–2010 Member, Chao Family Comprehensive Cancer Center, University of California, Irvine, CA
1999- 2007 Member of Professional Advisory Board, The Wellness Community, Orange County, CA
2001-2003 Member of Medical Content Panel and Advisors, and host of “Lifestyles with Dr. Bic”, Sun Integrative Health, Newport Beach, CA, www.sunintegrativehealth.com
2001- 2005 Founder of Lifestyle Medicine over the Phone Clinic - Lifestyle Medicine Programs & Consultations Services, Irvine, CA, LFM program phone: 949-854-9365
2002 - 2003 Founder of Tour De Health program for cancer patients, Wellness Community Orange County, CA
2005 - 2007 Founder and Lecturer “Food for Thought” program for cancer patients, Wellness Community Orange County, CA
2009-2016 Nominated and selected for a position on Community Leadership Board for 2010: American Diabetes Association, Orange County
2009-2016 Nominated for the position at the board of directors – representing Dr.P.H. for 2010-2012 at American College of Lifestyle Medicine
1998-2006 Member of Clinical Trial Protocol Review and Monitoring Committee (CTPRMC), University of California, Irvine, CA
2010-2015 Member of Community Leadership Board for American Diabetes Association (ADA), Orange County, CA
2014 – 2015 Chair of Mission Delivery for American Diabetes Association, Orange County, CA
2015 – Member of the Coalition to Stop Diabetes in Orange County, with ADA, CA
2016
2002-2018 Professional Member, American Botanical Council
2004-2019 Member, The American College of Lifestyle Medicine, LLU

Honors

2020 University of California, Irvine - Excellence of teaching and education THANK TEACHER
2019 University of California, Irvine - Excellence of teaching and education THANK TEACHER
2018 University of California, Irvine - Excellence of teaching and education THANK TEACHER
2017 Nominated Association of Schools & Programs in Public Health (ASPPH) Teaching Excellence AWARD
2017 Albert Nelson Marquis Lifetime Achievement Award
2016 Certificate of Recognition, Scientific Federation, Dubai, UAE
2015 Nominated for Anteater Award as a member and the advisor for PHA at the 35th Annual Anteater Awards by UCI CORE (University of California, Irvine)
2015 Nominated for “2015 Lecturer of the Year at University of California, Irvine” award, Division of Undergraduate Education, Teaching, Learning & Technology Center
2015 Outstanding Professor at University of California, Irvine (UCI), School of Health Sciences and published in UCI Anthology 50’s Anniversary yearbook
2014 Outstanding Advisor, recognition by Students’ Public Health Association, University of California, Irvine
2014 Received an appreciation letter from the Director Dr. Jean-Xavier Guinard – Associate Vice Provost and Executive Director, UC Education Abroad Program(UCEAP) for contribution to Public Health Advisory Committee
2013 Learn Award (represents assisting ADA in teaching people about diabetes and Stop Diabetes in Orange County) from American Diabetes Association, CA
2013 University of California, Irvine (UCI) Faculty Recognition Award – from UCI Extension, awards recognizes contributions to students and UCI Extension from Gary W. Matkin, Dean Continuing Education.

2013 Award for Chairwoman from the Orange County Mission Delivery committee under American Diabetes Association, CA
2012 Outstanding Professor at University of California, Irvine (UCI), School of Health Sciences
2011 For Your Service Award - Stop Diabetes, OC Community Leadership Board (ADA), CA
2011 Outstanding Advisor, recognition by Students’ Public Health Association, University of California, Irvine (UCI).
2011 Outstanding Professor at University of California, Irvine (UCI), School of Health Sciences
2010 ACT Award - students under my supervision received the first $8,000 grant (from Aetna and Allergen) for ADA, and the Public Health Program, University of California, Irvine (UCI) received “ACT” award at the ADA Stop Diabetes awards dinner. Published in the Orange Coast Journal
2010 Outstanding Professor at University of California, Irvine (UCI), School of Health Sciences.
2010 Certificate of recognition for the support (honoring the work of Public Health students in Project: Mangel-Benim-forestation), Fundacion Neotropica, Costa Rica, under my advising in the Summer Travel Program, University of California, Irvine (UCI)

2010 Outstanding Advisor, recognition by Students’ Public Health Association, University of California, Irvine (UCI)

2010 Professor of the Month for April 2010, Campus Village Housing, University of California, Irvine (UCI)

2010 Professor of the Month for December 2010, Campus Village Housing, University of California, Irvine (UCI)

2010 Nominated for Award on Health Literacy: Lifestyle Medicine & Oral Health – The Honduras Project, was nominated for Award on Health Literacy and research. Presented as a poster presentation, “Health Literacy in the Real world: Programs and solutions that work”, 9th Annual Health Literacy Conference. Students’ project under my supervision.

2009 Outstanding Professor at University of California, Irvine (UCI), School of Health Sciences

2009 Excellence in teaching recognized by Gamma Phi Beta Sorority, University of California, Irvine (UCI)

2009 IHA Health Literacy Award Nominee – for published material “Educating instead of Medicating in Public Health” by Zuzana Bic, Dr.P.H.,MUDr. and Ramon P. Oblepias Llamas, B.S

2009 Who’s Who in America 2010, in 64th Edition (nominated and received the Award)

2008 Network for a Healthy California Award for dedication and support to healthier living for students and families in the Santa Ana Unified School District community, CA

2008 Public Health Association (PHA) received Anteater Award: “Most Outstanding Academic organization at University of California, Irvine (UCI)” under my Advisor-ship for UCI PHA

2008 Lecturer of the Year Award 2008, University of California, Irvine (UCI)

2007 A certificate award of appreciation for support and involvement with UCI residents, students of Arroyo Vista Team, University of California, Irvine (UCI)

2006 Nutrition Network Award, by Santa Ana Unified School District (for application Health for All and All for Health with PubHlth 198)

2002 Certificate of appreciation for dedication and commitment to the education of medical students, University of California, Irvine (UCI)

C. Contributions to Science

1. Lifestyle medicine as a part of Public Health - including my research and advising students on this research topic for UROP and Public Health Honor Program.


• Lauren Granillo MPH, Kristen Goh BA, Adriana Cuevas BA, Thamir Khader BA, Umair Khalid BS, Michael Vidal BS, Lauren Aragon BS, Scott Bartell PhD, Zuzana Bic, DrPH, MUDr. (2015) Diabetes Risk Assessment of the UC Irvine Campus Population. American Journal of Lifestyle Medicine, Vol. XX, No X. 
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6124973/

• Online published


• Bic, Z. (2010). Lifestyle Medicine and Oral Health – The Honduras Project Manual. (Co-authored with student’s contributors under my mentoring: The research and the manual was accepted at The Ninth Annual IHA Health Literacy conference and was nominated for Health Literacy Awards 2010


• L.Bic & Z. Bic (2018), (co-authored): The Cure Within: A Story from Lifestyle Medicine, (https://www.amazon.com/) attached. Will be available for online PH121 as additional reading.


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**Fall 2019 – Spring 2020:**

- Allison Malari, Alexandra Medina, Judy Ta, Danae Esteban, Aamir Haque, Jesus Chavez “Is Nutrition an Ideal Primary Prevention Approach for Substance Abuse?” (in progress)

**Fall 2018 – Spring 2019:**

- Farnaz Danaie, Kayla Nakashima, Gloria Huynh, Amanda Esparza, Ayesha Dhar and Matthew Nguyen's submission of the project entitled "Assessment of the Implementation of the Integrative Health Initiative Patient Education Program Amongst Medically Underserved Patients"

- Hannah Vasquez's submission of the project entitled "Knowledge, Attitudes, and Behaviors About Sleep Held by Undergraduate Students at the University of California, Irvine to Assess Gaps in Knowledge About Sleep and Healthy Sleep Habits"

- Esly Arellano, Naciely Hernandez and Marilyn Valenzuela's submission of the project entitled "Mental Wellness Assessment of the UC Irvine Campus Population"

- Caitlin Ratanarak's submission of the project entitled "Influence of College Students Self-Perceptions of Aging on Alzheimer's Disease Risk Factors"

**Fall 2017 – Spring 2018:**
- Sara Diab's proposal submission of the project entitled "Analyzing the Impact of Student Financial Status on Food Choices"
- Maira Alba, Ayesha Dhar, Brittany Bonilla, Matthew Nguyen, Farnaz Danaie and John Mejia's proposal submission of the project entitled "Assessment of the Short-Term Effects of Lifestyle Medicine Modalities on the Medically-Underserved and Underinsured Patients of Anaheim"

**Fall 2016–Spring 2017:**
- Jennifer Pearce – “Are there any patterns between eating styles, headaches, and stress levels among UCI college students?”
- Dicen Dijon and his group – “Implementing a Lifestyle Medicine-Based Wellness Program for medically-underserved and uninsured patients of Anaheim”

**Fall 2015–Spring 2016:**
- Daniel Yoo – “Relationship between depression and stress coping strategies”
- Jessica Sathy – “The frequency of stress management modalities among college students and its relation to perceived academic self-concept”
- Dicen Dijon and his group – “Assessing and promoting the knowledge and use of integrative medicine in the medically-underserved and uninsured community of Anaheim through Crescent Clinic”

**Fall 2014–Spring 2015:**
- Kristen Goh et al: The effects of Passport to Health in UC Irvine: An educational tool for the campus population
- Demijn Dicen et al.: Analysis of the correlation between UCI student knowledge and support of integrative Medicine in Public Health field
- Janessa Brown: Better Nutrition for a healthy GPA – analyzing the nutrition related knowledge, attitudes and practices of undergraduate university students and its relationship to GPA
- Edgar Hernandez: UC Irvine undergraduate student attitudes and beliefs regarding eating Disorders

**Fall 2013–Spring 2014:**
- Adriana Cuevas, Kristen Goh et al: Diabetes Risk Assessment of the UC Irvine Campus Population (with Dr. Scott Bartell)
- Afra Khan: Food culture – Understanding the implications of college students food preferences
- Eline Kocharyan: The effects of maternal familial autoimmunity on autism severity (with Dr. Brandon Brown, Dr. Pietro Galasserti, Dr. Myriha Runnerstrom)

**Fall 2012–Spring 2013**
- Ignacio Marty: Shifting the fear of hypoglycemia among parents with children with type 1 Diabetes.
- Pham, Thuy: Vietnamese American’s attitudes towards compensation for living kidney Donation.
- Wong Alison: Student dancers at UC Irvine – how can injury risk be reduced?

**Fall 2011–Spring 2012**
- Total of 19 students divided into 2 groups, #1: UROP research “Effect of Public Health Intervention to Decrease the Occurrence of Headaches among College Students during an Academic Quarter”;
- #2: UROP research “Can the Total Health Mastery ™ Program, which uses advanced Health Education Methodology, effectively improve Health and Well Being of Participants?”

**Fall 2010–Spring 2011**
- Student: Michael Nguyen, Honor and UROP topic: “An Assessment of the Health Status and Literacy of Individuals At-Risk & Diagnosed with Respiratory and Related Cancers: Understanding the Human Physiology Impacts of Air Pollution Particulates on Body Fat Percentages to Augment Personal Health
Education, Quality of Life, and Public Health

- Student: Adeline Manohar, topic: Analysis survey to determine adherence to family-based intervention among Latino families at risk for type 2 diabetes
- Student: Adam Truong: Student Health: a novel way to educate students in order to relieve post-graduation anxiety.
- Student: Amanda Lopez: Topic: What medicinal practices are found among the Latino Population with Diabetes

Fall 2009 – Spring 2010

- 15 students topic: Corporate Health, research on importance of the corporate health, survey, evaluation on employee health.
- Students: Pompierlar R., Rana G., Alikoza F, Siddiqui H., Nguyen L. topic: Does Competition have an effect on employee health promotion programs?
- Student Ahad F. topic: Perception of risk for diabetes II among Latino population
- Students: Pham N., Nguyen M., Khooibiary N., Heidari O., topic: Can public health education, with focuses on physical activity, nutrition, stress management and coping with financial burden, increase the health literacy, health awareness and improve the quality of life among adolescents and young adult cancer population?
- Students: Nguyen K., Girgis A., Farr N., Chou R., Patel K., Afkhamirad S. topic: Lifestyle Medicine and oral health (Global Dental Brigades -Project Honduras)

D. Additional Information: Research Support and/or Scholastic Performance

2019 (UCOP award) $ 67,000
Received as PI: Zuzana Bic, DrPH,MUDr.(MD) From UC, office of the president: The award for the development of her ILTI course PubHlth 147 Drug Abuse and its Prevention. This is a UC cross campus class.

2018 (UCOP award) $ 85,000
Received as PI: Zuzana Bic, DrPH,MUDr.(MD) From UC, office of the president: The award for the development of her ILTI course PubHlth 121 Introduction to Alternative and Complementary medicine. This is a UC cross campus class.

2017 (UCOP award) $110,000
Received as PI: Zuzana Bic, DrPH,MUDr.(MD) Form UC, office of the president: the award for the development of her ILTI course PubHlth 120 Nutrition and Global Health. This is a UC cross campus class. Class is offered on the UCOP canvas site. The class is one of 3 required classes for http://ghreat.uci.edu/globalhealth/gh_certificate

2015 (UCOP award) $150,000
Received as PI: Zuzana Bic, DrPH, MUDr.(MD) from UC, office of the president: The award for the development/enhancement of her ILTI courses "Public Health 1" and "Public Health 2". The award for Public Health 1 is $40,000.00 and the award for Public Health 2 is $110,000.00

2014-2015 award $10,000
Assessment Program for Public Health major: (proposal to the Division of Undergraduate Education) Award received in fall 2014 from the Division of Undergraduate Education - $10,000 for a proposal on assessment (PI Dr. Dele Ogunseitan and Co-PI Dr. Zuzana Bic)

2016-2017 (award) $3000

Working on the project with PI Dr. Mark Warschauer in the School of Education and with Fernando Rodriguez PhD, a postdoc working with Dr. Warschauer Topic: Investigating Virtual Learning Environments. The research group received a 5-year grant from the National Science Foundation to examine how online learning environments impact student...
outcomes (e.g., engagement, performance, persistence). My online classes PH1 and PH2 were involved in the project (surveys were sent to the classes)

**From 2015 Fall – present: (7 UROP recipients/groups)**

for every year there were UROP grant recipients (each between $200-$500 for a student or for the group, approx. $3,500) - this section regarding student is under section “Undergraduate research students supervised” 2 UROP students under my mentorship received ($300, $1620) for the presentation and the scientific conference 2014-2015 **$5000**

Submitted (Miryha Runnerstrom PhD, Stephanie Leonard, Zuzana Bic DrPH,MUDr.) UC departmental grant for academic integration of study abroad proposal – sent to the UC Education Abroad program - Award received from UC office of the president, for proposal grant under UC Education Abroad Program to establish an international practicum site in Botswana – participated in the proposal preparation.

2013 **$300**

UCI Women’s Empowerment Initiatives – funding for Kristen Goh’s project – Diabetes Risk Assessment of the UC Irvine Campus Population (under my supervision)

2012 **$1300**

Public health students under my supervision raised $1,300 for American Diabetes Association through Indian Cultural and educational event they organized and performed 2011-2015: **$72,500**

Under my supervision/mentoring students in the class PubHlth 198 Directed studies (Topic: “Stop Diabetes with ADA certificate) and with American Diabetes Cooperation students submitted grant-proposals and received grants directly for ADA:

$ 5,000 proposal “ Por Tu Familia Fair” from Aetna
$ 3,000 from Allergan
$ 40,000 from Aetna
$ 7,000 from Allergan
$ 15,000 from Weingart Foundation
$ 2,500 from Angels Baseball Foundation
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: BODEN-ALBALA, BERNADETTE

eRA COMMONS USER NAME (credential, e.g., agency login): bb87xx

POSITION TITLE: Professor of Health Society and Behavior and Neurology; Director and Founding Dean, Program in Public Health, College of Health Sciences, University of California, Irvine (UCI), CA

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queens College, CUNY, NY</td>
<td>BA</td>
<td>05/1989</td>
<td>Anthropology</td>
</tr>
<tr>
<td>Columbia University, School of Public Health, NY</td>
<td>MPH</td>
<td>05/1991</td>
<td>Tropical Medicine/Epidemiology</td>
</tr>
<tr>
<td>Columbia University, School of Public Health, NY</td>
<td>DrPH</td>
<td>05/2002</td>
<td>Sociomedical Science</td>
</tr>
</tbody>
</table>

A. Personal Statement
I am an internationally recognized expert in the social epidemiology of vascular disease, whose research has focused on eliminating health disparities through defining and intervening on social, structural, and institutional barriers to optimal cardiovascular health. My areas of expertise include community-based participatory research, health disparities, inclusive clinical trial recruitment, and social support. Over the past two decades, I have led numerous large, multi-site vascular risk reduction, health equity, and community-based participatory studies in urban and rural communities across the United States and globally. I led the 552-patient DESERVE trial, a skills-based discharge secondary stroke prevention intervention targeting white, black, and Hispanic mild stroke/TIA patients in New York City. Of note, DESERVE was one Other selected interventions include: SWIFT, a hospital-based stroke preparedness intervention and ASPIRE, a stroke preparedness study in Washington D.C. Additionally, I have led large community health assessments, evaluations, capacity building, and workforce training projects. In the current context of pandemic, I have served as PI of two large-scale community-wide COVID-19 seroprevalence surveillance studies in Orange County, conducted on behalf of local public health authorities. I am PI of the National Initiative for Minority Involvement in Neurological Clinical Trials (NIMICT), supported by NINDS/NIMHD, which has built a toolkit of materials to improve racial-ethnic minorities’ and women’s participation rates in neurological clinical trials. My work in this area has led to several leadership roles. I serve as the director of minority recruitment for the national StrokeNet and am part of the NINDS INSPIRE Working Group to Improve Recruitment and Retention. Since 2012, I have acted as a consultant for various StrokeNet studies, including a pediatric stroke trial and exemption from informed consent (EFIC) study. My work with StrokeNet has initiated a great paradigm shift in the way trials conduct recruitment, from a traditional approach to a more equitable and community-engaged approach. My past work has well positioned me to lead the INCLUDE network center in this endeavor and I look forward to collaborating with other brought together on this proposal for the Asian Pacific Islander Testing Inclusion for Trial Equity (APITITE) project, the Ensuring Underrepresented Group Inclusion in Trials (EQUITY) project, and the Training for Research Understanding, Synergy, and Trial Equity and Diversity (TRUSTED) training component, as part of our application to the American Heart Association’s Strategically Focused Research Network on the Science of Diversity in Clinical Trials.

Ongoing and recently completed projects that I would like to highlight include:

P50 MD017366-01
Boden-Albala (CO-PI)
Date: 9/01/2021-8/31/2026
UC-END DISPARITIES: UCLA-UCI Center for Eliminating Cardio-Metabolic Disparities in Multi-Ethnic Populations
SERVE OC: Skills-based Educational strategies for the Reduction of Vascular Events in OC

Office of Minority Health
Perez (PI); Role: Co-I
07/01/2021 - 06/30/2021
Health Equity and Literacy in Orange County (HEAL-OC)

SLT0252
City of Santa Ana, California (CARES Act)
Boden-Albala (PI)
09/15/2020 - 12/30/2020
Population-Wide Surveillance of COVID-19 Antibodies in Santa Ana

MA-042-20011978
Orange County Health Care Agency  (CARES Act)
Boden-Albala (PI)
06/15/2020 - 12/30/2020
Population-Wide Surveillance of COVID-19 Antibodies in Orange County

U19 NS1153888
Rost (PI); Role: Co-I
09/01/2019 - 08/30/25
DISCOVERY: Determinants of Incident Stroke Cognitive Outcomes and Vascular Effects on Recovery

U10 NS086531
Boden-Albala (MPI)
09/30/2013 - 05/30/2019
The New York City Collaborative Regional Coordinating Stroke Center (NYCC-RCC)

U24 MD006961
Boden-Albala (PI)
09/22/2011 - 06/30/2017
National Initiative for Minority Involvement in Neurological Clinical Trials (NIMICT)

B. Positions, Scientific Appointments, and Honors
Positions and Employment
2020- Professor, Department of Health Society and Behavior, Program in Public Health and Department of Neurology, School of Medicine, College of Health Science, UCI, CA
2019-2020 Professor, Department of Population Health and Disease Prevention and Department of Epidemiology, Program in Public Health, College of Health Sciences, University of California, Irvine (UCI), CA
2013-2019 Senior Associate Dean for Research and Program Development, Global Public Health, NYU, NY, NY
2013-2019 Chief, Division of Social Epidemiology, Global Public Health, NYU, NY, NY
2013-2019 Professor of Public Health, Neurology, and Dentistry, Global Public Health, New York University (NYU), NY, NY
2012-2013 Associate Professor Department of Health Evidence and Policy, Department of Neurology Institute of Translational Epidemiology, Mount Sinai School of Medicine, NY, NY
2012-2013 Chief, Division of Social Epidemiology Department of Health Evidence and Policy Mount Sinai School of Medicine, NY, NY
2007-2012 Director, Community Engagement Resource, Columbia University CTSA
2003-2007 Faculty, Neuroepidemiology Training Program
2003 Assistant Professor of Sociomedical Science in Neurology Columbia University, New York, NY
Other Experience and Professional Memberships:

2021- UCI College of Health Sciences and UCI Health System, Health Equity Task Force
2020- OC Health Equity COVID-19 Community Academic Partnership
2013- NINDS Stroke Disparities Solutions Training and Education teleconference and Scientific Working Group
2013- NINDS INSPIRE Working Group to improve recruitment and retention
2010- AHA National Committee on Behavior Change for Improving Health Factors, Council on Nutrition, Physical Activity and Metabolism and Epidemiology and Prevention
2010- AHA National Stroke Council Advisory Committee
2009- CTSA National Community Engagement Outcomes Workgroup
2007- CTSA National Workgroups (Educational Competencies, IRB/Clinical, Regional)
2006-2007 NINDS SPRG Stroke Rehabilitation Task Force
2006- NYSDOH Cardiovascular Workgroup - Pre-hospital cardiac/stroke workgroup chairperson
2006- NE Cerebrovascular Consortium Community Education Chair
2006- NYC American Heart Association Board of Directors
2005-2010 AHA Heritage Stroke Advisory Board
2004-2010 NYC Council on Aging
2003- Peer Reviewer, American Heart Association, National Level
2002- Abstract Reviewer, Epidemiology Section, AHA
2000-2011 AHA Operation Stroke Public Education Chairperson, NYC
1998-2012 Director CPMC Stroke Support Group
1997-2010 STOP Co-Chair, (Stroke Targets of Prevention)
1995-2019 American Heart Association Stroke Council, NYC Affiliate

Honors

2020 Roxanna Todd Hodges Lectureship on Stroke Prevention and Education
2012 Princeton Conference for Cerebrovascular Disease “Evaluating Behavioral Interventions for Stroke.” Cincinnati, Ohio
2011 New York State Minority Health Council, Guest Speaker
2010 Appointment as National Stroke Council Liaison for Behavioral Research for the AHA
2009 NINDS advisor for SPIRP focused on Vascular Risk Reduction among First Nations Peoples in Alaska
2008 New York Presbyterian Ladies Auxiliary Research Scholar
2006 Honored for Scientific Enrichment, Department of Education, Dominican Republic
2001 1st Recipient Women with Heart AHA Grant
2000 Jack Elinson Socio Medical Science Award

C. Contribution to Science

1. I was trained under the belief that social as well as biological processes shape the health of populations and communities. My initial research investigated race-ethnic disparities in stroke incidence and the role of race-ethnicity as a proxy for social disparities. My recent work has extended this lens to various populations and health conditions.


2. The identification of novel risk factors for stroke constitutes my second area of scientific inquiry. As a Co-I of Northern Manhattan Study (NOMAS), I helped lead a groundbreaking study elucidating risk factors for stroke and gradients in the impact of these factors by socioeconomic status. NOMAS findings revealed that pre-stroke social isolation is a predictor of outcome events post stroke, while lack of social support may contribute to poorer outcomes due to poor compliance, depression, and stress.


3. Stroke Behavioral Intervention Studies: I have substantial experience conducting multi-site behavioral intervention trials. The Stroke Warning Information and Faster Treatment (SWIFT) Study is the first RCT to evaluate two different stroke preparedness educational strategies in decreasing time from symptom onset to ED arrival among stroke/TIA survivors. SWIFT findings also contributed to an expanding literature on social support and social networks, which suggests that social support and social networks influence multiple dimensions of health including vascular health. We have found that social isolation increases risk of vascular events post stroke; that different types of networks (friends versus family) may impact differentially on health behaviors (physical activity versus stroke preparedness); that living arrangements may be associated with vascular risk factors including hypertension; and that these effects vary across different race-ethnic groups. Based on SWIFT’s efficacious in-hospital intervention, the Discharge Educational Strategies for Reduction of Vascular Events (DESERVE) RCT found that culturally tailored, skills-based education led to improved risk factor control at one year in a multi-ethnic cohort of stroke survivors.


4. In continuing to think about mechanisms underlying health disparities, I began to explore social network variables, specifically the relationship between social isolation and health outcomes. I served as director of the 12,000 community resident WICER survey in Northern Manhattan. The expansion led to a 4,000-person community survey linking vascular disease to social determinants including social status, perceptions of health and networks. Using the WICER data, we found evidence of clustering of hypertension; individuals more likely to have hypertension if at least one of
their social network members had hypertension. We continue to explore the use of electronic health records to evaluate within social networks: health behaviors (e.g., physical activity, smoking), health risk factors (e.g., diabetes), and incident health outcomes (e.g. cardiovascular disease, stroke).


5. Lastly much of my work has involved racial-ethnic minority recruitment strategies. Specifically, the National Initiative for Minority Involvement in Neurological Clinical Trials (NIMICT) is at the forefront of minority recruitment and retention research. NIMICT’s online toolkit (NIMICT.com) hosts an array of resources and materials distilling knowledge from leading neurological Principal Investigators, Project Managers, and Coordinators to both patient/caregivers and clinical research professionals, to better understand and to overcome recruitment and retention challenges. My work as co-PI in the Alaska Native Stroke Registry (ANSR) and Grenada Heart Project builds and strengthens my minority recruitment and retention body of knowledge. Finally, my extensive work in minority recruitment and retention efforts has led to several leadership roles of chairing Minority Recruitment Advisory Committees regional and national roles.


Complete List of Published Work in MyBibliography:
BIOGRAPHICAL SKETCH

NAME: BONDY, STEPHEN
POSITION TITLE
Professor
eRA COMMONS USER NAME
STEPHEN BONDY

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>University of Cambridge, England</td>
<td>B. A.</td>
<td>1959</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>University of Birmingham, England</td>
<td>Ph. D.</td>
<td>1962</td>
<td>Neurochemistry</td>
</tr>
<tr>
<td>Columbia University, New York</td>
<td>Postdoctoral</td>
<td>1965</td>
<td>Neurochemistry</td>
</tr>
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</table>

A. Personal Statement

I have been studying the effects of melatonin on brain aging since 2001. In recent years, my interest has been primarily focused on the ability of melatonin to act as a neuromodulator in optimizing immune responses to exogenous stimuli, while reducing the intrinsic chronic inflammation encountered in the aging brain. The ability of melatonin to regulate, rather than merely inhibit or promote immune function, is also illustrated by our finding that tumor formation in the aging mouse is greatly inhibited by melatonin administration.

I am also investigating the tendency of ingestion of low levels of aluminum salts to promote age-related chronic inflammation and thereby accelerate the appearance of neurodegenerative disease.

Thus overall, my interests are focused on exogenous factors, which can either enhance or slow down age-related and block non-productive inflammatory events.

B. Positions and honors.

Positions and Employment

- 1963-1965: Research Scientist, Dept. of Pharmacology, Columbia University, NY
- 1965-1970: Research Biological Chemist, Department of Biological Chemistry and Associate Member, Brain Research Institute, UCLA School of Medicine, Los Angeles, CA
- 1970-1976: Assistant Prof. of Neurology, University of Colorado Medical Center, Denver.
- 1978: Associate Professor of Neurology and Pharmacology, University of Colorado Medical Center, Denver, CO
- 1978-1985: Head, Neurochemistry Section, Laboratory of Behavioral and Neurological Toxicology, National Institute of Environmental Health Sciences, RTP, NC
- 1978-1985: Associate Professor, Department of Pharmacology, University of North Carolina, Chapel Hill, NC
- 1987-2015: Professor, Departments of Community and Environmental Medicine, and Pharmacology, University of California, Irvine, CA
- 2015-Date: Professor of Toxicology, Program in Toxicology, Center for Occupational and Environmental Health, Dept. of Environmental & Occupational Health and Department of Medicine, University of California, Irvine, CA

Other Experience and Professional Memberships 2017-2021

Committees and Reviews

- 2017-2019: Academic Integrity Review Board, UCI.
- 2018-2019: Chair, Committee for 5 Year Review and Continuation Proposal for the UCI Center for Complex Biological Systems (CCBS).
2018: CORCL Lead Reviewer. UCI Center for Virus Research Sunset Review.
2018: CORCL Lead Reviewer. UCI Cancer Research Institute Sunset Review.
2020: UCI School of Medicine judge for Excellence in Research.
2021: Judge of “Best Papers published in IJMS 2019-2020”
2021-2024: UCI Academic Integrity Review Board (AIRB)

**Recent invited lectures**
“Melatonin, Cancer and Aging” UCI Department of Medicine Research Retreat, Orange, 2017.
“Melatonin can Delay Onset and Progression of Cancer” 3rd World Congress on Oncology and Radiology, San Francisco, 2017.
“Reduction of Age-related Tumor Incidence and Neuroinflammation by Melatonin Treatment” Pacific Health Sciences University Modern Biomedical Advances Series. UCLA, 2018

**Current Editorial Boards:**
Occupational Medicine & Health Affairs
Current Aging Science
International Journal of Molecular Science (Toxicology Section).
Oxidative Stress, Inflammation and Aging (Founding Editor-in-Chief)

**Recent Grant Application Reviews 2017-2021:**
Czech Science Foundation (project proposals No. 21-24642S and 22-05318S in 2021).
Medical Research Council, UK (2018).
Hong Kong Research Grants Council (5 in 2019, 2 in 2020, 1 in 2021).
Alzheimer Foundation (2018)
Veteran’s Administration (2019)
National Institutes of Health (2019)
National Natural Science Foundation of China (NSFC) and the Israel Science Foundation (ISF) joint program (2020).


C. Peer-reviewed publications 2017-2021


**Editorials 2017-2021**


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person.  DO NOT EXCEED FIVE PAGES.

NAME: BRUCKNER, TIM ALLEN

eRA COMMONS USER NAME (credential, e.g., agency login): TBRUCKNER

POSITION TITLE: Associate Professor of Public Health

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dartmouth College</td>
<td>B.A.</td>
<td>05/1998</td>
<td>Biology</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>M.P.H</td>
<td>05/2003</td>
<td>Epidemiology / Biostatistics</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>PhD</td>
<td>05/2007</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>Postdoctoral</td>
<td>06/2009</td>
<td>Mental Health Policy</td>
</tr>
</tbody>
</table>

A. Personal Statement

I am a population health scholar with training in perinatal epidemiology. I am Associate Professor of Public Health at the University of California, Irvine (UCI), where I also serve as co-Director of the Center on Population, Inequality and Policy. I am currently PI on a large ($1.7 million) State contract and an NIH R03 project, as well as Co-I on two R01 projects and one Danish NIH project, which demonstrates both my leadership skills and collaborative ability.

Our planned research tests hypotheses regarding (i.) the extent of racial/ethnic differences in perinatal health among preterm births; (ii.) whether elevated selection in utero against NH black gestations affects the risk of morbidity and mortality among births delivered before term; and (iii.) the role of structural racism in maintaining these racial/ethnic differences. These hypotheses build on my previous work examining both selection in utero and the “pediatric paradox” in which frail NH black births show lower neonatal mortality than do NH whites. I serve as lead or senior author on 10 papers that identify selection in utero as an important driver of infant health. My work also shows a focus on black/white health disparities in that I published 7 articles in this area. Next, I led the study in California which found that, from 1989 to 2004, the survival advantage of very low weight black infants transformed into a racial/ethnic disparity. This study, along with work on structural racism in birth outcomes, provides the theoretical and empirical foundation for our current research plan.

In addition to these contributions that underpin our tests, I have a strong background in the application of survival, life table, and time-series methods. Our proposed tests will exploit variation across time and place in the strength of race-specific selection in utero and subsequent health of infants born preterm. Application of our empirical models requires expertise in fetuses-at-risk, accelerated failure time, and ARIMA time-series methods. My specific knowledge and experience publishing manuscripts that use these methods further qualifies my leadership for the proposed research. I also have a productive track record of publishing peer-reviewed manuscripts with members of the proposed research group in that I published 5 papers with co-I’s Casey and Gemmill and over 40 papers with Catalano. In summary, my highly relevant expertise, methodological background, and track record of
productive research on selection in utero and black/white disparities in infant health have prepared me to take the lead role on our proposed project.


B. Positions and Honors

Positions and Employment

2001-2007 Graduate Student Researcher, State of California Perinatal Outcomes Research Project
2007-2009 AHRQ Post-doctoral Scholar in Mental Health Policy, University of California, Berkeley
2009-2014 Assistant Professor, Public Health & Planning, Policy and Design, University of California, Irvine
2015- Associate Professor, Public Health
2019- Co-Director, Center for Population, Inequality, and Policy

Other Experience and Professional Memberships

2005- Member, Population Association of America
2006- Member, International Union for the Scientific Study in Population
2006- Member, Society for Epidemiologic Research
2007-2009 Member, Academy Health
2010- Member, Society for Perinatal Epidemiologic Research
2016- Member, Interdisciplinary Association for Population Health Science
2014- Health Policy Consultant to the World Health Organization
2019- Epidemiology Consultant to the World Bank

Honors

2004 Pre-doctoral Award, NICHD Training Grant in Child Health
2005 Pre-doctoral Award, NIA Training Grant in Demography
2006 Public Health Alumni Association Pre-doctoral Scholar
2010-2014 Extramural Loan Repayment Program Award, National Institutes of Health

C. Contribution to Science

1. Racial disparities in infant health. Non-Hispanic Black infants show greater incidence of very low weight birth, preterm delivery, and postneonatal mortality. I examined economic, iatrogenic, and environmental antecedents of these disparities. I find that adoption of technological innovation (surfactants for very low weight infants) occurred more frequently for white (vs. black) newborns. I also find that environmental hazards (i.e., air pollution) as well as economic downturns disproportionately affect the health of black more than white infants.

2. Ambient Stressors and Health over the Lifespan. Ambient stressors in utero may adversely affect the trajectory of gestations but lead to a “culled cohort” that enjoys, on average, longer lifespan than other cohorts. I investigated, in both historical and contemporary populations, several ambient “shocks” and their influence on birth outcomes and life-course health. My research documents improved health, cognitive function, lifespan, and reproductive success of males born to culled cohorts. This research appears in high-impact, cross-cutting journals and challenges the notion that stressors during pregnancy uniformly perturb life-course health.


3. Cold Spells during Pregnancy and Birth Outcomes. In addition to the research above, I examine how unexpectedly cold temperatures in utero influence fetal and infant development. Whereas concerns about climate change have raised interest in heat-related morbidity, less attention focuses on cold. My research in this area exploits the fact that cold spells provide an unambiguous and acute population stressor to which societies, including pregnant women, must respond. I find that the risk of stillbirth increases following unexpected cold spells. My work also represents the first report in which temperature in utero affects cold-related morbidity well into older age. This research underscores the importance of health-related sequelae of climate change. I serve as the lead investigator on this temperature project.


Complete List of Published Work in MY NCBI:

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

R03 AI135322-01
NIH / NIAID
Bruckner (PI) 4/2019-3/2021

Vaccine Efficacy after a Sanitation Campaign: A Natural Experiment

The proposed work directly tests whether increased toilet construction, through an exogenous policy shock, improves vaccine efficacy and reduces diarrhea and malnutrition in under 5 children in India.
Orange County Health Care Agency
Bruckner (PI), Bernadette Boden-Albala (mPI) 5/1/20 – 4/30/21

Population-Wide Surveillance of COVID-19 Antibodies in Orange County
We conduct a population-based survey, COVID-19 antibody test, and longitudinal testing for 5,000 adults living in Orange County, CA, the 6th largest county in the US, to determine the background prevalence of exposure to SARS-CoV2.

Role: PI

R01 HD093651-01
NIH / NICHD
Kenneth Dodge (PI) Bruckner (Co-I) 9/1/2017-8/31/2022

Intergenerational Persistence of Treatment Effects in Human Capital Interventions
This project brings together two longstanding studies (Fast Track randomized control trial and Great Smoky Mountains Study) to test how successful childhood interventions influence future parenting and whether benefits persist into the next generation.

R01 HD0938898-01
NIH / NICHD
Marianne Bitler (PI) Bruckner (Co-I) 9/20/2018-6/30/2023

Investments, Life Events, and Health Within and Across Generations
This grant will study how investments in the form of safety net programs and other shocks experienced across the life cycle affect health and other outcomes within and across generations.

Denmark NIH Lars Andersen (PI) Bruckner (Co-I) 4/1/2020 – 3/31/2023

Structural Changes to the Psychiatric Sector and the Rise of Court-Ordered Psychiatric Treatments
We analyze in Denmark whether the downsizing of the psychiatric hospitals increased the use of court-ordered psychiatric treatment.

Role: Co-I

Completed Research Support

R21 MH110815
NIH / NIMH
Bruckner (PI) 4/2017-3/2020

Racial Disparities in Pediatric Psychiatric Emergencies: a Health Systems Approach
The proposed work directly tests whether expansions in community health centers and mental health provider supply reduces African American children’s disproportionate use of the ED for psychiatric care.

P01HD065704
NIH / NICHD
Greg Duncan (PI) Bruckner (Co-I) 7/1/2011-6/30/16

Human Capital Interventions Across Childhood and Adolescence
Our interdisciplinary network’s mission is to understand why educational programs and policies (including health education), directed at children in the preschool, middle childhood and adolescent stages of development, have the effects, non-effects and, in some cases, perverse effects that they do.

CORCL Research Grant, University of California, Irvine
Bruckner (PI) 7/1/14-8/30/15

Economic Downturns Spontaneous Pregnancy Loss, and Elective Abortions in Denmark
This small seed grant proposes to gather aggregate-level employment and spontaneous pregnancy loss data to assess whether the incidence of abortions (spontaneous and elective) rise in months following unexpected increases in the unemployment rate.

NOT-OD-09-107
NIH / NCMHD
Bruckner (PI) 1/1/10-3/1/14
Extramural Loan Repayment Program Award
Racial/Ethnic Disparities in Mental Health.
This study investigates, among non-Hispanic black children, economic antecedents of mental disorder and mental health treatment. We focus on the use of emergency psychiatric services among low-income Californians, especially after ambient declines in metropolitan employment.

Special Research Grant, University of California, Irvine
Bruckner (PI) 1/1/14-1/1/15
The Great Recession, Home Foreclosures, and Birth Outcomes in California
This study uses county-level information on unemployment and home foreclosures during the Great Recession to examine whether local economic conditions affect intrauterine growth restriction in California.
NAME: DE VIZCAYA-RUIZ ANDREA

eRA COMMONS USER NAME (credential, e.g., agency login): ADVRUIZ

POSITION TITLE: Associate Professor of Toxicology

EDUCATION/TRAINING:

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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>National Autonomous University of Mexico</td>
<td>DVM</td>
<td>09/1989</td>
<td>08/1995</td>
<td>Veterinary Medicine</td>
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<tr>
<td>University of Surrey</td>
<td>PhD</td>
<td>09/1995</td>
<td>06/2000</td>
<td>Toxicology</td>
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<td>Center for Research and Advanced Studies</td>
<td>Posdoctoral</td>
<td>09/2000</td>
<td>08/2002</td>
<td>Environmental and Inhalation Toxicology</td>
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A. Personal Statement

I am an Associate Professor of Toxicology at the Department of Environmental and Occupational Health at UCI, and my research is focused on Inhalation Toxicology in response to particles, environmental or manufactured, or other toxicants using in vitro and in vivo models by the establishment of the mechanistic response through either inflammation, tissue injury, and oxidative stress signaling that lead to pulmonary disease and diseases beyond the lung (cardiovascular system, renal dysfunction, in utero toxicity). Also, I focus on Toxicology and Biointeraction of manufactured nanomaterials and new materials. I have also excelled in mentoring PhD (10) and MSc (21) students, as well as postdocs and BSc projects. Among my teaching duties are preclinical toxicology, respiratory and toxicology, in vitro toxicology and nanotoxicology courses, and mechanisms of toxicity.

Ongoing and recently completed projects that I would like to highlight include:

- The role of aryl hydrocarbon (AhR) receptor in the induction of asthma, immunomodulation and cell proliferation in an animal model, from exposure to air pollution. Granting Institution: CONACYT-Secretary of Foreign Affairs, 2016-01, 286773. 2018-2021. Funding amount: $ 186,069 USD (in Mexican pesos: $ 3,666,000). Role: PI. Mexico.
- Strengthening of the Toxicology Research and Service Laboratory (LISTO - Laboratorio de investigación y Servicio en Toxicología) and the inhalation toxicology experimentation laboratory (LETI - Laboratorio de Experimentación en Toxicología Inhalatoria). Funding Source: Conacyt - Support Program for Scientific, Technological and Innovation Activities, 314824. September 1 to November 20, 2020. Funding amount: $ 149,120 USD (in Mexican pesos: $ 3,000,000). Role: PI. Mexico.

Citations


B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

01/2022 starting date: Associate Professor of Toxicology, Department of Environmental and Occupational Health | Center for Occupational and Environmental Health (COEH) and Air Pollution Health Effects Lab (APHEL), University of California Irvine, Irvine, California, USA.

2021 – 2022: Member of the Scientific Program Committee, XVIth International Congress of Toxicology, Sept 18 - 22, Maastricht, The Netherlands.

2019: Member of the Organizing Committee, XI National Toxicology Meeting (as President of Somtox), Sept 22 – 25, San Luis Potosi, Mexico.

2019: Member of the Scientific Committee, IPTC 2019 - 12th International Particle Toxicology Conference, Sept 11 – 13, Salzburg, Austria.

2018 – 2021: Professor in Toxicology (Full time researcher level 3D) Department of Toxicology, Center for Research and Advanced Studies-IPN (CINVESTAV-IPN), Mexico City, Mexico.

2018 – 2019: Sabbatical Stay in the Genomics and Nanotoxicology Laboratory, Mechanistic Studies Division, Health Canada, Ottawa, Canada, with Dr. Sabina Halappanavar.

2018: Member of the Organizer Committee of the NANOMXCN Workshop on Nanosafety and Nanotoxicology – Mexico-China, Feb 26 to March 1, Universidad Autónoma de Aguascalientes, Aguascalientes, Mexico.

DMS 152 – Item 1-146
2016 – 2019: President of the Mexican Society of Toxicology (Somtox), Mexico.
2016 – 2018: Councilor, Inhalation and Respiratory Toxicology Speciality Section, SOT, USA.
2016: Member of the Organizing Committee, XIV International Congress of Toxicology, Oct 2 -6, Merida, Mexico.
2014 – 2016: Member of the American Thoracic Society, USA.
2014 – 2018: Professor in Toxicology (Full time researcher level 3C), Department of Toxicology,
2013 – 2018: Academic Coordinator, Master’s in Science in Toxicology, Department of Toxicology, CINVESTAV-IPN, Mexico.
2013 –2018: Academic Coordinator, Doctorate in Science in Toxicology, Department of Toxicology, CINVESTAV-IPN, Mexico.
2012 – present: Mexican Society of Toxicology, Mexico.
2008 – 2014: Associate Professor (Full time researcher level 3B), Department of Toxicology, CINVESTAV-IPN, Mexico.
2006 – present: Member of the American Society of Toxicology (SOT), USA.
2005 – 2008: Associate Professor (Full time researcher level 3A), Toxicology Section, CINVESTAV-IPN, Mexico.
07 – 08/2007 Research stay at the Toxicology and Environmental Medicine, University of North Carolina and Inhalation Toxicology, Environmental Public Health Division at EPA with Dr. Urmila Kodavanti, Chapel Hill, North Carolina, USA.
2004 – 2005: Assistant Professor (Full time researcher level 2C), Toxicology Section, CINVESTAV-IPN, Mexico.
2002 – 2004: Assistant Professor (Full time researcher level 2B, Toxicology Section, CINVESTAV-IPN, Mexico.
1997 – 1998: Laboratory Assistant for laboratory practice in Biochemistry, School of Biological Sciences, University of Surrey, Guilford, England.

Honors
2021 – present: Member of the Editorial Board of Current Opinion in Toxicology journal (Cite Score 5.5).
2016 – present: Member of the Editorial Board of Particle and Fibre Toxicology journal (IF 9.462).
2015: 1st place – Award in innovation in BioNanoTechnology for the study ‘Protein corona as a tool to selectively direct iron oxide nanoparticles to macrophages and increase their biocompatibility and efficiency’, awarded by Cinvestav and Neolpharma Inc., Mexico City, Mexico.
2011: Young Investigator Award, Inhalation Respiratory Speciality Section, Society of Toxicology, USA.
2005: Young Investigator Award, Second Workshop on Comparative Aspects of Oxidative Stress in Biological Systems, Institute for Free Radical Biology and Medicine, Louisiana State University Health Science Center of USA, La Paz Baja California Sur, México, February 15 – 18.
2001 – present: Levell II (about 16% of researchers) in the research ranking awarded by the National Research System (NRS) (Sistema Nacional de Investigadores - SNI) of the National Research Council (Conacyt), entry in July 2001.
1999: Young Scientist Award of the Year, EUROTOX’99, Oslo, Norway, June 27-30.

C. Contributions to Science
1. My early work focused in the physiological, pharmacological, and toxicological understanding of biological systems and mammalian models. During my studies in Veterinary Medicine and my Doctorate in Toxicology I was able to learn basic concepts of toxicology, preclinical toxicology, ADME, toxicity mechanisms and in vitro molecular techniques. Particularly, I defined the early toxicological effects and in vivo pharmacokinetics of the mixed chelate Cu complex, Casiopeina II, which has later developed into human use. Additionally, I contributed to
the investigation of the mechanisms of cell death of cancer cells and DNA interaction in vitro, which have paved the way for the whole group of coordinated metal anticancer compounds.


2. I later changed gears into applying the knowledge acquired in toxicology to address relevant environmental dilemmas. Particularly, I focused on air pollution and particulate matter (PM) toxicology. As a PI and with different national and international groups of collaborators, we endeavored to investigate the influence of composition and size of particulate matter in the induction of toxic effects in vitro, in a manner to add the toxic response as a characteristic of particulate matter and better understand the response to exposure. Adding to the proposed hypothesis of inflammation and oxidative stress as the main PM underlying mechanisms of toxicity. Also contributing to the understanding on how the atmospheric conditions, emission sources and geotemporal localization influence aerosol composition and the toxic response, in a metropolitan scenario (Mexico City).


3. Further using in vivo models, I contributed to establish that the initial toxic alterations in lung epithelia, using airborne particulate matter as a proxy, transcend to other systems, influencing the pathophysiology of chronic diseases such as those related with cardiovascular (CV) system and metabolic disorders. The toxicity response detailed by the evaluation of the inflammatory response, tissue injury, immunomodulation, development of pulmonary disease and diseases beyond the lung involving the cardiovascular system. In vivo animal inhalation models showed that the exposure to different size PM, PM_{2.5} and UFP, induces target and non-target effects (cardiovascular and nephritic) toxicity of exposure to particulates.
Additionally, the exposure before birth can sensitize a mammalian system to respond and increase susceptibility to CV disease. In these 2 scenarios, inflammation and oxidative stress play an essential role, and are directly influenced by the chemical and physical origin of the components that entered via inhalation.


4. Moreover, I extended my research interests in the study of the biointeraction and safety of nanomaterials, where the interaction with the protein corona and the toxicity response (inflammatory response, tissue injury, immunomodulation) are main topics addressed in different epithelia such as lung, skin and mouth mucosa exposed to metal-derived nanomaterials. This work has allowed my intervention as an active promoter of regulatory initiatives in Nanosafety.


Denote the participation * MSc or *PhD students or ‡Postdocs projects to whom I mentored.

**Complete List of Published Work:**
https://orcid.org/0000-0002-2097-0464
BIOGRAPHICAL SKETCH

NAME: Kleinman, Michael T

eRA COMMONS USER NAME (credential, e.g., agency login): MichaelKleinman

POSITION TITLE: Adjunct Professor (recalled)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<td>BS</td>
<td>06/1965</td>
<td>Chemistry</td>
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<tr>
<td>Polytechnic Institute of Brooklyn, Brooklyn, NY</td>
<td>MS</td>
<td>06/1971</td>
<td>Chemistry (Biochem)</td>
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<tr>
<td>New York University, New York, NY</td>
<td>Ph.D.</td>
<td>06/1977</td>
<td>Environmental Health Science</td>
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NOTE: The Biographical Sketch may not exceed five pages. Follow the formats and instructions below.

A. Personal Statement

I am a Professor of Environmental Health Sciences with a specialization in Inhalation Toxicology. I have a broad background in inhalation exposure health effects studies and the collection and analysis of contaminant aerosols and gases for organic constituents, including carbonyls and polycyclic organic compounds and for trace metals. My research examines effects of short term and chronic exposures to inhaled contaminants on immunological function and cardiopulmonary disease progression. Our findings have identified, in addition to adverse effects on cardiac physiology, significant evidence of tissue inflammation and oxidative stress including evidence of lipid peroxidation and free radical generation in arteries that correlate with development of atherosclerotic plaques following exposures to environmental air contaminants. We have recently applied the measures of heart rate variability, which we have used as an indicator of cardiovascular function in our toxicology studies, to determine if this may also be an early indicator of the progression of degenerative nerve diseases (i.e. Alzheimer's) in people. This links with our toxicology goals of examining how inflammatory process induced by oxidative stress and environmental exposures can affect disease processes associated with cardiopulmonary diseases, degenerative neurological diseases and cancer.

The following are relevant ongoing projects:

NIA R01 09/01/2020 - 08/31/2025
Arakaki (PI); Kleinman Co-PI
Cognitive challenge to reveal presymtomatic Alzheimer's disease

Health Effects of Air Pollution Foundation 03/01/2021-02/28/2023
Black (PI); Kleinman (Co-I)
Ameliorating Alzheimer's disease by targeting miRNAs in the brain to normalize synthesis of extracellular matrix and ribosomal proteins
Citations


B. Positions and Honors

List in chronological order previous positions, concluding with the present position. List any honors. Include present membership on any Federal Government public advisory committee.

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<td>Academic Scholarship Award, New York State Regents</td>
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<td>1973</td>
<td>Research Fellowship, NYU Cancer Center Grant</td>
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<tr>
<td>1971–1977</td>
<td>Associate Research Scientist, New York University Medical Center, Institute of Environmental Medicine, Tuxedo, NY</td>
</tr>
<tr>
<td>1977–1982</td>
<td>Laboratory Director, Rancho Los Amigos Hospital, Environmental Studies Division, Downey, CA</td>
</tr>
<tr>
<td>1982–1989</td>
<td>Associate Adjunct Professor, University of California, Irvine, Department of Community and Environmental Medicine, Irvine, CA</td>
</tr>
<tr>
<td>1989–2013</td>
<td>Adjunct Professor, University of California, Irvine, Department of Medicine, Irvine, CA</td>
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<td>1997</td>
<td>Committee of 1000 Award for Research, University of California, Irvine</td>
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<tr>
<td>2013–Present</td>
<td>Member, California Environmental Protection Agency Scientific Review Panel for Toxic Substances</td>
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<td>2018–Present</td>
<td>Member, Board of Scientific Counselors, US Environmental Protection Agency</td>
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<td>2013–Present</td>
<td>Adjunct Professor (recalled), University of California, Irvine, Department of Medicine, Irvine, CA</td>
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<td>2020-Present</td>
<td>Adjunct Professor (recalled), University of California, Irvine, Department of Environmental and Occupational Health, Irvine, CA</td>
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C. Contribution to Science

1. My early scientific efforts were in the area of using chemical and radiological signatures of environmental contaminant emissions to develop methodology to integrate air and soil deposition data on a global basis to determine to distribution and potential exposures to toxic radioactive contaminants.
from deliberate and accidental environmental releases, including weapons tests, nuclear excursions and other environmental releases.


2. As part of my doctoral dissertation I developed methods to identify and apportion sources of ambient air particulates in urban environments using chemical tracers and meteorological information. The method that was developed became part of the integrated health risk assessment system developed by the US Environmental Protection Agency to estimate the potential health benefits accruing from air quality regulations.


3. Our studies of environmental and physiological stress agents (including exercise) led to a better understanding of how these stresses combined to exacerbate health effects in humans, suggested an improved method for using the thallium exercise stress test to evaluate coronary artery disease severity and later led to a series of studies utilizing animal models of respiratory and cardiovascular diseases to examine the role of ambient air pollution in exacerbating airway allergies and cardiovascular disease. We demonstrated that airway allergies were induced in sensitized mice when they were exposed to concentrated fine and ultrafine ambient particles 50 m downwind of a heavily trafficked road but the effects were not significant when mice were exposed 150 m downwind of the same roadway. We developed in vivo and in vitro methods to examine the acute effects on cardiac function in normal and hypertensive rats exposed to ambient pollutants and tested hypotheses that ambient particles could have a direct effect.

A more inclusive list of my publications can be found at:
http://www.ncbi.nlm.nih.gov/sites/myncbi/1POucOt_pgG5I/bibliography/48066886/public/?sort=date&direction=ascending
BIOGRAPHICAL SKETCH

NAME: EDWARDS, KAREN L., PhD

cERA COMMONS USER NAME (credential, e.g., agency login): kledwards

POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<th>FIELD OF STUDY</th>
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<td>University of California, Davis, CA</td>
<td>B.S.</td>
<td>1985</td>
<td>Nutrition Science</td>
</tr>
<tr>
<td>California State University, Chico, CA</td>
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<td>1991</td>
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<tr>
<td>University of Washington, Seattle, WA</td>
<td>Ph.D.</td>
<td>1996</td>
<td>Epidemiology</td>
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A. Personal Statement

I am a Professor and Chair of the Department of Epidemiology at the University of California, Irvine. I am a genetic epidemiologist and primary research focuses on the use of multivariate approaches to define phenotypes for complex diseases and cancer. I have extensive experience in the design, collection, and statistical analyses of both family-based and case-control genetic association studies, including GWAS and sequencing data. I have led and worked on numerous genetic and epidemiologic studies that involve a range of disease phenotypes and interactions between genetic and environmental/lifestyle factors and have worked on large interdisciplinary projects, including several Centers of Excellence and have led and participated in numerous transdisciplinary mixed methods projects approach to examine ethical, legal and social implications around genomic studies, including an emphasis on cancer. Finally, I am member of the Chao Family Comprehensive Cancer Center and am the Associate Director for Population Science & Cancer Control where I oversee the Program in Cancer Control, the Biostatistics Shared Resource and the Biobehavioral Shared Resource.

B. Positions and Honors

Positions and Employment

08/98–06/04 Assistant Professor. Department of Epidemiology, Seattle. School of Public Health and Community Medicine, University of Washington, Seattle

01/00–08/11 Director, MS degree track in Genetic Epidemiology. Department of Epidemiology and Institute for Public Health Genetics, School of Public Health and Community Medicine, University of Washington, Seattle

07/04–06/10 Associate Professor. Department of Epidemiology, School of Public Health and Community Medicine, University of Washington, Seattle.

07/10–12/13 Professor. Department of Epidemiology, School of Public Health, University of Washington, Seattle

08/11–12/13 Director, Institute for Public Health Genetics, School of Public Health, University of Washington, Seattle

1/14 – current Professor with Tenure. Department of Epidemiology, School of Medicine, University of California, Irvine / Program in Public Health

7/16-7/17 Interim Chair, Dept. of Population Health and Disease Prevention, Program in Public Health
C. Contributions to Science

1. **Metabolic Syndrome:** My genetic epidemiologic research has focused on approaches to better define phenotypes for genetic epidemiologic studies of complex diseases. I was the first to use Principle Components Analysis (PCA) to define quantitative, multivariate traits characterizing Metabolic Syndrome (MetS) for genetic epidemiologic studies. At the time this approach was very novel in epidemiology and genetic epidemiology. Since my initial publication in this area, well over 100 papers have been published using PCA and MetS that have confirmed my initial findings. I continue to work on MetS and to refine the approaches to identify both genetic and environmental factors, as well as to understand heterogeneity and interactions with environmental / lifestyle factors. This work has led to the discovery of evidence for genetic effects on multiple MetS features that appear to be due to common genetic variants (pleiotropy) and is the basis for one of my NIH grants.


1. **The Participant Issues Project (PIP):** The PIP project builds on work conducted under the University of Washington Center of Excellence in ELSI Research (UW CEER), and focuses on the perspective of research participants composed primarily of families at high risk for various cancers. We utilized a long-standing cancer registry (Northwest Cancer Genetics Registry) to recruit research participants. The views of these participants were evaluated using similar protocols and questions as in GRRIP and provide a critical perspective that was not well-represented in the literature and was different when compared to researchers and IRBs.


3. Condit CM, Shen L, Johnson CO, Korngiebel DM, Bowen DJ, **Edwards KL**. Participant’s role expectation in genetics research and re-consent: Revising the theory and methods of mental models research relating to roles. J of Health Communication; 2016; 21(sup2)16-24


1. Parkinson’s Disease and Other Genetic Epidemiologic work. My role as core Director on the P50 Center of Excellence in Parkinson’s Disease Research in the initial funding period was to develop and oversee a large data collection effort across multiple sites and to integrate and harmonize the extensive clinical, imaging, genomic (sequencing and GWAS), biomarker and pathological data for our cohort. As the core director, I oversee all aspects of data management, study design and statistical support for all investigators, projects and cores. I continued in this role at UCI, where our second funded cycle included longitudinal followup of the original cohort, and the addition of an equally sized independent validation sample. I also include several papers that focus on gene, environment interactions, in international and clinical settings conducted under other funding sources. My role on all these projects is to design the studies, including use of appropriate statistical approaches, oversee data management and statistical analyses, contribute to manuscripts, progress reports and other dissemination activities, and support and train junior faculty members, fellows and trainees.


1. Interdisciplinary and Mixed Methods Research: In addition to my genetic epidemiologic research described below, my research has also focused on understanding the ethical, legal, and social implications of genetic research and translation to public health and clinical practice. I have led or participated in several interdisciplinary research teams, including work conducted as part of the UW Center for Genomics and Healthcare Equality (CGHE) an NHGRI funded CEER. The UW CGHE, in collaboration with the Case Western Reserve University CEER, conducted GRRIP to identify and describe areas of tension and uncertainty between IRBs and human genetic researchers. This body of work has made important contributions to understanding the ethical, legal, and social context of genomic research and approaches for
translation to practice (clinical and public health). Included in this category is my earlier work conducted through my Center for Genomics and Public Health, funded by the Centers for Disease Control and Prevention. My role was to lead interdisciplinary teams in study design, instrument development, and data collection and management of data from key informant interviews, focus groups and national surveys. I was also responsible for statistical analyses and manuscript development. These selected publications display the breadth of my research portfolio as well as my commitment to interdisciplinary and mixed methods work, including work on a national level around the use of genomic information in public health and clinical practice.


Complete List of Published Work in My Bibliography:  

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Start Date</th>
<th>End Date</th>
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</thead>
<tbody>
<tr>
<td>P30CA062203 (Van Etten)</td>
<td>09/11/97 – 01/31/22</td>
<td></td>
</tr>
<tr>
<td>NIH/NCI</td>
<td>$1,516,678 NCE</td>
<td></td>
</tr>
</tbody>
</table>

Cancer Center Support Grant

The Cancer Center Support Grant provides support for administration and infrastructure for the Chao Family Comprehensive Cancer Center.

Role: Associate Director, Population Science & Cancer Control

Completed Research Support

1. R01HL113189-1 (Edwards KL, PI) 04/01/2012 – 03/31/2020 NIH/NHLBI

Identifying genes underlying linkage peaks for clusters of CVD risk factors

The goal of this project is to identify the specific genetic variants that underlie linkage signals for clusters of traits that characterize the metabolic syndrome using family data from four ethnic/racial groups. Focusing on identifying genes that influence several established cardiovascular disease risk factors simultaneously is a novel approach to understanding genetic susceptibility to common, complex conditions.

2. P50 NS062684-06 (Montine T, PI) 10/01/2011 – 07/31/2020 NIH/NINDS

Pacific Northwest Udall Center

Data Management and Biostatistics Core (PI: Edwards, KL; Subcontract to UCI)

The major goals of Core D are to provide data repository management, and statistical and study design support to achieve the overall goals of the Udall Center Projects.

1. R01CA149051-01A1 (Edwards KL, PI) 03/01/2011 – 08/31/2017 NIH/NCI

Identification of Issues & Expectations of Subjects Participating in Genetic Studies of Cancer

By exploring the perspectives of cancer registry participants, we seek to improve the review process while ensuring the protection of the research participants, and ultimately enhancing participation in genetic research.
This Center of Excellence in Ethical, Legal, and Social Implications (ELSI) Research which will explore the clinical integration of genetic information with a focus on medically underserved population.
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: EDWARDS, RUFUS D.
eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birmingham University, Birmingham, UK</td>
<td>B.Sc.</td>
<td>1992</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Rutgers University, New Brunswick, NJ</td>
<td>M.S.</td>
<td>1995</td>
<td>Environmental Sciences</td>
</tr>
<tr>
<td>Rutgers University, and University of Medicine and Dentistry of New Jersey, NJ (joint degree)</td>
<td>Ph.D.</td>
<td>1999</td>
<td>Exposure Measurement and Assessment</td>
</tr>
</tbody>
</table>

A. Personal Statement
Dr Edwards was awarded the 2009 Joan M. Daisey Outstanding Young Scientist Award by the International Society of Exposure Science. Dr. Edwards' research focuses on human exposures to air pollution emissions and subsequent health effects. These include populations in the industrialized world exposed to combustion byproducts from transportation, wildfires and tobacco smoke, and populations in less industrialized nations exposed to emissions from household solid fuel use for cooking and space heating. Dr Edwards was a member of the WHO Indoor Air Quality Guidelines Development Group (GDG) to establish air quality guidelines for household combustion sources, and was lead convening author for the evidence chapter on emissions from household solid fuel use, and a lead author for the chapter on models to link household energy use with indoor air quality. Dr Edwards was also consultant to the WHO to develop the Household Energy Assessment Rapid Tool (HEART) to conduct rapid situational assessments and stakeholder mapping of a country’s readiness to address access to clean energy technologies and has worked with the WHO Urban Health Initiative to identify evidence based strategies to reduce the burden of air pollution in Accra, Ghana, and Katmandu Nepal. Dr Edwards was senior international air pollution consultant to UNICEF Mongolia to address effects of air pollution from rapid urbanization on children’s health which included convening a workshop of international experts on air pollution and health in Ulaanbaatar and drafting the 2016 UNICEF report “Understanding and addressing the impact of air pollution on children’s health in Mongolia”. Dr Edwards was also senior maternal and child health and air pollution consultant to the Asia Development Bank and UNICEF culminating in the 2019 ADB and UNICEF report “Addressing the impacts of prenatal and early life exposures to air pollution in Ulaanbaatar, Mongolia”, and was International air pollution consultant to UNICEF Kosovo. He also serves on the Environment/Climate Advisory Committee for the Global Alliance for Clean Cookstoves.

B. Positions and Honors
2011 Best Paper Award one of the top papers published in the Indoor Air journal during the years 2008-2010.
Positions and Employment

2017- present  Professor, Department of Epidemiology, University of California, Irvine
2009 –2017  Associate Professor, Department of Epidemiology, University of California, Irvine
2006 - 2009  Assistant Professor, Department of Epidemiology, University of California, Irvine
2003 - 2006  Assistant Professor, Environmental Health Science and Policy, University of California, Irvine
2001 - 2003  Research Associate, Environmental Health Sciences, School of Public Health, University of California, Berkeley
1999 - 2001  Researcher, KTL Finnish National Institute of Public Health, Kuopio, Finland, sponsored by the National Academy of Sciences, Finland

Other Experience and Professional Memberships

2019  International Consultant to UNICEF Kosovo to analyze the impact of air pollution on maternal and child health in Kosovo, and develop an action plan on possible interventions to reduce exposure of children and pregnant women to air pollution (UNSCR1244)
2018-2019  Senior International Air Pollution and Health Consultant to Asia Development Bank and UNICEF to address effects of air pollution from rapid urbanization on children’s health in Ulaanbaatar Mongolia
2018-present  Consultant to the WHO Urban Health Initiative to conduct analyses of strategies to mitigate air pollution exposures in Accra, Ghana, and in Katmandu Nepal, and train local stakeholders in analysis tools.
2017-2018  Consultant to the WHO to develop the Household Energy Assessment Rapid Tool (HEART) to conduct rapid situational assessments and stakeholder mapping of a country’s readiness to address access to clean energy technologies
2016-present  Invited member of European Science Foundation (ESF) College of Expert Reviewers
2015-2016  Senior International “Air Pollution” Consultant to UNICEF Mongolia to address effects of air pollution from rapid urbanization on children’s health
2015-present  Environment/Climate Advisory Committee for the Global Alliance for Clean Cookstoves
2013-2014  Technical Consultant for Air Pollution And Health In Ulaanbaatar Funded by The Mongolian Ministry of Environment and Green Development through the Clean Air Project of Ulaanbaatar.
2013  Editorial Review Board (ERB) Journal of Exposure Science and Environmental Epidemiology
2011  WHO Indoor Air Quality Guidelines Development Group (GDG) – lead author emissions chapter
2011  Co-Chair Climate Working Group for Global Alliance for Clean Cookstoves
2010  Technical advisor to Small Scale Working group of the Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change (UNFCC)

C. Contributions to Science

Contribution to knowledge on in field emissions, indoor air concentrations and health impact from solid fuel use in household stoves and small scale industries

Dr Edwards' group was one of the pioneering groups to measure in field emissions from household stoves and demonstrate that previously reported emission factors from controlled testing did not reflect those from cooking in real homes. Dr Edwards and Dr Masera were also pioneers in measuring personal exposures, indoor particle size distributions and fugitive emissions from stoves used in these rural areas. In Ulaanbaatar Mongolia Dr Edwards performed the impact evaluation for the MCA Mongolia Energy and Environment Project Energy Efficient Stove Subsidy Program conducted for the Millennium Challenge Corporation. To date these are still the largest databases on emissions and indoor air pollution from use of raw coal in space heating stoves in Ulaanbaatar Mongolia, and globally having monitored 167 homes. Dr Edwards group demonstrated that exposures for significant fractions of the global population cooking outdoor...
were not well represented for global disease burdens. Further they also demonstrated that carbon offsets estimated using CDM methods also substantially overestimated actual climate savings to the atmosphere.

https://doi.org/10.1016/j.atmosenv.2017.05.029.

Contribution to knowledge on low cost sensors for particle monitoring
There is a clear rationale for analyzing exposures to air pollution when the concentrations are very spatially heterogeneous between microenvironments. For example, wildland firefighter populations are exposed to concentrations that may vary by orders of magnitude within a few meters depending on their position to the smoke plume. In other examples, rural agricultural populations in the developing world that use solid fuels for primary energy provision are exposed to concentrations that may vary by orders of magnitude depending on their proximity to the stove plume, whether they cook inside or out and in which room of the house they are. In such cases fixed site and even single environmental monitors are not sufficient to characterize individual or population exposures. Reliable low cost methods of measuring particle levels are needed to make the link with health or to evaluate interventions that can be deployed widely. Dr Edwards worked with Kirk Smith to pioneer the use of real time inexpensive particle monitors and other types of microchip based sensors to capture spatial heterogeneity in particulate matter concentrations, and collect other data that had previously been estimated with survey based methods that did not have sufficient resolution. The application of these sensors and sensor arrays is now widespread globally, but started with these initial projects to estimate exposures in solid fuel using households. These studies showed that small smart microchip based sensors could be deployed at low cost to capture data of unprecedented resolution in these contexts.

http://www.mdpi.com/1424-8220/17/8/1879

Contribution to knowledge on air pollution exposures of adult populations in Europe
Exposure analysis is an essential part of effective management of public health risks caused by pollutants and chemicals in our environment. In a key advance in air pollution related research the Expolis study measured population based adult exposures to key air pollutants for the first time in seven cities across Europe. As part of this study I lead the analysis of volatile organic compound exposures in these populations and their sources and quantified the contribution of
environmental tobacco smoke to exposures. Subsequently I identified that the underlying risk profile of people in the upper end of the population exposure distribution differs from that predicted by population medians which thus misses these important exposures. Finally I showed that socio-demographic and environmental factors that define time–activity subgroups also define quantifiable differences in VOC personal exposures to different sources and individual compounds. Thus, exposure subgroups within the population may be defined by factors that influence daily activity patterns.


Impacts of household cooking in formation of secondary organic aerosols contributing to the regional haze in Northern India over Northern India.

Based on extensive measurement of emissions from solid fuel use in countries bordering the Himalayan region, Dr Edwards group was part of a collaborative team that identified the impacts of household cooking in formation of secondary organic aerosols contributing to the regional haze in Northern India, identifying a number of likely brown carbon chromophores.


3. Weyant, C; Chen, P; Vaidya, A; Li, C; Zhang, Q; Thompson, R; Ellis, J; Chen, Y ; Kang, S; Shrestha, G; Yagnaraman, M; Arineitwe, J; **Edwards, R**; Bond, T., 2019. Emission measurements from traditional biomass cookstoves in South Asia and Tibet. Environmental Science & Technology, 53(6), pp.33063314.


Contribution to knowledge on interaction of air pollution with painted surfaces to increase availability of lead paint pigment granules

Dr Edwards group was the first to demonstrate that NO₂ and O₃ air pollution can interact with painted surfaces in homes and lead to increased degradation of the painted surface. In homes with lead based paints this can lead to increased availability of lead pigment granules for exposure and subsequent health impacts. Finally we spatially mapped the potential for atmospheric driven lead paint degradation in the South Coast Air Basin of California.


**D. Additional Information: Research Support and/or Scholastic Performance**

**Research Support**

Project Title: A validated second hand smoking exposure model for Electronic Nicotine Delivery Systems (ENDS)
Funding Agency: TRDRP
Investigators: Edwards, Nizkordov, Blake, Princevac
Source and Amount Funding: $479,770
Dates of Project Period: 2019 - 2021
Role in Project: PI

**Completed Research Support last 3 yrs**

Project Title: R835425 Impacts of household sources on outdoor pollution at village and regional scales in India
Funding Agency: Environmental Protection Agency Investigators:
Smith K.R.
Source and Amount Funding: $1.5M
Dates of Project Period: 2014 - 2019
Role in Project: Co-I

Project Title: R835423 A Global Map of Feasible Residential Solutions, Emphasizing Stoves with Space Heating Uses
Funding Agency: Environmental Protection Agency Investigators:
Tami Bond
Source and Amount Funding: $1.5M
Dates of Project Period: 2014 - 2018
Role in Project: Co-I

Project Title: 0965336 Biochar inoculants for enabling smallholder agriculture
Investigators: Edwards, Fischer, Lehmann
Amount of funding: $2.7M
Funding Agency: NSF Bread
Dates of Project Period: 04/1/10-03/31/18
Role in Project: Co-PI
NAME: GIDEONSE, THEODORE K.

POSITION TITLE AND DEPARTMENT:
Lecturer, PSOE
Department of Health, Society, and Behavior
Program in Public Health

EDUCATION/TRAINING

<table>
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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(S)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Harvard University, Cambridge, MA</td>
<td>AB</td>
<td>1996</td>
<td>Anthropology</td>
</tr>
<tr>
<td>New School for Social Research, New York, NY</td>
<td>MFA</td>
<td>2005</td>
<td>Creative Writing</td>
</tr>
<tr>
<td>UC San Diego, La Jolla, CA</td>
<td>MA</td>
<td>2007</td>
<td>Anthropology</td>
</tr>
<tr>
<td>UC San Diego, La Jolla, CA</td>
<td>PhD</td>
<td>2013</td>
<td>Anthropology</td>
</tr>
<tr>
<td>David Geffen School of Medicine at UCLA, Los Angeles, CA</td>
<td>Postdoctoral Fellowship</td>
<td>2016</td>
<td>HIV Prevention</td>
</tr>
</tbody>
</table>

A. Teaching (in chronological order since 2011).

University of California, Irvine, Irvine, CA
- PUBHLTH 195W: Public Health Practicum (Winter, Spring, Summer, Fall, 2020; Winter, Spring, Fall, 2019; Winter, Spring, Summer, Fall, 2018; Winter, Spring, and Fall, 2017)
- PUBHLTH 80: AIDS Fundamentals (Winter, Fall, 2020; Fall, 2019; Winter, Fall, 2018; Winter and Fall, 2017; Fall, 2016)
- PUBHLTH 1: Principles of Public Health (Spring, Summer, Fall, 2020; Summer, 2019; Summer, 2018; Summer, 2017)
- PUBHLTH 2: Case Studies in Public Health Practice (Summer, 2020; Summer, 2019; Summer, 2017)
- PUBHLTH 290: Culture and/or Public Health (Spring, 2019)
- PUBHLTH 107: Epidemiology of Drug Use (Spring, 2018; Spring, 2017)
- PUBHLTH 292: Public Health Ethics (Winter, 2017; Spring, 2018)
- PUBHLTH 102: Social Epidemiology (Fall, 2016)
- PUBHLTH 288: Research Proposal Writing (Fall, 2016)

University of California, San Diego, La Jolla, CA
- ANSC 125: Gender, Sexuality, and Society (Summer, 2012)
- ANSC 164: Introduction to Medical Anthropology (Summer, 2011)

B. Number of Students Supervised (since 2018), counted by whether you have served as chair of the committee or as a member of the committee.

<table>
<thead>
<tr>
<th>Number of Ph.D. Students Supervised</th>
<th>Chair</th>
<th>Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D. students who have completed their degrees (those who have officially completed all requirements, including a signed and accepted dissertation)</td>
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<tr>
<td>Ph.D. students advanced to candidacy (in progress) during this period</td>
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<td>4</td>
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<tr>
<td>Number of other Ph.D. students supervised</td>
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Number of undergraduates supervised in research projects (e.g., honors courses, 199's.) 8
C. Awards and Honors (in chronological order since 2010):
Bailey Fellowship, University of California, San Diego, 2012
Spiro Fellowship, University of California, San Diego, 2009-2010

D. Five Major Service Activities (in chronological order since 2008):
Representative for Program in Public Health, University of California, Irvine, Diversity and Inclusion Section, Association of Schools and Programs of Public Health, 2019-
Director, Undergraduate Public Health Practicum, University of California, Irvine, 2018-
Communications co-editor, Society for Psychological Anthropology, 2011-2016
Web editor, Association for Queer Anthropology, 2007-2013

E. Summary of Research (250 words or less)
In my dissertation, Risky Subjectivity: The Effects of Cultural Discourses of Health on HIV+ Men Who Have Sex with Men and Use Crystal Meth, I examined how discourses concerning HIV/AIDS and illegal drugs help shape the identities of a particularly vulnerable population in San Diego, California. This research was the first ethnography of meth-using MSM since the advent of the highly effective antiretroviral cocktail that made HIV a potentially manageable disease in the mid-1990s. While there had been extensive quantitative study of the physiological effects of meth and the various methods of treatment, my dissertation provided qualitative analysis of affect and lived experience. My research placed biomedical problems in its broader cultural context, and it creates bridges between anthropology and the health sciences.

I am currently working on two research projects. I am analyzing data from a pilot study of 30 HIV-positive MSM incarcerated for drug offenses in the Los Angeles County Men’s Jail, examining the psychocultural factors associated with post-release recidivism. Both UCLA’s Center for HIV, Identification, Prevention and Treatment Services Pilot Program and the UCLA HIV/AIDS, Substance Abuse, and Trauma Training Program provided pilot funds. I am also a member of a team of researchers based in the Office of Women’s Health Services of the Department of Veteran Affairs studying how women’s healthcare is delivered in the VA’s sprawling health system. I am part of a group of anthropologists conducting and analyzing interviews with key stakeholders in women veteran’s health across the system.

F. Support
1. Current Research Grants
   Evaluating Evidence-Based Quality Improvement of Comprehensive Women's Health Care in Low-Performing VA Facilities. Yano/Hamilton (PIs)
   Department of Veteran Affairs, Women’s Health Services, 2016-2021
      Role: Consulting Qualitative Methods Expert
2. Research Grants completed since 2013
   NIH grant no. 5T32MH080634, 2013-2016
      Prepares physician, social, behavioral, and professional scientists for academic research careers focused on understanding and preventing HIV disease globally. Mentored by Thomas Coates, PhD.
      Role: Postdoctoral Trainee.
   Center for HIV, Identification, Prevention and Treatment Services Pilot Program. Rotheram (PI)
   NIH grant no. P30MH058107, 2014-2015
The goal of the pilot program is to develop innovative research consistent with/or related to the Center priorities of eliminating HIV and to seed funding for larger research projects or intervention programs.

Pilot Project: *Risk behaviors of drug offending HIV+ men who have sex with men.*
Awarded: $9535.00
Role: Pilot Investigator

UCLA HIV/AIDS, Substance Abuse, and Trauma Training Program. Wyatt (PI)
NIH grant no. 5R25DA035692-02, 2014-2016

Provides multi-disciplinary, state-of-the-art training to better equip postdoctoral fellows and early career investigators to submit and receive NIMH grant funding. Mentored by Alison Hamilton, PhD.

Pilot Project: *Risk behaviors of drug offending HIV+ men who have sex with men.*
Awarded: $9000.00.
Role: Scholar.

3. Pending Grants

G. Research Publications

Career Total = 8
Total since AY 2015-16 = 7

Selected Peer-Reviewed Publications *(in chronological order since 2010).*


NAME: GOODMAN, DEBORAH

cRA COMMONS USER NAME (credential, e.g., agency login): deborahgoodman

POSITION TITLE: Associate Adjunct Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tr>
<td>University of California, San Diego, CA</td>
<td>B.A.</td>
<td>12/1981</td>
<td>Psychology</td>
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<tr>
<td>University of California, Los Angeles, CA</td>
<td>M.P.H.</td>
<td>06/1983</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>The Chicago Medical School, Chicago, IL</td>
<td>M.D.</td>
<td>06/1987</td>
<td>Medicine</td>
</tr>
<tr>
<td>University of California, Los Angeles, CA</td>
<td>Residency</td>
<td>06/1992</td>
<td>Preventive Medicine</td>
</tr>
<tr>
<td>University of California, Los Angeles, CA</td>
<td>Ph.D.</td>
<td>06/1993</td>
<td>Epidemiology</td>
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</table>

A. Personal Statement

As a Preventive Medicine physician and epidemiologist in the Department of Epidemiology at UC Irvine, I have been involved as a Principal Investigator and Co-Investigator in the design and conduct of a number of clinical trials and prospective observational studies of chronic diseases. Most recently, I am involved with the Wisdom Study, a randomized clinical trial designed to compare a risk-based approach to breast screening with a standard annual breast screening approach and consult with high-risk participants regarding their risk, screening, and prevention strategies. In addition, I am working with the Participant Issues Project (PIP) to evaluate participant views regarding participation in genetic cancer research. Finally, I am Co-Investigator of the MEE Study, designed to evaluate DNA methylation and commonly used pesticides, including organophosphate metabolites and glyphosate, and determine if the methylation markers are associated with factors that contribute to breast cancer risk, including age at menopause and breast density.

B. Positions and Honors Positions and Employment

2010-present  Associate Professor, Department of Epidemiology, University of California, Irvine
2000-2004  Associate Professor, Department of Epidemiology, University of California, San Diego 19962000
Assistant Professor, Department of Epidemiology, University of California, San Diego 1993-1995  Medical Fellow, Department of Epidemiology, University of California, San Diego

Honors & Awards

1993-1995  Physician Scientist Award, University of California, San Diego
1990-1993  National Research Service Award

Other Experience

2012-present Breast Health Specialist, Athena Breast Health Network/Wisdom Study, University of California, Irvine, CA
C. Contribution to Science

1. My early publications evaluated the association between chronic diseases, including cardiovascular disease, diabetes, and osteoporosis, and endogenous hormone levels in the Rancho Bernardo Cohort Study. I served as the Co-Investigator in all of these studies.


2. In addition to the contributions described above, I continued work on the effect of dietary intake of isoflavones, retinol, and protein intake on chronic disease outcomes. Included were observational studies, both cross-sectional and longitudinal, using the Rancho Bernardo cohort, as well as randomized clinical trials. I served as the Principal Investigator and Co-Investigator in all of these studies.


3. As Co-Investigator, I was involved with the MS (Medicine or Surgery) multi-center randomized clinical trial, comparing medical versus surgical treatment of dysfunctional uterine bleeding in peri-menopausal women.


4. I have been extensively involved in the development and implementation of the Athena Breast Health Network, a multi-center study focused on breast cancer screening, diagnosis, and treatment. In addition, I am responsible for counseling women at elevated risk of breast cancer.


5. Most recently, I have been involved with an NIH study, Identification of issues and Expectations of Subjects Participating in Genetic Studies of Cancer, a study designed to investigate research participants understanding, motivations, and views about participation in genetic cancer studies. I have served as a Co-Investigator of this study.


D. Research Support  Ongoing Research Support

<table>
<thead>
<tr>
<th>NIH</th>
<th>Edwards (PI)</th>
<th>2013-present</th>
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<tbody>
<tr>
<td>Identification of issues and Expectations of Subjects Participating in Genetic Studies of Cancer</td>
<td>Role: Co-Investigator</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient-Centered Outcomes Research Institute (PCORI)</th>
<th>Anton-Culver (Site PI)</th>
<th>2015-present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabling a Paradigm Shift: preference tolerant RCT of personalized vs annual screening for Breast Cancer</td>
<td>Role: Co-Investigator and Breast Health Specialist</td>
<td></td>
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</table>

<p>| California Breast Cancer Research Project | Park (PI) | 2016-present Epigenetic markers for pesticide exposure and cancer risk | Role: Co-Investigator |</p>
<table>
<thead>
<tr>
<th><strong>Recent Completed Research Support</strong></th>
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<tbody>
<tr>
<td>Safeway Foundation</td>
<td>Anton-Culver (Site PI) 2010-2016</td>
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<tr>
<td>ATHENA Breast Health Network (UC, Irvine Site)</td>
<td>Role: Co-Investigator, Breast Health Specialist</td>
</tr>
<tr>
<td>Irvine Institute for Clinical &amp; Translational Science Campus-Community</td>
<td>Goodman (PI) 5/13-3/14</td>
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<tr>
<td>Assessing the Expectations of Psychosocial Support for Vietnamese Breast Cancer Patients</td>
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<tr>
<td>Lon V Smith Foundation</td>
<td>Anton-Culver (PI) 6/13-5/14</td>
</tr>
<tr>
<td>UCI Colorectal Cancer Risk Assessment Program</td>
<td></td>
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</tbody>
</table>
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Grant Ludwig, Lisa (aka Lisa G Ludwig, Lisa B Grant)

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Professor of Public Health

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
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<tbody>
<tr>
<td>Stanford University, Palo Alto, CA</td>
<td>BS</td>
<td>02/1985</td>
<td>Applied Environmental Earth Science</td>
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<tr>
<td>Caltech, Pasadena, CA</td>
<td>MS</td>
<td>06/1989</td>
<td>Environmental Engineering Science</td>
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<tr>
<td>Caltech, Pasadena, CA</td>
<td>MS</td>
<td>06/1990</td>
<td>Geology</td>
</tr>
<tr>
<td>Caltech, Pasadena, CA</td>
<td>PhD</td>
<td>06/1993</td>
<td>Geology, with Geophysics minor</td>
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</tbody>
</table>

A. Personal Statement

I conduct basic research in pursuit of an overarching goal to protect society from the potentially devastating effects of earthquakes. My work is problem-focused and aligned with the mission of Public Health as “the fulfillment of society’s interest in assuring the conditions in which people can be healthy” (Institute of Medicine, The Future of Public Health, 1988). The audience for my research is multi-disciplinary, and includes scientists, engineers, planners, healthcare professionals, policymakers, and the public. My research focuses on fundamental questions which have broad impacts and policy implications. For example, the San Andreas fault is a major source of seismic hazard and represents a significant risk to vulnerable populations in California. To understand the potential for future large earthquakes, and the impacts of those earthquakes, I use geologic methods to explore the spatial and temporal rupture characteristics, and the levels of shaking, produced by prior large earthquakes. With NASA-funded collaborators, I use spaced-based technologies to measure the deformation of the ground surface from recent damaging earthquakes and develop tools to model disruption from future earthquakes. Using a variety of methods, I work collaboratively to understand the seismic vulnerability of lifeline infrastructure, buildings, and affected populations. I have also studied disaster impacts on academic biomedical research communities and been involved in formulating policy recommendations for multi-hazard disaster resilience of academic research facilities throughout the US.

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2019– Present   Chair, Department of Population Health & Disease Prevention, Program in Public Health University of California, Irvine

2013 – Present   Professor, Department of Population Health & Disease Prevention, Program in Public Health University of California, Irvine

2014 – 2020   Member, Federal Advisory Committee on Earthquake Hazard Reduction, NIST, Gaithersburg, MD
2015 – 2018  Member, Committee on Seismology and Geodynamics, The National Academies, Washington DC
2016 – 2017  Member, Committee on Strengthening the Disaster Resilience of Academic Research Communities, National Academy of Medicine, Washington DC
2013 – 2016  President-Elect, President, Past-Pres., Seismological Society of America, Albany CA
2010 – 2016  Director of Public Health Graduate Programs (MPH, PhD), University of California, Irvine
2012 – 2014  Co-Leader, Earthquake Geology Group, Southern California Earthquake Center, USC, Los Angeles, CA
2006 – 2013  Associate Professor, Program in Public Health, University of California, Irvine
2007 – 2011  Vice-Chair, Board of Directors, Southern California Earthquake Center, USC, Los Angeles CA
2006 – 2011  Associate Director, California Institute for Hazards Research MRP, University of California, Oakland CA
2006 – 2011  Member, The National Academies U.S. National Committee to the International Union of Geodesy and Geophysics (IUGG), Washington DC
1998 – 2006  Assistant to Associate Professor, Department of Environmental Health Science and Policy, School of Social Ecology, University of California, Irvine
1995 – 1998  Assistant Professor and Director of Environmental Science Program, Chapman University, Orange CA
1995 – 1998  Assistant Project Scientist, Woodward-Clyde Consultants, Santa Ana CA

Honors
2021  Inaugural Award, UC Irvine Inclusive Excellence in Teaching
2019  UCI Academic Senate Distinguished Faculty Mid-Career Award for Service
2012  NASA Software of the Year Medal Co-Winner (Juried Prize)
2010  Research featured on cover of Science 26 February 2010
1999  Front Page Banner Headline, “Fault Found Beneath San Joaquin Hills”, Orange County Register, March 11

C. Contributions to Science

1. My most impactful publications directly address the greatest source of seismic hazard and seismic risk in California: the San Andreas fault. In my 2014 Congressional Testimony I described the San Andreas fault as a “natural terrorist beneath our feet.” My research has shown that the average time between large earthquakes on the San Andreas fault is approximately 100 years. These results are a call to action because the last large earthquakes occurred in 1857 in southern California and 1906 in northern California. Therefore I implored Congress to be “our first line of defense” through reauthorizing the National Earthquake Hazard Reduction Program (NEHRP) with appropriation of funds that reflect the significant threat that earthquakes pose to our national security. NEHRP passed with bipartisan support, and I have continued to conduct fundamental research on earthquake potential of the San Andreas fault. Selected career-spanning publications are listed below.
2. Motivated by findings of my fundamental research on the San Andreas fault, I have collaborated with my students to conduct research on earthquake preparedness and disaster vulnerability. I have also worked with federal agencies and the National Academies to develop policies for earthquake resilience. The publications below provide examples of disaster resilience research and policy development work.

3. Earthquake forecasting and seismic hazard assessment are the foundation of preparedness and risk mitigation. I work with multi-disciplinary colleagues to develop novel methods for seismic hazard assessment and seismic risk reduction.

4. I am a Co-Investigator of QuakeSim (winner of NASA’s 2012 Software of the Year Medal), GeoGateway and QUAKES-A projects funded by NASA. Our team uses Advanced Information System Technologies to provide access to NASA data that is used for measuring change on the surface of the earth, and for responding to disasters.
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: HOPFER, SUELLEN

eRA COMMONS USER NAME: RPHopfer

POSITION TITLE: Assistant Professor, Department of Health, Society & Behavior, Program in Public Health

EDUCATION/TRAINING

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<tr>
<td>Earlham College, Richmond, IN</td>
<td>B. A.</td>
<td>05/1992</td>
<td>German/Economics</td>
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<tr>
<td>University of Arizona, Tucson, AZ</td>
<td>M.S.</td>
<td>05/1998</td>
<td>Human Genetics</td>
</tr>
<tr>
<td>Pennsylvania State University, University Park, PA</td>
<td>Ph.D.</td>
<td>12/2009</td>
<td>Health Communication</td>
</tr>
<tr>
<td>Pennsylvania State University, University Park, PA</td>
<td>Postdoctoral</td>
<td>12/2011</td>
<td>Latent Class Modeling Methods for Prevention</td>
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A. Personal Statement

As public health communication professor at UCI, I focus my research on designing and evaluating effective health messaging, modeling communication networks and subgroups, and developing culturally resonant communication interventions for positive behavior change outcomes. My research program has centered around designing culturally authentic HPV vaccine decision narratives that resulted in designing a National Cancer Institute (NCI) evidence-based cancer control program (EBCCP). The narrative intervention I developed nearly doubled vaccination in a randomized controlled trial and has been adapted to community, clinic, and online social media settings as well as adapted to diverse cultures. My one program of research centers around vaccine hesitancy and designing effective communication interventions for non-policy mandated vaccines such as HPV and COVID19 vaccines where effective communication is key for increasing vaccine adoption. The EBCCP HPV Vaccine Decision Stories has been funded with an NIH Phase I & II SBIR to market the narrative vaccine intervention to reach diverse audiences with relatable and authentic vaccine messaging in a time of high vaccine hesitancy and mistrust. My other program of research relates to effective messaging for climate change engagement. Generally, my research program focuses on public health-oriented messaging and answering communication-relevant research questions, applying mixed methods to advance health communication theory; develop and test narrative health communication interventions, community narratives for environmental health, model communication networks; and capture implementation processes when implementing clinic, community, and social media communication interventions.

2. Hopf
B. Positions and Honors

**Positions and Employment**

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<td>1992-1994</td>
<td>Science Course Work, Case Western Reserve University</td>
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<tr>
<td>1994-1996</td>
<td>Research Assistant, Case Western Reserve University, Immunology</td>
</tr>
<tr>
<td>1996-1998</td>
<td>Graduate School, Genetic Counseling, University of Arizona</td>
</tr>
<tr>
<td>1998-2000</td>
<td>Prenatal Genetic Counselor, Private Practice, Perinatology, Pasadena, CA</td>
</tr>
<tr>
<td>2000-2001</td>
<td>Public Health Birth Defects Coordinator, California Genetic Disease Branch</td>
</tr>
<tr>
<td>2001-2003</td>
<td>Genetics Research Associate, University of California, Los Angeles (UCLA) Neurology</td>
</tr>
<tr>
<td>2003-2004</td>
<td>Faculty Affiliate, Penn State Center for Developmental and Health Genetics</td>
</tr>
<tr>
<td>2004-2008</td>
<td>Doctoral Graduate Student/Teaching Assistant, Pennsylvania State University</td>
</tr>
<tr>
<td>2008-2009</td>
<td>Pre-Doctorate Fellow, Centers for Disease and Prevention Control (CDC) Public Health</td>
</tr>
<tr>
<td>2009-2011</td>
<td>Post-Doctorate Fellow, Prevention and Methodology Training (PAMT) NIDA, PSU</td>
</tr>
<tr>
<td>2012-2013</td>
<td>Senior Research Associate, University Health Services, Penn State University</td>
</tr>
<tr>
<td>2013-2015</td>
<td>Research Scientist, REAL Prevention</td>
</tr>
<tr>
<td>2015-present</td>
<td>Assistant Professor, Department of Health, Society &amp; Behavior, Program in Public, UCI</td>
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**Other Experience and Professional Memberships**

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<tr>
<td>1996-2020</td>
<td>National Society for Genetic Counselors (NSGC)</td>
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<td>2004-2016</td>
<td>National Communication Association (NCA)</td>
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<td>2009-2020</td>
<td>American Public Health Association (APHA)</td>
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<td>2009-2018</td>
<td>Society for Prevention Research (SPR)</td>
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<tr>
<td>2009-2015</td>
<td>International Society for Sexually Transmitted Diseases Research (ISSTDR)</td>
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<tr>
<td>2015-2020</td>
<td>Academy Health</td>
</tr>
<tr>
<td>2015-2019</td>
<td>American Association for Cancer Research (AACR)</td>
</tr>
<tr>
<td>2019-current</td>
<td>California HPV Vaccine Roundtable Founding Member; Parent &amp; Provider Workgroups</td>
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**Honors**

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<th>Achievement</th>
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<tr>
<td>2006</td>
<td>Top paper in communication technology division, AEJMC</td>
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<td>2008</td>
<td>Pennsylvania State University Engagement Scholar</td>
</tr>
<tr>
<td>2010</td>
<td>ICA/NCA Dissertation of the Year Finalist</td>
</tr>
<tr>
<td>2018</td>
<td>UCI Dean’s Honoree for Teaching Excellence</td>
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C. Contributions to Science

1. **Advancing Health Communication Theory to increase HPV Vaccination**
   
   Vaccine hesitancy persists and has been named a 2019 top 10 global health threat by the World Health Organization (WHO). Narrative communication approaches to public health prevention offer a communication strategy to overcome and more effectively reach vaccine-hesitant audiences. The research I have conducted applies narrative communication theory to bring positive behavior change in prevention contexts, in particular, in vaccine adoption. It includes messaging that reflects structural, policy and individual behavior change. In the case of HPV vaccination, I have advanced a theoretical narrative communication model for behavior change for effectively reaching resistant and low-awareness vaccine audiences. Theory work I have conducted examined the effects of communication source as well as developing prototypical community and culturally grounded vaccine decision narratives. I have also evaluated mechanisms of narrative persuasion. HPV Vaccine Decision Stories, a National Cancer Institute (NCI) evidence based cancer control program (EBCCP) has been adapted to reach African-American, Vietnamese, and Latinx young adult populations and to parents of adolescents. Additional randomized controlled trials are under way in community clinic settings to evaluate and replicate the efficacy and delivery platforms for increasing HPV vaccination. I have also modeled pediatrician vaccine recommendation profiles to uncover that 28% recommended vaccination ambivalently, contributing to parental hesitancy.


2. Identifying Subgroups for Public Health Intervention Targeting

Identifying relevant subgroups among heterogeneous populations is a useful audience segmentation strategy for targeting public health interventions. Subgroup (i.e., latent class/transition) analysis is useful for understanding and characterizing how subgroups cluster across a number of behavioral and attitudinal attributes to understand more complete and nuanced profiles of people and their behavior. Hopfer has extended applications of latent class analysis to (a) model multi-level network behaviors relevant for public health phenomena, (b) identify subgroups that respond differentially to prevention interventions, and (c) characterize profiles of practitioner vaccine recommendation behaviors that contribute to parental vaccine hesitancy.


3. Health Risk Communication

Effectively communicating health risk information in particular with policy makers increasingly plays an important role in today’s environment including the COVID19 pandemic. Harnessing the communication power of social media and GIS mobile technologies will be important to assist in rapid decision-making in public health disasters and cancer risk response. My work has applied communication theory to design effective, state-of-the-art communication interfaces that facilitate public health emergency decision-making and response, develop social media interfaces that increase cancer screenings, and present health risk data as maps that minimize misinterpretation of public health risk.


Complete List of Published Work in MyBibliography:
https://www.researchgate.net/profile/Suellen_Hopfer/research

DMS 183 – Item 1-177
D. Additional Information: Research Support and/or Scholastic Performance

**Ongoing Research Support**

NSF IIS-2027254 Hopfer (MPI) 6/01/20-5/31/21
Leveraging Twitter Data for Real-Time Public Health Response to Coronavirus:
Identifying affective desensitization, loneliness and depression, and trust in message source and content
Role: PI

**Completed Research Support (last three years)**

UCI Chao Family Comprehensive Cancer Center (CFCCC) Hopfer (PI) 6/1/18-5/31/19
Feasibility of a family focused intergenerational social media intervention for Orange County Vietnamese families to increase preventive cancer screenings.
Role: PI

CSUF/UCI-CFCCC Partnership for Cancer Health Disparities Research Hopfer (PI) 1/1/2016-9/30/2017
Identifying and describing prototypical HPV vaccine decision narratives and preferred communication channels for receiving health information among Vietnamese and Latina Planned Parenthood clients.
Role: PI

R44 DP006291 NIH NCCDPH Hecht (PI) 9/30/2016-9/29/2018
*Marketability of a technology-based intervention to increase HPV vaccination*
Conducting an RCT evaluating the intervention Women’s Stories: The HPV Project to test different delivery mechanisms for where to host the intervention: the waiting room versus the exam room.
Role: Co-I
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: HOYT, MICHAEL A.
eRA COMMONS USER NAME (credential, e.g., agency login): michaelhoyt

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<td>BA</td>
<td>05/1995</td>
<td>Interpersonal Communication</td>
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<tr>
<td>Emerson College, Boston, MA</td>
<td>MA</td>
<td>05/1997</td>
<td>Health Communication</td>
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<td>Arizona State University, Tempe, AZ</td>
<td>MA</td>
<td>05/2004</td>
<td>Clinical Psychology</td>
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<tr>
<td>Arizona State University, Tempe, AZ</td>
<td>PHD</td>
<td>08/2007</td>
<td>Clinical Psychology</td>
</tr>
<tr>
<td>University of Washington, School of Medicine, Seattle, WA</td>
<td>Resident</td>
<td>06/2007</td>
<td>Clinical Residency: Behavioral Medicine and Neuropsychology</td>
</tr>
<tr>
<td>University of California, Los Angeles, Los Angeles, CA</td>
<td>NIH training grant</td>
<td>06/2009</td>
<td>Postdoctoral Fellowship: Health Psychology</td>
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A. Personal Statement

Since beginning my career, I have focused on understanding how cognitive, emotional, social, and biobehavioral factors influence the prevention of, adjustment to, and progression of cancer and other illnesses. My training with oncology and urology patients led me to direct my research to the study of the psychological precursors of salutary quality of life (QOL) and biological functioning in those affected by cancer. During my NIMH-funded postdoctoral fellowship at UCLA I adopted a biobehavioral approach to identifying the correlates of health-related quality of life, mental health, and biological functioning in cancer survivors. A training focus was on gaining expertise in the assessment of variability in sympathetic nervous system activity, hypothalamic-pituitary-adrenal (HPA) axis activity, and related immune responses in the context of adjustment to chronic illness. I now have a growing, independent and collaborative program of research that represents a culmination of my clinical experiences, current and past research, and interests in cancer prevention and control, and psychoneuroimmunology. My work seeks to understand the common pathways (e.g., psychological, behavioral, psychobiological) related to survivorship across the cancer continuum. I have led several research studies identifying the relationships of psychosocial processes that confer risk or resilience on quality of life and functioning, physical symptoms related to cancer treatment, as well as neuroendocrine and inflammatory regulation. These have included an investigation of male veterans with mixed cancer types (n=183) in which we discovered the impact of emotion regulation processes and coping on distress (Hoyt, 2009), adjustment indicators (Hoyt & Stanton, 2011), and sleep quality (Hoyt et al., 2009); a study of men with men with prostate cancer (N=73) in which we have discovered relationships of masculine threat, coping, and prostate-related functioning (Hoyt et al., 2013a), as well as associations of coping and immune markers (Hoyt et al., 2013b). I have completed a multi-phase study of young adult men with testicular cancer (N=171) to examine and define QOL. I currently have several extramurally and internally funded projects underway, including a biobehavioral study of depression in prostate cancer patients funded by the National Cancer Institute and the Department of Defense. These
studies, my expertise and experience with young adult cancer survivorship, and my past training provide the ideal foundation to contribute to this study. In addition to my primary faculty appointment at UC Irvine, I am a program member of the UC Irvine Chao Family Comprehensive Cancer Center, core faculty in the UC Irvine Interdisciplinary Institute for Salivary Bioscience, and a consulting psychologist at the Memorial Sloan Kettering Cancer Institute.

With over 50 publications, I have a demonstrated record of successful and productive research in an area of high relevance for groups of diverse cancer patients. My experience has prepared me for the proposed project.


**B. Positions and Honors**

**Positions and Employment**

1997 - 2002 Coordinator of Health Promotion, Harvard University, Cambridge, MA

2002 - 2007 Project Manager, Arizona State University, Mind/Body Health Laboratory, Tempe, AZ

2009 - 2012 Assistant Professor, University of California, Merced, Merced, CA

2012 - 2015 Assistant Professor, Hunter College, City University of New York, New York, NY

2013 - Consulting Psychologist, Memorial Sloan Kettering Cancer Center, New York, NY

2015 - 2018 Associate Professor, Hunter College, City University of New York, New York, NY

2018 - Associate Professor, University of California, Irvine and Chao Family Comprehensive Cancer Center, Irvine, CA

**Other Experience and Professional Memberships**

1997 - Member, American College Health Association

2000 - Member, American Psychological Association

2000 - Member, Division 38, Health Psychology

2005 - Member, Society for Behavioral Medicine

2008 - Member, American Association for Cancer Research

2009 - Member, American Psychosomatic Society

2012 - Member, American Psychosocial Oncology Society

2018 - Editor-in-Chief, International Journal of Behavioral Medicine

**Honors**

2002 Outstanding Service Award in Health Promotion, American College Health Association
2006 Distinguished Student Award in Research, Society for Behavioral Medicine
2007 The Director's Prize: Nancy Robinson PhD Award, University of Washington, School of Medicine
2007 Joseph Becker Research Award, University of Washington, School of Medicine
2010 Chancellor's Award, University of California, Merced
2013 New Investigator Award, American Psychosocial Oncology Society
2014 International Research Collaboration Award, University of Sydney
2015 Henry Wasser Award for Outstanding Scholarship, CUNY Academy of the Humanities and Sciences
2018 Fellow, Society of Behavioral Medicine

C. Contribution to Science

1. Building from my work in understanding men’s experiences in the prostate cancer context, I am also motivated to attend to experiences of men with cancer in younger cohorts. Young adulthood is a critical developmental phase in which young men are negotiating greater independence and autonomy in social, professional, and physical domains. Young people ages 18 to 29 identify unique psychological and social experiences including a perception of feeling “in between” the struggles of adolescence and the responsibilities of adulthood. It is a period often marked by vocational and relational exploration, mobility in residences and domestic circumstances, increased self-focus, and an optimistic outlook on goal attainment. A diagnosis of cancer, especially cancer that threatens sexuality and reproductive health, can be distressing in this formative period. Testicular cancer is the most prevalent cancer among men in late adolescence and early adulthood. To further characterize coping processes and health-related quality of life in young men with cancer, I led a multi-phase study with young men (ages 18-29) with testicular cancer to examine coping behaviors and biobehavioral correlates of health-related quality of life.


2. A question that guides my research is “how are coping processes related to mental and physical health in cancer patients and other populations?” Cancer patients are often confronted with new situations that challenge their habitual methods of coping. At the same time, effective clinical interventions and biobehavioral research are needed to better serve the psychological and physical needs of cancer survivors. Although research regarding the effectiveness of psychosocial interventions in cancer populations is encouraging, men have been underrepresented in clinical trials testing psychosocial coping interventions. These publications highlight my contributions to the literature on psychological and adjustment to men with cancer. By examining the utility of coping processes to relevant physical and psychological outcomes, as well as the biological underpinnings, more effective interventions can be developed to improve well-being. I served as the primary investigator or co-investigator in all of these studies.


3. Individuals with cancer are particularly vulnerable to disturbances in sleep. Prevalence rates of significant sleep problems for patients with varying types of cancer are estimated at 30% to 50% and disturbance in sleep may present specific vulnerability for the development of depressive symptoms. A secondary focus of my work is to examine psychological influences on sleep quality. I found that higher use of avoidance coping at baseline was related to greater severity of sleep-related symptoms and more interference with daily functioning six months later. Men treated for prostate cancer have a heightened risk for developing a sleep problem. Symptoms such as urinary and bowel problems, hot flashes, and night sweats are commonly reported after radical prostatectomy, radiation therapy, or hormone treatments, and have potential to disrupt sleep. In fact, insomnia has been reported as a clinically significant symptom occurring in 32% of men treated for prostate cancer by radical prostatectomy, and men undergoing various treatments for prostate cancer (n = 861) named insomnia (32%) as the most frequently reported symptom.


4. Although research regarding the effectiveness of psychosocial interventions in cancer populations is encouraging, men have been underrepresented in clinical trials testing psychosocial coping interventions, particularly those that target the expression and processing of emotions related to cancer. In fact, we (Hoyt & Rubin, 2012) found evidence for this in a 15-year update to findings reported by Meyerowitz and Hart (1995) that examined gender representation in biomedical treatment studies and the empirical psychosocial literature. I have led research to identify the efficacy (through meta-analysis), targets (through longitudinal research), and implementation (current clinical trials) of biobehavioral intervention for cancer patients. For instance, a current RCT (PI: Hoyt) is underway in which I am testing a goal-focused intervention (Goal-Focused Emotion Regulation Therapy) in young adults with testicular cancer to examine the impact of goal attainment, psychological distress, and relevant biobehavioral stress processes (inflammatory cytokines and diurnal cortisol).


5. In addition to my primary work with cancer populations, I have contributed to understanding the impact of psychological processes on the prevention of HIV and risky health behavior. In particular I focused my attention on developing and testing a model of cognitive escape. Thought suppression associated with motivations to escape thoughts of HIV risk was found to be related to increased cycles of sexual risk behavior. In addition, I furthered a model of institutional mistrust among high risk men. Institutional mistrust appears to negatively impact ethnic minority men.


D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

W81XWH2010308 Hoyt, Michael (PI) 05/15/20-05/15/23
Department of Defense
Inflammatory Processes, Emotion Regulation, and Depression in Prostate Cancer Survivors
This prospective study identified affective and inflammatory processes as predictors of symptom trajectories in the year following prostate cancer treatment.
Role: PI

C21CR2112 Hoyt, Michael (PI) 10/01/20-09/30/21
California Cancer Research Coordinating Committee
Biobehavioral Intervention to Reduce Adverse Outcomes in Young Adult Latinos with Testicular Cancer
The major project goal is to determine initial efficacy of a novel biobehavioral intervention for young adult Latino testicular cancer patients.
Role: Pilot Project PI

UL1TR001414 Cooper, Dan (PI) 04/01/19-12/31/20
UC Irvine Institute for Clinical & Translational Science
A Biobehavioral Intervention for Young Adults with Testicular Cancer: Pilot Study
The major project goal is to determine initial efficacy of a novel biobehavioral intervention for young adult testicular cancer patients.
Role: Pilot Project PI

R01CA244185 Applebaum, Allison (PI) 09/01/20-05/31/25
National Cancer Institute
Inflammatory Processes, Emotion Regulation, and Depression in Prostate Cancer Survivors
This multisite clinical comparative trial examines the relative impact of Emotion Regulation Therapy and cognitive behavior therapy for reducing distress in cancer caregiver.
Role: Site PI

Completed Research Support

1F99CA222727 Darabos, Kathleen (PI) 09/01/17-08/31/19
A Biopsychosocial Approach to Behavioral Oncology in Young Adults
The primary goal is to investigate the impact of in person versus technology based cancer-related social support in young adult cancer survivors.
Role: Mentor

SC1CA187494-01 Hoyt, Michael A (PI) 09/01/14-08/31/18
Emotion-Regulation, Inflammatory Processes, and Depression in Prostate Cancer Survivors
This prospective study identified affective and inflammatory processes as predictors of symptom trajectories in the year following prostate cancer treatment.
Role: PI
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: JIANG, LUOHUA

eRA COMMONS USER NAME (credential, e.g., agency login): JIANG.L

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<th>DEGREE (if applicable)</th>
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<tr>
<td>Peking University Health Science Center</td>
<td>M.D.</td>
<td>07/1998</td>
<td>Basic Medicine</td>
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<td>University of California, Los Angeles (UCLA)</td>
<td>M.S.</td>
<td>06/2002</td>
<td>Biostatistics</td>
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<tr>
<td>University of California, Los Angeles (UCLA)</td>
<td>Ph.D.</td>
<td>12/2005</td>
<td>Biostatistics</td>
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A. Personal Statement

As a biostatistician with formal medical training, I have a unique combination of expertise in biostatistics, trials, and lifestyle intervention research. My formal training in both medicine and biostatistics and rich experience in nutrition and diet research provide an ideal background for me to provide statistical advice and collaboration on the study design and data analysis for the proposed project. I will bring years of experience in study design and data analyses of large health research projects as well as sophisticated statistical methods for complex data. In the past 15 years, I have collaborated on multiple federally-funded studies implementing evidence-based chronic disease prevention and management interventions designed for minority populations. As the lead biostatistician in the coordinating center for several multi-site diabetes prevention and management projects as well as randomized clinical trials testing the effects of behavioral and nutritional interventions, I am especially experienced in evaluating the comparative effectiveness of interventions targeted toward patients with various chronic diseases, such as diabetes. Furthermore, I am an experienced researcher in secondary data analysis utilizing various data sources. I received funding from the American Diabetes Association (ADA) and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) to conduct multi-level and comparative effectiveness analysis for diabetes prevention and management interventions in American Indian and Alaska Native (AI/AN) communities. I have also been funded by the National Institute on Aging (NIA) to analyze electronic health record data of AI/ANs to understand dementia epidemiology, health care utilization, and treatment costs in this unique population. I believe my statistical expertise, extensive experience in designing and evaluating projects related to health promotion projects, as well as comprehensive knowledge of managing and analyzing complicated dataset will allow me to make a significant contribution to this proposed project.

Ongoing and recently completed projects that I would like to highlight include:

R01 AG061189
Jiang & O’Connell (MPI)
04/01/2019 – 03/31/2024
Dementia Epidemiology, Health Service Utilization and Treatment Costs among American Indian and Alaska Native Elders

U54MD000507
Manson (PI)
05/01/2017 – 04/30/2023

DMS 191 – Item 1-185
NIH/NIMHD, Subcontract through University of Colorado
American Indian and Alaska Native Health Disparities

R01 AG055018
Odegaard (PI); Role: Co-Investigator
06/15/2017 – 04/30/2022
Abdominal Adipose Tissue Depots and Cardiometabolic Disease Risk in Postmenopausal Women

R21 DK108187
Jiang (PI)
08/01/2016 – 07/31/2019
Comparative effectiveness evaluation of a diabetes case management intervention in AI/AN communities

HHSI1236201000002C, IHS, Subcontract to University of Colorado Denver
Manson (PI), Role: Subcontract PI
08/01/2013 – 01/31/2019
Special Diabetes Program for Indians Demonstration Projects Coordinating Center

Citations:

A. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

<table>
<thead>
<tr>
<th>Year</th>
<th>Position/Institution/Consortium</th>
<th>Role/Reviewer Type</th>
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<tr>
<td>2021</td>
<td>NIH Center for Scientific Review Special Emphasis Panel</td>
<td>ad hoc grant reviewer</td>
</tr>
<tr>
<td>2020</td>
<td>Health Research Council of New Zealand</td>
<td>external grant reviewer</td>
</tr>
<tr>
<td>2019-present</td>
<td>NIH CTSA External Reviewers Exchange Consortium</td>
<td>ad hoc grant reviewer</td>
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<tr>
<td>2019-present</td>
<td>Birkeland Current LLC, Scientific Advisory Board member</td>
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<tr>
<td>2018-Present</td>
<td>Associate Professor, Department of Epidemiology, School of Medicine, University of California, Irvine, Irvine, CA</td>
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<tr>
<td>2018-Present</td>
<td>Patient Centered Outcomes Research Institute(PCORI) Assessment of Prevention, Diagnosis, and Treatment Options (APDTO)</td>
<td>ad hoc grant reviewer</td>
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<td>2018-Present</td>
<td>Editorial Board Member, World Journal of Diabetes</td>
<td></td>
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<tr>
<td>2017</td>
<td>PCORI Improving Healthcare Systems</td>
<td>ad hoc grant reviewer</td>
</tr>
<tr>
<td>2017</td>
<td>Israel Ministry of Science, Technology and Space</td>
<td>external grant reviewer</td>
</tr>
<tr>
<td>2016</td>
<td>PCORI PCORnet Initiative on Health Plan/System Data Partnerships</td>
<td>ad hoc grant reviewer</td>
</tr>
<tr>
<td>2015–Present</td>
<td>International Biometric Society, the Western North American Region, member</td>
<td></td>
</tr>
<tr>
<td>2015-2016</td>
<td>Veteran Affairs (VA) HSRD Healthcare Informatics Study Section</td>
<td>ad hoc grant reviewer</td>
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</tbody>
</table>
2014-2018 Assistant Professor, Department of Epidemiology, School of Medicine, University of California, Irvine, Irvine, CA
2013-2017 Omada Health Inc, Statistical Consultant
2012–Present American Diabetes Society, member
2011-2014 Assistant Professor, Department of Epidemiology and Biostatistics, School of Public Health, Texas A&M Health Science Center
2010–Present American Public Health Association, member
2006-2013 National Institute of Child Health and Human Development, Pelvic Floor Disorders Network, Data Safety and Monitoring Board member
2006-2010 Research Assistant Professor, Centers for American Indian and Alaska Health, Department of Biostatistics and Informatics, Colorado School of Public Health, University of Colorado, Denver, CO
2004–Present American Statistical Association, member

Honors
2018 Excellence in Graduate Student Teaching Award, University of California Irvine School of Medicine
2015 Diabetes Care Top Reviewer
2006 Carolbeth Korn Prize, University of California, Los Angeles
2005 Phi Beta Kappa Alumni Scholarship, Alpha Association
2002 Elected member of Delta Omega, Public Health Honor Society
2002 Ruth F. Richards Outstanding Student Award, University of California, Los Angeles

A. Contribution to Science

1. Prevention and Management of Diabetes among AI/ANs
American Indians/Alaska Natives (AI/ANs) bear the highest prevalence of diabetes among all the populations in the US. Over the past decade, I have been working on addressing the daunting diabetes disparities among AI/AN individuals, especially the prevention of diabetes and its complications through large-scale public health intervention projects. I was the lead biostatistician in the coordinating center of the Special Diabetes Program for Indians (SDPI) demonstration projects, which are implemented in 60+ AI/AN sites across the nation. I led the efforts to evaluate the effectiveness of those interventions, examine factors related to participant recruitment and retention, and conduct multilevel data analysis investigating characteristics of the participants and sites that benefited most from the intervention. Our findings provide important insight into the most important factors to be considered while designing and implementing evidence-based diabetes prevention intervention among underserved populations.


1. Longitudinal/Multilevel and Latent Variable Modelling
Multilevel models and latent variable modelling are both important tools for epidemiological and health service studies. I have applied both approaches to many previous projects and proved the pivotal role of these methods in analyzing longitudinal and multi-dimensional data.
1. Diabetes and Mental Health among AI/ANs
   When I first joined Centers for American Indian and Alaska Native Health, I took the lead in investigating the relationship among diabetes, mental disorders, stress, and quality of life among AI/ANs. I found AI/ANs with a former diagnosis of depression or alcohol dependence had a significantly higher chance of having diabetes. Similarly, evidence of an association between stress and diabetes was found. I also discovered that AI/ANs with comorbid diabetes and hypertension had much worse health-related quality of life (HRQoL) compared with those with none or only one of these chronic conditions. In addition, the relationships between the HRQoL and types of help seeking varied depending on comorbidity status.

2. Community-Based Translational Interventions
   I have been involved with multiple chronic disease prevention and management projects translating evidence-based interventions into communities. Many of them targeted on reducing health disparities suffered by underserved populations. My unique combination of both statistical and medical background gives me a special advantage in formulating biomedical and public health problems using statistical language, which leads to better models and scientific results. Many articles have been published from my previous collaborations.

Complete List of Published Work in MyBibliography:
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Kitazawa, Masashi

eRA COMMONS USER NAME (credential, e.g., agency login): mkitazawa

POSITION TITLE: Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>California State University, San Bernardino</td>
<td>B.S.</td>
<td>06/1997</td>
<td>Chemistry</td>
</tr>
<tr>
<td>University of California, Irvine</td>
<td>M.S.</td>
<td>03/2000</td>
<td>Environmental Toxicology</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>Ph.D.</td>
<td>05/2003</td>
<td>Toxicology</td>
</tr>
<tr>
<td>University of California, Irvine</td>
<td>Postdoctoral</td>
<td>10/2006</td>
<td>Neurobiology and Behavior</td>
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A. PERSONAL STATEMENT

My primary emphasis centers on understanding the molecular pathogenesis of Alzheimer’s disease (AD) and the impact of neuroinflammation elicited endogenously by disruption of normal immune responses by aging or by intrinsic or extrinsic factors. Through understanding the key cellular mechanisms, one of my goals is to develop better animal models that recapitulate a broad spectrum of human AD conditions. These models could predict critical cellular mechanisms and preclinical outcomes. I have used multiple experimental platforms including transgenic mouse models, primary cultures and established cell culture models, *Drosophila* models, and organotypic slices. My research program is highly interdisciplinary as I tackle problems using both traditional molecular biology to target specific molecules of interest (candidate approach) and quantitative approaches to identify genes/molecules in an unbiased manner (unbiased approach), coupled with over 15 years of experiences in rodent behavioral testing. I am also fully capable of performing transcriptomics using programs including, but not limited to, HISAT2, STAR and RSEM for read alignment and mapping, and R packages for DEG analysis. In this research grant application, I extend my current research to further elucidate the fundamental biological role of microRNA in synaptic plasticity and memory, in conjunction with addressing putative underlying molecular mechanisms of AD-associated memory decline using one of the most widely used transgenic mouse models of the disease. My experience and involvement in this model are highly extensive and include initial characterization of neuroinflammation with age, assessment of environmental risk factors, and preclinical studies on various small molecules and antibodies. In addition to my contribution to AD-related research, I have a long track record of mentoring and training post-doctoral researchers, graduate students and
undergraduate students, particularly those who participated in NIH MARC and UC LEAD programs to promote the diversity and support students from minority and underserved backgrounds towards advanced education and scientists. With my extensive training in neurotoxicology and neurobiology, the role as a principal investigator in multiple extramural funding, and available research techniques and assays in my laboratory, I am confident that I continue to provide significant scientific contributions to the field. My recent scientific contributions are represented by the following peer-reviewed papers:


B. POSITIONS AND HONORS

Positions and Employment
2006-2011 Assistant Project Scientist, Department of Neurobiology and Behavior, University of California, Irvine, CA
2012-2016 Assistant Professor, Molecular and Cell Biology, School of Natural Sciences, University of California, Merced, CA
2016-2017 Assistant Professor, Center for Occupational and Environmental Health, Division of Occupational and Environmental Medicine, Department of Medicine, University of California, Irvine, CA
2017- Associate Professor, Center for Occupational and Environmental Health, Division of Occupational and Environmental Medicine, Department of Medicine, University of California, Irvine, CA

Other Experience and Professional Memberships
2001- Member, Society for Neuroscience
2001-2012, 2015- Member, Society of Toxicology

Honors
2003 Research Excellence Award, Iowa State University, Ames, IA
2007 Al Nichols Distinguished Young Investigator Award, University of California, Irvine, CA
2015 Academic Senate Award for Early Career Research, University of California, Merced, CA

C. CONTRIBUTIONS TO SCIENCE

1. My early publications directly addressed the effect of environmental toxicants including organochloride pesticides and manganese-containing gasoline additives on selective dopaminergic cell death in relation to Parkinson’s disease. Little was known about the underlying cellular and molecular mechanisms triggering the
selective death by these environmental toxicants. We have uncovered several key signaling cascades and molecules, such as protein kinase C-delta, caspase-3, Bcl-2, and oxidative stress that were critically involved in the dopaminergic cell death process. These works contributed to strengthening the mechanistic link between environmental toxicant exposure and the pathogenesis of Parkinson’s disease. I served as the primary or coinvestigator in all of these studies.


2. I extended my research program to understand the role of inflammation in the pathogenesis of Alzheimer’s disease (AD). I have led to investigate how dysregulation of pro-inflammatory responses, whether by intrinsic or extrinsic factors, impacts on the microglial activation and the development of AD neuropathology in mouse models. Results strongly supported the active involvement of inflammation and environmental risk factors, such as metal exposure, in the development of AD-like neuropathology in mice. I served as the primary, corresponding, or co-investigator in all of these studies.


3. I have also extensively studied the role of microRNA in AD and cognitive decline. Small non-coding microRNAs can mediate rapid, spatiotemporal modifications of protein expression by degrading, halting or stabilizing target mRNAs. This is a highly sophisticated mechanism that allows biological processes, such as synaptic plasticity, to be highly dynamic and adaptable to changes in local microenvironment. Emerging evidence has demonstrated that the disturbed microRNA activity is a possible biomarker to predict AD. Together with a team of collaborators, I have been investigating the mechanism of microRNA-mediated loss of synaptic plasticity and glutamatergic neurotransmission relevant to AD. I have been serving as the principal investigator in the following studies.

4. The effective treatment for AD has not been established despite the extensive efforts for decades. This may be in part due to a lack of comprehensive understanding on multifactorial mechanisms of the disease pathogenesis, in addition to APP metabolism and Aβ production. To apply our findings to translational studies, I have participated in evaluating potential therapeutic interventions targeting inflammation, receptors, signaling molecules, and transporters that we believe to play a critical role in the disease progression, in mouse models. I served as a co-investigator in all of these studies.


Complete List of Published Work in MyBibliography:

D. RESEARCH SUPPORT

Ongoing Research Support
R01 ES024331 (PI: Kitazawa) 9/19/2014 - 6/30/2019 NIH/NIHES
Environmental copper exposure and its impact on microglial Abeta clearance

Aims: The goal of this project is to comprehensively assess the effect of environmentally-relevant copper exposure on functional alterations of microglia and astrocyte, and their ability to clear Abeta in the brain.

Research Award 20161204 (PI: Kitazawa) 7/1/2017-6/30/2019 Alzheimer’s Drug Discovery Foundation (ADDF)
A potent lipoxin analogue as a potential treatment for Alzheimer’s disease

Aims: The goals of this project are to evaluate pharmacokinetics, toxicity and tolerance of newly developed lipoxin analogue and to evaluate its therapeutic efficacy on a mouse model of AD.
Mechanisms of particulate matter-induced neurotoxicity and cognitive decline in mice

Aims: The goal of this project is to determine the neurotoxic mechanism of particulate matter and its contribution to the development of AD neuropathology in a mouse model.

Completed Research Support
R00 AR054695 (PI: Kitazawa) 4/9/2012 – 3/31/2016
Pathogenic role of valosin-containing protein (VCP) in IBMPFD

Aims: The goal of this project is to understand molecular and cellular pathological mechanisms of VCP-mediated skeletal muscle degeneration (inclusion body myopathy) and neurodegeneration (frontotemporal dementia). Role: PI


Assessing the ability of novel lipid mediators to stimulate microglial phagocytosis

Aim: Determine the RNA profile and identify key molecules following novel lipoxin analogues to promote microglial phagocytosis of Abeta in vitro. Role: PI
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: LAKON, CYNTHIA MARIE

eRA COMMONS USER NAME (credential, e.g., agency login): clakon

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<th>INSTITUTION AND LOCATION</th>
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<th>Completion Date</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>University of California Los Angeles</td>
<td>BS</td>
<td>06/1991</td>
<td>Psychology/Pre-Medicine</td>
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<tr>
<td>University of California Los Angeles</td>
<td>MPH</td>
<td>06/1995</td>
<td>Community Health Sciences</td>
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<tr>
<td>University of North Carolina, Chapel Hill</td>
<td>PHD</td>
<td>06/2004</td>
<td>Health Behavior</td>
</tr>
<tr>
<td>University of Southern California, Los Angeles</td>
<td>Postdoctoral Fellow</td>
<td>09/2006</td>
<td>Social Networks and Adolescent Smoking</td>
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</table>

A. Personal Statement

My research focuses on the risk and protective properties of adolescent and adult social network ties for health behavior and is premised upon the fundamental question of: what are the theoretical pathways linking social relationships and health relevant behavior? I have studied adolescent and adult social networks and substance use for the last 18 years. I have extensive experience with both egocentric and sociometric social network methodology and have conducted previous studies of social networks in youth and adult populations, creating and testing theoretical models of mechanisms linking adolescent and young adult social network characteristics to their substance use behaviors. My research explicitly addresses the structural, interactional, and functional properties of social network ties. Regarding the functional aspects of these ties, I have most notably studied both social support and social influence as mechanisms through which social network characteristics relate to substance use behaviors among both adolescent and adult populations.

I was the principal investigator on an NIH funded R21 study of the social networks of adolescent youth and their substance use behaviors including smoking, marijuana and alcohol use. I successfully administered and managed this funded project and to date my team and I have produced eleven peer reviewed publications from this project in high impact journals with more currently under review. I have also been a co-investigator on other NIH funded projects, acting as the social network methodologist. For the last five years, I have acted as the Health Thrust Leader for the Center for Relational Analysis at UC Irvine, a center which brings together social network researchers throughout the campus and beyond, for idea generation and collaboration on network-based research projects across disciplines. UC Irvine has a legacy of distinction and rich history in the area of social network research. The premiere international journal in the field, Social Networks, was edited at UC Irvine for many years, and the universally recognized social network analysis software package UCINet was created at UC Irvine as well.
Three peer reviewed published papers which highlight my work in the area of social networks and health behavior are:


B. Positions and Honors

Positions and Employment

1991 - 1992 Research Assistant, California State University Los Angeles
1991 - 1992 Tutor, California State University, Los Angeles
1994 Health Educator, Veterans Administration Medical Center, Sepulveda, CA
1995 Consultant, Blue Cross of California, Public Benefits Program, Canoga Park, CA
1995 - 1997 Association of Schools of Public Health Fellow, Centers for Disease Control and Prevention
1997 - 2000 Research Assistant, University of North Carolina, Chapel Hill
2004 - 2006 Postdoctoral Fellow, University of Southern CA
2008 - 2015 Assistant Professor, University of California, Irvine
2015 - present Associate Professor, University of California, Irvine

Other Experience and Professional Memberships

1995 - Member, American Public Health Association
2006 - Member, International Network for Social Network Analysis (INSNA)
2008 - Member, Society for Prevention Research

Honors

1995 Delta Omega National Scholastic Honor Society in Public Health , Delta Omega
1997 Scholarship , El Camino Real Hellenic Association
1997 Merit Scholar , University of North Carolina, Chapel Hill
2003 Jessie Ball duPont Dissertation Fellowship for Research, University of North Carolina, Chapel Hill
2004 Royster Society of Fellows , University of North Carolina, Chapel Hill
2005 Early Career Investigator Travel Award, National Institute on Drug Abuse (NIDA)/American Psychological Association (APA)

C. Contribution to Science

I have made contributions to science primarily in the areas of: 1) adolescent and young adult social networks and substance use behavior and 2) Systems Science. My research centers primarily on adolescent social networks and
smoking and in the area of injection drug user networks and needle use behaviors. The primary contribution of my work in this area is in explicating theoretical mechanisms linking social networks and substance use behavior. My work on adolescent networks and that on injection drug user networks includes specifying and testing novel theoretical models indicating the importance of the mechanisms of social support, social influence and cognitive processes:


A second area of contribution is in the area of Systems Science. The primary application of this perspective to public health is in shedding light on the interdependent and dynamic nature of complex systems that are characteristic of policy resistant public health problems. My work in this area is at the cutting edge of social network applications to studying substance use. I have used systems constructs (i.e., feedback loops, emergent properties, and flows) to inform the creation and testing of theoretical models of networks which include feedback loops, flows of network processes, and the examination of emergent properties of systems. I have also utilized cutting edge methodologies including Stochastic Actor-Based Models and other agent-based simulation approaches:


Complete List of Published Work:
[https://scholar.google.com/citations?user=z1rd810AAAAJ&hl=en](https://scholar.google.com/citations?user=z1rd810AAAAJ&hl=en)

D. Additional Information: Research Support and/or Scholastic Performance

**Research Support**

2016/04/01 – 2021/03/31
1R01 CA204356-01, National Institute on Drug Abuse (NIDA) Pechmann; Prochaska (PIs)
Social Media Technology for Treating Tobacco Addiction
Role: Co-Investigator

**Completed Research Support**
2012/06/01-2015/05/31
R21 DA031152-02, National Institute on Drug Abuse (NIDA)
Lakon, Cynthia Marie (PI)
Cascades of Network Structure and Function: Pathways to Adolescent Substance Use
Role: Principal Investigator

07/01/2011 – 06/30/2014
1R34 DA030538-01A1, National Institute on Drug Abuse (NIDA)
Pechmann, Cornelia (PI)
Twitter-enabled Mobile Messaging for Smoking Relapse Prevention
Role: Co-Investigator

05/01/01 – 05/01/03
F31 DA14153-02, National Institute on Drug Abuse
Lakon (PI)
Social Network Influence & HIV Risk in High Risk Youth
Role: Principal Investigator

05/01/03 – 08/01/03
F31 DA14153-02 (Supplement)
Lakon (PI)
National Institute on Drug Abuse
Social Network Influence & HIV Risk in High Risk Youth
Role: Principal Investigator
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: LEBRON, ALANA M.W.

eRA COMMONS USER NAME (credential, e.g., agency login): alanamw

POSITION TITLE: Assistant Professor, University of California, Irvine, Department of Health, Society & Behavior and Department of Chicano/Latino Studies

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<tr>
<td>Bowdoin College, Brunswick, ME</td>
<td>B.A.</td>
<td>05/2006</td>
<td>Gender &amp; Women’s Studies, Biology</td>
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<tr>
<td>Harvard University T.H Chan School of Public Health, Boston, MA</td>
<td>M.S.</td>
<td>05/2010</td>
<td>Society, Human Development &amp; Health</td>
</tr>
<tr>
<td>University of Michigan School of Public Health, Ann Arbor, MI</td>
<td>Ph.D.</td>
<td>05/2015</td>
<td>Health Behavior &amp; Health Education</td>
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<tr>
<td>University of Michigan, Ann Arbor, MI</td>
<td>Postdoctoral</td>
<td>07/2016</td>
<td>Health Disparities</td>
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A. Personal Statement

I apply a community-based participatory research (CBPR) approach to the study of how structural and social drivers of health shape racial/ethnic disparities in chronic conditions. Specifically, my research examines how policy, systems, and environmental factors shape health disparities [1,2,4] and studies interventions designed to remedy unequal systems and mitigate health disparities [3]. I examine the effects of immigration-related structural barriers and stressors[2,3], racial discrimination [1], exposure to toxic substances [4], and health care inequalities on health disparities among predominantly Latina/o, immigrant, and low-income communities. I am a founding member of an Orange County, CA community-academic partnership centered on understanding and addressing exposure to lead and other heavy metals and implications for health disparities, lending my expertise in social epidemiology and ensuring that research processes and identified programmatic and policy solutions are grounded in the expertise of community members disparately affected by metal exposures. This research has been funded by The California Endowment, California EPA, and university grants. I am a Co-I on a CDC/ATSDR health study of PFAS exposure in Orange County drinking water, contributing my expertise in strengthening community engagement in research processes. Additionally, I am the Co-PI on a university-funded grant that qualitatively examines immigration-related factors that contribute to health disparities among low-wage Latina farmworkers. In 2020, I co-founded the Orange County Health Equity COVID-19 Community-Academic Partnership and received several university grants to build and sustain this partnership and harness community-driven COVID-19 efforts to address gaps in the public health response for low-income communities of color in Orange County. I am also Co-I on an OMH grant evaluating the role of lay health educators and community navigators to reduce disparities in COVID-19 health literacy and lend my expertise in qualitative evaluation methods and building resident leadership through participation in research. Finally, I am MPI on a NIMHD-funded project examining the role of community health workers in addressing health inequities during the COVID-19 pandemic. I contribute my expertise in CBPR and health disparities affecting Latina/o, low-income, and other historically marginalized populations, as well as qualitative data collection, analysis, and interpretation.
Ongoing and recently completed projects that I would like to highlight include:

1CPIMP211286-01-00 Perez (PI) 07/01/2021-06/30/2023
DHHS Office of Minority Health
Health Equity and Literacy in OC (HEAL-OC) for COVID-19
Role: Co-Investigator (Evaluation Core)

1U01 MD017433 LeBrón & Billimek (Co-PIs) 01/01/2022-11/30/2023
Community Activation to TrAnsform Local sYSTems (CATALYST): Social, Ethical, and Behavioral Facilitators and Barriers to COVID-19 Testing & Vaccine Equity Community Health Worker Interventions.
Role: Co-Principal Investigator (Other Co-PI: Billimek).
Examine the role of community health workers in promoting civic engagement and processes of change in addressing multi-level community barriers to accessing COVID-19 information, testing, mitigation, and vaccination in light of rising anti-immigrant attitudes and other social, community, and political challenges.

1U01TS000308 Bartell (PI) 10/01/2019-09/30/2024
CDC/ATSDR
UCI PFAS Health Study
Leverage a community engaged approach to evaluate modelled and measured serum concentrations of per- and polyfluoroalkyl substances (PFAS) and their associations with cross-sectional health outcomes in children and adults, contributing to a multi-site national PFAS health study.
Role: Co-Investigator

Office of Research, CRAFT-COVID LeBrón, Tanjasiri, Zarate (Co-PIs) 07/13/2020-05/31/2021
University of California, Irvine
Orange County Community-Oriented Health Equity Contact Tracing
Evaluate community-academic partnership process and partnership activities, with a focus on collaborative health equity response to COVID-19 in Orange County, CA.
Role: Co-Principal Investigator

Citations:


B. Positions and Honors

Positions and Scientific Appointments

2006-2007 Research Assistant, Asthma Coalition on Community, Environment, and Social Stress (ACCESS), Channing Laboratory, Brigham & Women’s Hospital, Boston, MA (PI: Rosalind Wright, MD, MPH)

2007-2008 Research Assistant, Clinical Epidemiology Research & Training Unit, Boston University School of Medicine, Boston, MA (PI: David Felson, MD, MPH)

2009-Present Member, American Public Health Association

2009-2010 Research Assistant, Maternal and Child Health Data Connect, Harvard T.H. Chan School of Public Health, Boston, MA (PI: Marie McCormick, MD, DSc)

2010-2011 Graduate Research Assistant, Center for Men’s Health Disparities, University of Michigan School of Public Health, Ann Arbor, MI (PI: Derek Griffith, PhD)

2011-2013 Graduate Research Assistant, Healthy Environments Partnership Comparative Effectiveness Research to Eliminate Disparities (CERED), University of Michigan School of Public Health, Ann Arbor, MI (PI: Amy J. Schulz, PhD)

2015 Research Associate, Healthy Environments Partnership, University of Michigan School of Public Health, Ann Arbor, MI (PI: Amy J. Schulz, PhD)

2015 Research Associate, Detroit Community-Academic Urban Research Center, University of Michigan School of Public Health, Ann Arbor, MI (PI: Barbara A. Israel, DrPH)

2015-2016 Postdoctoral Research Fellow, University of Michigan National Center for Institutional Diversity and School of Social Work, Ann Arbor, MI

2016-Present Assistant Professor, Program in Public Health and Department of Chicano/Latino Studies, University of California, Irvine, Irvine, CA

2017 Participant, NIMHD Health Disparities Research Institute

2017 Participant, Center for Health Equity Research Institute

Honors

2010-2011 Rackham Merit Fellowship, University of Michigan, Ann Arbor, MI

2011-2013 Center for Research on Ethnicity, Culture, and Health (NIH Trainee Fellowship), University of Michigan School of Public Health, Ann Arbor, MI

2013 Patricia F. Waller Scholarship, University of Michigan, Ann Arbor, MI

2013-2015 Rackham Merit Fellowship, University of Michigan, Ann Arbor, MI

2014 Bouchet Graduate Honor Society, University of Michigan, Ann Arbor, MI

2014 Outstanding Student Paper Award, Latino Caucus for Public Health, American Public Health Association, Washington, DC

2015 Exemplary Diversity Scholar, University of Michigan, Ann Arbor, MI

2016 Career Development Award, UCI ADVANCE, Irvine, CA

2019 Outstanding Teaching Award, UCI Program in Public Health, Irvine, CA

2020 Outstanding Teaching Award, UCI School of Social Sciences, Irvine, CA

C. Contributions to Science

My research addresses two overarching questions: What are the mechanisms by which policy, systems, and environmental factors shape disparities in chronic disease for racially minoritized communities? And, under what conditions are
community-level interventions on policy, systems, and environmental drivers of health effective in ameliorating racial/ethnic and socioeconomic health disparities? My scholarship has contributed to science in the following ways:

1. **Structural and Social Drivers of Latina/o and Immigrant Health.** My research examines how structural racism – defined as interconnected social, political, economic, and ideological systems that create, maintain, and exacerbate racial/ethnic stratification in access to opportunities and resources and well-being – shapes disparities in health behaviors, access to health-relevant resources, and chronic disease outcomes, particularly excess cardiovascular and metabolic risk and adverse mental health outcomes for racially minoritized populations. These publications indicate that racialization-related stressors such as self-reported institutional and interpersonal discrimination varies by social statuses such as nativity and, for immigrants, length of U.S. residence [a-d]. My publication in *Ethnicity & Health* found that increases in institutional discrimination were associated with greater increases in cardiovascular risk for Black adults relative to White adults and for Latino immigrants relative to US-born Latinos [b]. My research presented at the NIH Workshop on Structural Racism/Discrimination found that restrictive immigration policies serve as barriers to U.S.-born and immigrant Latinas/os’ engagement with health care institutions and circumscribe access to other institutions charged with promoting public well-being, including education and social welfare institutions [a].


2. **Environmental and Climate Health Disparities.** I have applied CBPR to multi-level approaches to understanding the social and spatial distribution and health implications of exposure to metals [a,c,d] and the health implications of major climate disasters such as Hurricane Maria [b]. Methodologically, I have applied multiple methods to understanding these experiences, including GIS mapping [c,d], in-depth qualitative data collection [b], and policy analysis [a] to better understand community contextualized experiences and structural, sociocultural, and economic drivers of risk of exposure to and health consequences of environmental toxins and climate disasters.


3. **Healthcare Disparities.** My research also examines how healthcare settings can exacerbate racial/ethnic and socioeconomic disparities in chronic disease treatment and management [a,d] and health care as a point of intervention to ameliorate Latina/o health disparities, such as health system transformations to integrate chronic disease and mental
health care and community health worker interventions [b,c] for medically underserved populations. These studies inform my current research, particularly relying on the community-based knowledge and unique skillsets of lay community health workers as a critical component of multi-level interventions to overcome systematic healthcare barriers to prevention and management of chronic disease. Methodologically, I have applied in-depth qualitative data collection [c] and social epidemiological approaches [a,b,d] to examining the implementation of a chronic care management diabetes intervention [c] and changes over time in health outcomes following medical or community health worker interventions [a,b,d].


4. Community-Based Interventions to Reduce Health Disparities. Lastly, I have used CBPR processes to develop and assess the effectiveness of interventions to reduce disparities in health that racially/ethnically minoritized and lower income communities differentially experience. One study [a] involved enhancing a walking group intervention that incorporated strategies to support walking group members in sustaining improvements in physical activity that they achieved in the earlier phases of the intervention, despite the chronic stressors that sometimes challenge engagement in physical activity. My more recent scholarship leverages a CBPR partnership process to evaluate the implementation and effectiveness of a community-level intervention to provide access to local government-issued IDs to enhance access to health-promoting resources that increasingly require a current government-issued ID [b,c]. This evaluation suggested that racially minoritized residents experienced persistent ID-related barriers to accessing health relevant resources that require an ID.


Complete List of Published Work in MyBibliography:

NAME: LU, YUNXIA

eRA COMMONS USER NAME (credential, e.g., agency login): YUNXIALU2014

POSITION TITLE: Associate professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Medical University of West China (Sihuan University)</td>
<td>Medical bachelor</td>
<td>06/94</td>
<td>Preventive medicine</td>
</tr>
<tr>
<td>Tongji Medical College of Huazhong University of Science and Technology, China</td>
<td>Master</td>
<td>06/00</td>
<td>Biostatistics</td>
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<tr>
<td>Tongji Medical College of Huazhong University of Science and Technology, China</td>
<td>Ph.D.</td>
<td>06/04</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Karolinska Institute, Sweden</td>
<td>Postdoc</td>
<td>10/09</td>
<td>Cancer Epidemiology</td>
</tr>
</tbody>
</table>

A. Personal Statement

I have an educational background in preventive medicine, epidemiology and biostatistics with a research focus on etiology, prevention and treatment of gastrointestinal (GI) cancer. I laid the groundwork for etiology and prognosis of GI cancer associating with obesity, nutrition and sex hormone related factors using population-based cohort studies, case-control studies, registered-based studies and clinical cohort studies. Using data collected from several countries including Sweden, Norway, United Kingdom and more European countries, our previous studies found that abdominal obesity and metabolic disorders are two strong risk factors of colorectal cancer. However, results based on these studies cannot interpret the distinct sex-gender pattern of cancer in the proximal colon, distal colon and rectum. Sex hormones hypothesis was postulated and examined thereafter. We implemented several studies to investigate whether reproductive factors (parity, age at first birth, age at last birth, breast feeding etc.) are associated with risk of colorectal cancers. The results were inconsistent in different studies. In order to further the understanding of sex hormone hypothesis, we initiated three studies in patients with diagnosis of prostate cancer, breast cancer or operation for oophorectomy. Risks of colorectal cancer have been evaluated. Although increased risks have been found after diagnosis of prostate cancer, breast cancer or oophorectomy, our results were confounded by the risk of secondary cancer and treatments of cancer, especially hormone replacement therapy. In the study on inflammatory bowel disease, we found specific dietary polyphenols may play a protective role through oxidative stress pathway and sex hormone mediating pathway. In order to deepen our understanding of sex disparity of colorectal cancer, I and my collaborators from Sweden are initiating a genetic syndrome cohort with focus on colorectal cancer risk after sex chromosome abnormalities and autoimmune diseases. Moreover, in virtue of our shared cancer data resources in U.S., I and my team members are working on studies using genomic sequencing data to examine sex chromosome and
immune related genes associating with GI cancer, especially colorectal cancer. We are using data from SEER, NCDB, TCGA, dbGAP and OptumLab Data Warehouse (OLDW).

I have excellent experience in management and analysis of large databases using statistical software. The methodology of my research covers clinical epidemiology, nutritional epidemiology and pharmaco-epidemiology. I collaborate with people from different backgrounds especially with biologists and clinicians. As Principle Investigator (PI) or co-Investigator on several internal- and external grants, I successfully administered the projects collaborating with other researchers and produced peer-reviewed publications in the internationally renowned journals.

A list of a few studies:


B. Positions and Honors

Positions

2016.12-present Associate Member, Cancer Prevention, Outcomes & Survivorship Program, Chao Family Comprehensive Cancer Center, University of California Irvine

2016.10-present Associate professor in Public Health and Epidemiology, University of California, Irvine, United States

2012.12-present Affiliated associate professor in Epidemiology, Karolinska Institutet, Sweden

2009.10-2012.11 Assistant professor in Cancer Epidemiology and Biostatistics, Karolinska Institute, Sweden

2008.01-2009.09 Postdoctoral researcher and biostatistician, Karolinska Institutet, Sweden

2005.12-2007.12 Senior lecturer and associate professor, Tongji Medical College, Huazhong University of Science and Technology, China

2004.09-2005.11 Visiting scholar, Karolinska Institute, Sweden

2000.06-2001.08 Teaching assistant and lecturer, Tongji Medical College, Huazhong University of Science and Technology, China

1994.06-1997.08 Teaching assistant, Hubei Medical University, China

Honors

2013-2015 European Commission Marie Curie Intro-European Fellowship

2016 Pharmacoepidemiology and Drug Safety Best reviewer

2011 Karolinska Institute Travel Grant

2012 World Cancer Research Fund Fellowship

2004-2005 The Swedish Institute Scholarship

2002,2003,2005 Tongji Medical College of HUST, China Award for excellent teaching

C. Contributions to Science
C1. Sex hormone related factors and risk of gastrointestinal cancers: In a series of population-based studies, we have examined reproductive factors, the proxy variables for sex hormone, are associated with GI cancers. We found reproductive factors are inconsistently associated with GI cancers by anatomical locations or by histological types. An interesting sex ratio ranking from upper GI to lower GI was observed. Our studies indicated that endogenous sex hormones may play a positive role in certain GI cancer, e.g., colon cancer while exogenous sex hormones may contribute in an opposite direction.


C2. Dietary estrogens and risk of gastrointestinal disorders, especially cancer: Our studies observed an independent association of dietary lignans with esophageal adenocarcinoma in a case-control study but not in a cohort study, the latter unfortunately contained very limited number of cases. In our study on inflammatory bowel disease based on another cohort study, lignans differentiated itself from other polyphones as a significantly protective factor.


C3. Obesity, metabolic syndrome and risk of gastrointestinal cancers: Our study found that obesity, especially abdominal obesity is an important risk factor on esophageal adenocarcinoma, small intestinal adenocarcinoma, colon and rectal cancer. We further clarified that metabolic syndrome with abdominal obesity is associated with colorectal cancer. Abdominal obesity without metabolic disorders, or metabolic disorders without abdominal obesity are not associated with
risk of colorectal cancer. Our studies further found that dietary factors interact with obesity through inflammation pathway on the risk of esophageal cancer.


C4. Clinical epidemiology on gastrointestinal disorders: In a series of clinical related studies, we investigated how surgery or medications including angiotensin II receptor blockers, anti-diabetics, clopidogrel, proton-pump inhibitors, non-steroidal anti-inflammatory drugs (NSAIDs) and aspirin are associated with gastrointestinal disorders in short-term or long term. Our findings provided relevant information for treatment or prevention of gastrointestinal diseases.


A full list of research-related published work can be found at NCBI my bibliography:


D. Additional Information: Research Support and/or Scholastic Performance
CRCC Faculty Research Award, California Cancer Research Consortium 2020-2021 (Liu-Smith F, PI)
Project title: Impact of sex hormones on melanoma development: A pilot study to investigate the role of estrogen in melanoma

The Ruth and Richard Juhlin Foundation, Sweden  (Lu Y, PI) 2016-2017
Project title: Diabetes in relation to risk of colorectal cancer: an epidemiological study based on THIN
The goal of this study was to examine whether diabetes and anti-diabetics treatment are associated with risk of colorectal cancer.

The Ruth and Richard Juhlin Foundation, Sweden  (Lu Y, PI) 2013-2014
Project title: Sex hormones and colorectal cancer
The goal of this study was to examine sex hormones factors and risk of colorectal cancer in a breast cancer cohort, a prostate cancer cohort and an oopherectomy cohort.

Karolinska Institute funding, Sweden          (Lu Y, PI) 2011-2012
Project title: Sex ratios of gastrointestinal cancer by anatomical locations
The goal of this study was to test whether sex ratio of cancers changing from upper gastrointestinal tract to low gastrointestinal tract. The study was to verify the hypothesis of sex difference of gastrointestinal cancer due to sex hormones change over lifespan.

Karolinska Institute KID Funding, Sweden   (Lu Y, PI)  2010-2014
Project title: Dietary factors and obesity interactions in the etiology of esophageal adenocarcinoma
The proposed studies seek to examine dietary factors, interacting with obesity, are associated with esophageal adenocarcinoma using data from population-based case-control studies and cohort studies.

The Ruth and Richard Juhlin Foundation  (Lu Y, PI)  2011-2015
The Swedish Socialstyrelsens fonder
Karolinska Institute KID funding
Project title: Refractory peptic ulcer bleeding: prevention and treatment
The proposed studies intended to examine the risk profile of refractory peptic ulcer bleeding and seek clinical markers for prevention and treatment.
# BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

## NAME: LUDERER, ULRIKE

eRA COMMONS USER NAME (credential, e.g., agency login): ULRIKELUDERER

**POSITION TITLE:** Professor

## EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Brown University, Providence, RI</td>
<td>AB</td>
<td>1984</td>
<td>French Civilization</td>
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<tr>
<td>Brown University, Providence, RI</td>
<td>ScB</td>
<td>1984</td>
<td>Biomedical Engineering</td>
</tr>
<tr>
<td>Northwestern University, Chicago, IL</td>
<td>PhD</td>
<td>1991</td>
<td>Neurobiology/Physiology</td>
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<tr>
<td>Northwestern University, Chicago, IL</td>
<td>MD</td>
<td>12/92</td>
<td>Medicine</td>
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<tr>
<td>Evanston Hospital, Northwestern University, Evanston, IL</td>
<td>residency</td>
<td>1/93-12/95</td>
<td>Internal Medicine</td>
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<tr>
<td>University of Washington, Seattle, WA</td>
<td>residency</td>
<td>1/96-7/98</td>
<td>Occupational Medicine</td>
</tr>
<tr>
<td>University of Washington, Seattle, WA</td>
<td>MPH</td>
<td>7/98</td>
<td>Occupational Medicine</td>
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<tr>
<td>University of Washington, Seattle, WA</td>
<td>post-doc</td>
<td>7/98-8/99</td>
<td>Reprod/develop toxicology</td>
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</table>

## A. Personal Statement

As the Director of the Environmental Health Sciences (EHS, formerly Environmental Toxicology) Graduate Program at the University of California Irvine (UCI) from 2012 to 2019 and Director of the Center for Occupational and Environmental Health since July 2016, I strongly support the establishment of the Department of Environmental and Occupational Health Sciences in the Program in Public Health. I have been a faculty mentor in the EHS graduate program, as well as in the Cellular and Molecular Biosciences graduate program, since coming to UCI in 1999 and have trained numerous PhD students, MS students, postdoctoral fellows, and undergraduate students in environmental health sciences in my lab. Following doctoral training in reproductive endocrinology, medical training, and postdoctoral research in reproductive toxicology I have pursued a research program in reproductive and developmental toxicology. As PI on multiple grants funded by NIH, NASA, and other organizations, I have directed research at UCI that has established important roles for reactive oxygen species in the initiation of apoptosis in ovarian follicles by diverse stimuli and for the antiapoptotic effects of the antioxidant glutathione in ovarian follicles. I have also directed research on the effects of in utero exposure to toxicants on the developing reproductive system and on reproductive aging and ovarian cancer in mouse models of genetically diminished antioxidant capacity. My research has been highly collaborative within and outside UCI, and I look forward to increased opportunities for collaboration and teaching in the new department.

## B. Positions and Honors

### Positions and Employment

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<tr>
<td>7/98-8/99</td>
<td>Senior Fellow, Department of Environmental Health, University of Washington, Seattle, WA. Mentor, Dr. Elaine Faustman</td>
</tr>
<tr>
<td>8/99-6/06</td>
<td>Assistant Professor, Occupational and Environmental Medicine, Dept of Medicine, UC Irvine</td>
</tr>
<tr>
<td>Date</td>
<td>Position and Details</td>
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<td>------------</td>
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<tr>
<td>7/06-6/12</td>
<td>Associate Professor, Occupational and Environmental Medicine, Dept of Medicine; UC Irvine</td>
</tr>
<tr>
<td>7/12-6/20</td>
<td>Professor, Occupational and Environmental Medicine, Dept of Medicine; secondary appointments in Dept of Developmental and Cell Biology and Program in Public Health, UC Irvine, Irvine, CA</td>
</tr>
<tr>
<td>7/12-present</td>
<td>Member Chao Family Comprehensive Cancer Center and Developmental Biology Center, UC Irvine, Irvine, CA</td>
</tr>
<tr>
<td>7/20-present</td>
<td>Professor and Vice Chair for Clinical Affairs, Dept of Environmental and Occupational Health; secondary appointments in Dept of Developmental and Cell Biology and Dept of Medicine</td>
</tr>
<tr>
<td>4/10-6/19</td>
<td>Co-Director, and as of 7/12 Director, Environmental Health Sciences (formerly Environmental Toxicology) Graduate Program, Dept of Medicine, University of California Irvine</td>
</tr>
<tr>
<td>7/16-present</td>
<td>Interim Director and as of 7/17, Director, Center for Occupational and Environmental Health, UC Irvine, Irvine, CA</td>
</tr>
<tr>
<td>7/16-6/20</td>
<td>Interim Chief, Division of Occupational and Environmental Medicine, UC Irvine, Irvine, CA</td>
</tr>
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### Other Experience

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<tbody>
<tr>
<td>7/99-5/00</td>
<td>National Research Council Subcommittee on Methyl Bromide</td>
</tr>
<tr>
<td>10/00-9/06</td>
<td>U.S. Environmental Protection Agency Science Advisory Board Environmental Health Committee.</td>
</tr>
<tr>
<td>9/01-12/01</td>
<td>NTP/NIEHS Center for the Evaluation of Risks to Human Reproduction. Expert Panel on 1- and 2-Bromopropane</td>
</tr>
<tr>
<td>7/03-8/06</td>
<td>World Health Organization, IPCS, planning group member and chapter coordinator for Environmental Health Criteria document on “Principles for Evaluating Health Risks to Children Associated with Exposure to Chemicals.”</td>
</tr>
<tr>
<td>8/06-9/07</td>
<td>U.S. Environmental Protection Agency Science Advisory Board Review Panel on Ethylene Oxide Carcinogenicity Assessment</td>
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<tr>
<td>8/07-present</td>
<td>California Environmental Contaminant Biomonitoring Program Scientific Guidance Panel. Panel Chair, 5/10-present.</td>
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<tr>
<td>11/12-present</td>
<td>Developmental and Reproductive Toxicant Identification Committee, member and chair as of 12/19. State of California.</td>
</tr>
<tr>
<td>1/08-12/16</td>
<td><em>Mutagenesis</em>, Editorial Board</td>
</tr>
<tr>
<td>7/17-present</td>
<td><em>Biology of Reproduction</em>, Board of Reviewing Editors</td>
</tr>
<tr>
<td>2011</td>
<td>Ad hoc reviewer, NIH Loan Repayment Program</td>
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<tr>
<td>2012</td>
<td>Ad hoc reviewer, NIH Integrative Clinical Endocrinology and Reproduction Study Section</td>
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<tr>
<td>2011</td>
<td>Member, NIH Integrative Clinical Endocrinology and Reproduction Study Section</td>
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<td>2012-2016</td>
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<td>2017, 2018</td>
<td>Ad hoc reviewer, NIH NCATS Program</td>
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<td>2018</td>
<td>Ad hoc reviewer, NIEHS K Awards</td>
</tr>
<tr>
<td>2020</td>
<td>Ad hoc reviewer, NIEHS Special emphasis panels on Environmental Influences on Pregnancy; Pregnancy as a Critical Time in Women’s Health; and Summer Research Education Experience Program (R25)</td>
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</table>

C. Contribution to Science

1. My laboratory’s earlier work demonstrated a role for reactive oxygen species (ROS) in mediating spontaneous apoptosis in cultured granulosa cells and follicles deprived of hormonal support, as well as apoptosis caused by exposure to chemical ovarian toxicants and ionizing radiation. We showed that for all of these apoptotic stimuli, depletion of glutathione (GSH) enhanced apoptosis and supplementation of GSH by biochemical or genetic means prevented apoptosis. We further showed that follicle-stimulating hormone (FSH) upregulates ovarian GSH synthesis by increasing expression of its rate-limiting enzyme, glutamate cysteine ligase, via a pathway that involves protein kinase A signaling and stimulation of estradiol synthesis. Together these results demonstrate that ovarian GSH is tightly regulated in order to protect ovarian cells against destruction by ROS. Recently, we have shown that low doses of charged particle radiation, typical of the space environment, induce apoptosis in ovarian follicles via an oxidative stress dependent mechanism, resulting in premature ovarian failure.


2. My team's work has demonstrated that oxidative stress is a driver of ovarian and testicular aging. We have shown that normal ovarian aging in mice is associated with increasing oxidative protein, lipid, and DNA damage and decreasing ovarian expression of key antioxidant genes. Further, we have shown that mice genetically deficient in the antioxidant GSH or NRF2, a transcription factor and master regulator of antioxidant response, demonstrate accelerated ovarian and/or testicular aging. The latter studies show that genetic manipulations that increase oxidative stress accelerate gonadal aging, providing further evidence in support of a mechanistic role in gonadal aging.


2) Lim J, Ortiz L, Nakamura BN, Hoang YD, Banuelos J, Flores VN, Chan JY, Luderer U. 2015 Effects of Deletion of the Transcription Factor Nrf2 and Benzo[a]pyrene Treatment on Ovarian Follicles and Ovarian Surface Epithelial Cells in Mice. *Reproductive Toxicology* 58: 24-32. PMC4690751


3. My laboratory has demonstrated that prenatal exposure to polycyclic aromatic hydrocarbon (PAH) environmental pollutants leads to decreased gonadal function, ovarian cancer, and metabolic abnormalities in adulthood. Importantly, we also showed that embryos genetically deficient in the antioxidant GSH are more sensitive to the ovarian and testicular effects, but not to the metabolic effects, of PAHs than wild type littermates.


4. Together with collaborators with expertise in epidemiology and statistics, I have translated my work on the reproductive toxicity of environmental pollutants to humans. Most recently, we conducted the first epidemiological study to examine the relationship between biomarkers of PAH exposure and daily urinary reproductive hormone measurements in women. These studies found associations between urinary metabolites of phenanthrene, fluorene, naphthalene, and pyrene and reproductive endocrine endpoints that were not explained by smoking. Our study of the effects of prenatal and lactational exposure to the insecticide heptachlor due to contamination of the milk supply on the Hawaiian island of Oahu found minimal evidence for adverse effects of this exposure on puberty onset or reproductive function parameters in young adult men and women. Another, earlier collaborative study found that occupational exposure to the aromatic solvent styrene was associated with increased serum prolactin concentrations in male and female workers.


Associations between Urinary Biomarkers of Polycyclic Aromatic Hydrocarbon Exposure and Reproductive Function in Women. *Environment International*. 100: 110-120. PMC5291797


Complete List of Published Work in MyBibliography:

D. **Research Support**

**Ongoing Research Support**

“Ovarian Cancer and Space Radiation.”
Principal Investigator: Ulrike Luderer
Agency: National Aeronautics and Space Administration
Type: Research Award, SA-19-023. Period: 7/1/19-6/30/21
The goals are to compare ovarian tumor prevalence and molecular characteristics after low dose charged particle irradiation with gamma irradiation and to evaluate ovarian oxidative damage and serum concentrations of Anti-Müllerian Hormone as potential early biomarkers of charged particle induced ovarian tumorigenesis.

“Interactions of glutathione, reactive oxygen species, and lipids on oocyte mitochondrial function.”
Principal Investigator: Ulrike Luderer
Agency: NIH/National Institute of Child Health and Human Development
Type: R21 HD097541. Period: 9/1/19-8/31/21
We will elucidate the mechanism behind the observed association between decreased ovarian reserve and poor oocyte quality by examining whether oxidative damage to oocyte mitochondria and disruption of oocyte lipid homeostasis are mechanistically involved in decreased oocyte quality in Gelm-/- mice.

“Developmental Gene-Environment Interactions and Premature Ovarian Failure.”
Principal Investigator: Ulrike Luderer
Agency: NIH/National Institute of Environmental Health Sciences
Type: 2-R01ES020454. Period: 8/1/17-7/31/22
We will investigate the mechanisms by which in utero exposure to benzo[a]pyrene causes premature ovarian failure in multiple generations.

**Completed Research Support during the Past 3 Years**

“Women’s Cardiovascular Risk from PM Exposure.
Principal Investigator: Michael Kleinman Role: Co-Investigator
Agency: California Air Resources Board
Type: Research Contract, 2784-282. Period: 7/1/16-4/30/20
We will examine the independent and interactive effects of exposure to fine particulate matter air pollution on ovarian function and cardiovascular function in a mouse model susceptible to atherosclerosis.

“The Exposome and Reproductive Function in Women”
Principal Investigator: Ulrike Luderer
Agency: NIH/West Coast Metabolomics Center
Type: Pilot Grant. Period: 7/1/17-8/31/18
The goals are to demonstrate the utility of metabolomic methods to replicate results obtained using targeted assays for polycyclic aromatic hydrocarbon metabolites and to use a non-targeted approach to identify novel xenobiotics associated with reproductive function in women.
NAME: MILAM, JOEL

eRA COMMONS USER NAME: JMILAM
POSITION TITLE: Professor

EDUCATION/TRAINING

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
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<tr>
<td>Point Loma Nazarene University, San Diego</td>
<td>BA</td>
<td>07/1993</td>
<td>Psychology</td>
</tr>
<tr>
<td>California State University, Long Beach</td>
<td>MA</td>
<td>12/1996</td>
<td>Psychology</td>
</tr>
<tr>
<td>University of Southern California</td>
<td>PhD</td>
<td>06/2002</td>
<td>Preventive Medicine (Health Behavior Research)</td>
</tr>
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</table>

A. Personal Statement

I have training and expertise in the long-term psychological and behavioral adaptation to cancer and HIV, with a focus on diverse and underrepresented populations. This includes identifying protective/resiliency factors that can improve behavioral health and survivorship care. I have a strong background in engaging diverse, young adult cancer survivors in research activities and have received multiple NIH grants to develop cohorts recruited from the California Cancer Registry. The first cohort (Project Forward) was originally funded by the NIMHD, examines cancer-related follow-up/survivorship care among young Hispanic/Latino/Latinx (hereafter Hispanic) and non-Hispanic survivors. The second cohort (Project Milestones), funded by the NCI, examines the long-term quality of life and health care utilization among survivors who were diagnosed during young adulthood. A third cohort focuses on Asian young adult cancer survivors. These projects reflect a wonderful, transdisciplinary group of researchers, clinicians, trainees, and patient advocates who are passionate about survivorship issues among diverse young adult populations. Because my prior and ongoing research experience includes multiple collaborators and clinical sites involving diverse and underrepresented populations, I am aware of the importance of realistic research plans, timelines, and approaches that fit the logistical needs of both collaborators and research participants. I have continuously taught and mentored undergraduates, graduates, postdoctoral trainees, and junior faculty throughout my career and have received a mentoring award for these efforts. I am Co-Leader of the Cancer Control Program at the Chao Family Comprehensive Cancer Center at the University of California, Irvine (UCI). I co-founded and co-direct (with Co-Investigators Drs. Freyer and Miller) the Center for Young Adult Cancer Survivorship Research, an interdisciplinary research and community collaborative involving investigators from both USC and UCI. Thus, I am in a strong position to contribute to various cancer control projects, and I look forward to leveraging the unique strengths of our collaborative team.

Ongoing and recently completed projects that I would like to highlight include:

R01 MD007801
Milam (PI)
07/01/14-03/31/21 (NCE)
Reducing racial/ethnic inequities in childhood cancer survivorship

28IR-0052
Milam (PI)
07/01/18-06/30/21
High Impact Research Project Award: Health behaviors among emerging adult survivors of childhood cancers
R01 CA237230
Milam (PI)
07/01/19-06/28/24
Project Milestones: Young adult cancer survivorship

R01 CA261888
Milam/Miller (Co-PI)
NIH/NCI
Individual, cultural, and area-based factors associated with survivorship care among Asian American childhood cancer survivors

R37 CA256867
Miller (PI), Role: co-investigator
2/1/21-12/30/26
Social health, activity behaviors, and quality of life among young adult cancer survivors

Citations:

B. Positions, Scientific Appointments, and Honors
1. National Cancer Institute Trainee Fellow (T32CA094942), Department of Preventive Medicine, University of Southern California (USC)
   - Research Associate, Department of Preventive Medicine, USC
   - Assistant Professor, Department of Preventive Medicine, USC
2015-2020 Associate Professor, Department of Preventive Medicine, USC
2019- Founding Co-Director, USC Center for Young Adult Cancer Survivorship Research
2019-2020 Cancer Control Program Co-Leader, Norris Comprehensive Cancer Center, USC
2020- Professor, Departments Medicine and Epidemiology and Biostatistics, University of California, Irvine (UCI)
Program Co-Leader, Cancer Control Program, Chao Family Comprehensive Cancer Center, UCI

Honors
Honorable Mention, Fourth Martin E.P. Seligman Award for Outstanding Dissertation Research in Positive Psychology
National Cancer Institute Trainee Fellow (T32)
Member, USC/Norris Comprehensive Cancer Center, Cancer Control Research Program
2018 Mentoring Award (Faculty Mentoring Graduate Students), University of Southern California

C. Contributions to Science (selected from 123 peer-reviewed publications, h-index: 39)
1. **Follow-up/survivorship** care is critical survivors who are at high risk for co-morbidities and late effects of cancer treatments. Understanding factors associated with successful adaptation and maintaining follow-up care and surveillance is needed, especially among populations who are underrepresented in previous research. My research group has focused on developing strategies and tools to recruit, and leverage data, from cancer registries to address these issues. This includes the first publication to indicate an ethnic disparity in follow-up care, with lower rates reported among Hispanic/Latinx (vs. non-Hispanic/Latinx) childhood and adolescent cancer survivors.


1. I have a strong interest in exploring the successful adaptation to stress/trauma/disease. I published one of the first studies to empirically examine *posttraumatic growth* (PTG; positive changes following a negative life event) among adolescents. It was the first to empirically link PTG with lower levels of substance use. Results from this work influenced research concerning stress management and mental health resiliency as well as substance use intervention/prevention program development. I have continuously pursued this line of work concerning PTG, positive mental health, and health behaviors among adolescents. Other publications (and ongoing work) concern PTG among adults living with HIV and Cancer.


1. My research efforts prioritize the understanding of *cultural differences and disparities* in the context of disease adaptation. This work has identified disparities in survivorship care, as well unique strengths and sources of resiliency among populations under-represented in prior research. These efforts continue to contribute to my ongoing intervention research and provide a foundation for current work concerning health care engagement (and intervention development) among cancer survivors.

   0. Sleight A, Ramirez C, Miller K, **Milam J**. Hispanic orientation and cancer-related knowledge in childhood cancer survivors. *Journal of Adolescent and Young Adult Oncology.* 2019; 8(3):363-367. PMC6588109


1. Mental health outcomes reflect a core component of cancer survivorship and I lead numerous efforts to delineate unique risk and protective factors for the mental health and health care self-efficacy (i.e., personal confidence/agency in navigating healthcare) among cancer survivors and their families.


1. Ritt-Olson A, Miller K, Ramirez C, Baezconde-Garbanati L, Milam J. Depressive Symptoms and Quality of Life Among Adolescent and Young Adult Cancer Survivors: Impact of Gender and Latino Culture. Journal of Adolescent and Young Adult Oncology. 2018; 7: 384-388. PMC5994152


1. I have participated in numerous multi-site, collaborative studies to combat HIV (including the largest observational cohort of women living with HIV) and developed programs to improve linkage and retention with clinical care, medication adherence, and safer sex behaviors. The clinic-based “Partnership for Health” medication adherence intervention was selected by the CDC for inclusion in the Compendium of Evidence-based Interventions and Best Practices for HIV Prevention. I subsequently assisted with the global diffusion of this program (of 4 selected) via an online training program. These experiences provided a foundation for my ongoing cancer survivor cohort and intervention research concerning health care engagement.


Complete list of published work in MyBibliography:
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

**NAME:** MOREY, BRITTANY NOELLE

eRA COMMONS USER NAME (credential, e.g., agency login): BRITTANYMOREY

**POSITION TITLE:** Assistant Professor

**EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)**

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of California, Los Angeles</td>
<td>BS</td>
<td>08/2007</td>
<td>Biology</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>MPH</td>
<td>06/2011</td>
<td>Community Health Sciences</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>PhD</td>
<td>06/2017</td>
<td>Community Health Sciences</td>
</tr>
<tr>
<td>University of California, Riverside</td>
<td>Postdoc</td>
<td>06/2019</td>
<td>Public Policy</td>
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</table>

**A. Personal Statement**

My work focuses on how the social and structural determinants of health contribute to cancer and chronic disease disparities. Specifically, I examine the effects of immigration, ethnic enclaves, pollution exposure, built environment, and racial discrimination on health disparities among Asian Americans, Native Hawaiians and Pacific Islanders (NHPIs), and other immigrant groups.

Throughout my training at the UCLA Fielding School of Public Health, I focused on applying geographic information systems mapping, linear regression, multilevel modeling, and survival analysis techniques to study the health of relatively small populations, such as disaggregated Asian Americans and NHPIs. For my dissertation, I used data from a case-control study of Asian American women to examine how immigration-related factors and stressors were associated with breast cancer risk. I received additional training in structural stigma and immigrant health disparities during my two years as a Chancellor’s Postdoctoral Fellow at UC Riverside.

As an assistant professor in the Department of Health, Society, and Behavior and an affiliate of the UCI Chao Comprehensive Cancer Center, I am continuing to study cancer disparities under the mentorship of several NIH-funded investigators. Currently, my research is being funded by three NCI grants (as co-investigator) and two UCI pilot grants (one as principal investigator). These projects examine the social, neighborhood, and immigration factors that are associated with breast cancer, colorectal cancer, and respiratory disease for disaggregated Asian American groups and Latina women. I am working towards establishing myself as an independent researcher with expertise on the structural factors that influence cancer disparities for disaggregated Asian American and NHPI groups.


B. Positions and Honors

Positions and Employment
2019- Assistant Professor of Public Health, University of California Irvine
2017-2019 Chancellor’s Postdoctoral Fellow, School of Public Policy, University of California Riverside
2017 Teaching Assistant, Department of Bioethics, UCLA
2015 Teaching Assistant, Department of Community Health Sciences, UCLA
2013-2016 Managing Editor for Reviews, Journal of Health and Social Behavior
2011-2012 Graduate Student Researcher, California Center for Population Research, UCLA
2010-2015 Program and Policy Evaluator, Asian and Pacific Islander Obesity Prevention Alliance
2011 Health Education and Promotion Media Contacttator, Childhood Lead Poisoning Prevention Program, Los Angeles Department of Public Health
2011 Teaching Assistant, Department of Community Health Sciences, UCLA
2010 Health Education Intern, Childhood Lead Poisoning Prevention Program, Los Angeles County Department of Public Health
2009-2011 Program Coordinator, Healthy Homes Program, Kingdom Causes Alhambra, CA
2008-2009 Childcare Development Intern, Center for the Pacific Asian Family

Honors
2019-2020 UCI ADVANCE Career Development Award
2017 UCLA Fielding School of Public Health Dean’s Outstanding Student Award
2017 UCLA Community Health Sciences Best Research Project Award
2015-2016 UCLA Don T. Nakanishi Award for Outstanding Engaged Scholarship in Asian American and Pacific Islander Studies
2011-2012 UCLA Community Health Sciences Regents Stipend Awardee
2010 SOPHE/CDC Student Fellowship in Environmental Health Promotion

Other Experience and Professional Memberships
2020 NIMHD Health Disparities Research Institute
2020 Geographic Management of Cancer Health Disparities Program Region 5: Career Development Workshop
2019- Member, Interdisciplinary Association for Population Health Science
2019- Board Development Chair, Center for the Pacific Asian Family
2018- Board of Directors, Center for the Pacific Asian Family
2017-2019 Membership Director, Asian and Pacific Islander Caucus for Public Health
2017- Member, Population Association of America
2015-2016 Executive Board Student Representative, Asian and Pacific Islander Caucus for Public Health
2015- Member, Asian and Pacific Islander Caucus for Public Health
2015- Member, American Public Health Association
2011-2013 President of Board of Directors, Second Community Church
2009-2010 Treasurer, Students of Color for Public Health at UCLA
2008-2009 Health Education Volunteer, UCLA Mobile Clinic
C. Contributions to Science

1. Social determinants of immigrant health: Previous studies have often noted that recently arrived immigrants in the US have better health on average than non-immigrants. Over time, the health of immigrants may decline with longer time spent in the US. Subsequent generations of children born in the US often report worse health than their first-generation immigrant predecessors. My research questions why this might be the case. Are there aspects of the social contexts that are particularly salient for shaping the health of immigrants? My work shows that immigration visas and citizenship status play roles in shaping immigrant health. Furthermore, English proficiency as a personal resource and social status marker may explain nativity differences in psychosocial stress. I have expanded this work to examine how prejudice against immigrants has spill-over effects on US-born Asians and Hispanics.

2. Structural determinants of racial/ethnic health disparities: My work examines structural stigma—defined as the societal-level conditions, cultural norms, and institutional practices that constrain the opportunities, resources, and wellbeing for stigmatized populations—as a fundamental cause of disease. People of color and immigrants are subjected to structural stigma, which may contribute to racial/ethnic health disparities. As I explain in my commentary in the American Journal of Public Health, stigma against immigrants exacerbates health disparities broadly for communities of color. My work empirically examined how structural racism manifests to contribute to NHPI health disparities in the COVID-19 pandemic. I further examine how neighborhood factors, such as ethnic concentration, sociocultural institutions, socioeconomic resources, and environmental pollution, are associated with racial/ethnic health disparities.

3. Social and structural determinants of cancer disparities among Asians and NHPIs: A growing body of my research seeks to inform programs and policies that lessen the burden of cancer among racial/ethnic minority communities by examining the social and structural determinants of cancer incidence and cancer risk factors. Much of this work builds on the idea that neighborhood social and physical environments contribute to cancer risk, including health behaviors related to cancer. My dissertation examined how social stressors and built environment features in ethnic neighborhoods contributed to breast cancer risk and related health behaviors among Asian Americans. The results of my dissertation showed that Asian American women living in neighborhoods with high ethnic concentration were at greater risk for breast cancer, and this association was moderated by neighborhood socioeconomic status. One
research project suggests that breast cancer risk may be higher among foreign-born Asian American women than previously thought, possibly due to changing social norms in countries of origin. Overall, this research contributes to our understanding of how societal contexts influence cancer for racial/ethnic minorities.


Complete List of Published Work in MyBibliography:

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

R01 CA230440-01A1 Kroenke (PI) 07/01/2019 – 06/30/2024
Social Networks and Disparities in Health Behaviors and Breast Cancer Outcomes in Immigrant Women.
The goal of this research is to evaluate the role of social networks and their multilevel influences on the etiology of disparities in health behaviors and breast cancer outcomes in diverse immigrant Asian/Pacific Islander and Latina women, relative to non-Latina white women and to ethnically similar US-born women.
Role: Co-Investigator

R01 MD012778-04 Lee (PI) 06/01/2020 – 12/31/2022
Culturally Adapted Multilevel Decision Support Navigation Trial to Reduce Colorectal Cancer Disparity among At-Risk Asian American Primary Care Patients
The goal of this research is to reduce colorectal cancer mortality disparities among Chinese and Korean Americans by evaluating the efficacy of a culturally adapted decision support navigation intervention to increase colorectal cancer screening.
Role: Co-Investigator

R21 AA026689-02S1 Subica (PI) 09/1/2020 – 08/31/2021
Administrative Supplement to Understand Alcohol-Related Risks and Harms During the COVID-19 Pandemic. Parent Award: Developing A Prevention Model of Alcohol Use Disorder for Pacific Islander Young Adults.
The goal of this administrative supplement is to examine the alcohol-related risks and harms among Pacific Islander young adults during the COVID-19 pandemic.
Role: Co-Investigator

Pilot Project Grant Morey (PI) 07/01/2020 – 06/30/2021
UCI Institute for Clinical & Translational Science
Neighborhood Risk and Resilience for Asian American, Native Hawaiian, and Pacific Islander Respiratory Health Disparities.
The goal of this project is to examine the associations between neighborhood ethnic enclaves, neighborhood poverty, air pollution, and respiratory disease prevalence among Asian American and Pacific Islander subpopulations.
Role: PI

Pilot Project Grant Lee (PI) 06/01/2020 – 05/30/2021
UCI Chao Comprehensive Cancer Center Pilot Grant
Factors Associated with Helicobacter Pylori Screening and Treatment among High-Risk Asians in Orange County: Mixed-Methods Research to Examine Stomach Cancer Disparity.
The goal of this study is to reduce the burden of stomach cancer by examining factors associated with helicobacter pylori screening and treatment among the Asian population in Orange County.
Role: Co-Investigator
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: NORDEN-KRICHRMAR, TRINA MARIE

eRA COMMONS USER NAME (credential, e.g., agency login): TNORDEN

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tr>
<td>University of Maryland, College Park, MD</td>
<td>B.S.</td>
<td>05/1985</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>University of Maryland, College Park, MD</td>
<td></td>
<td>1986-1988</td>
<td>Computer Science</td>
</tr>
<tr>
<td>George Washington University, Washington, DC</td>
<td>M.S.</td>
<td>05/1990</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Scripps Inst. of Oceanography, UCSD, CA</td>
<td>Ph.D.</td>
<td>12/2009</td>
<td>Marine Biology</td>
</tr>
<tr>
<td>The J. Craig Venter Institute, La Jolla, CA</td>
<td>Post-doc</td>
<td>01/2010-09/2011</td>
<td>Bioinformatics</td>
</tr>
<tr>
<td>The Scripps Research Institute, La Jolla, CA</td>
<td>Post-doc</td>
<td>10/2011-11/2014</td>
<td>Bioinformatics</td>
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</table>

A. Personal Statement

I am an Assistant Professor in the Department of Epidemiology at the University of California, Irvine. The goal of my research is to investigate the genomic and environmental factors influencing human health and disease. I have a very strong computational and biological background. The field of specialization for my Ph.D. dissertation was bioinformatics. I also have a B.S. in Biochemistry, a M.S. in Computer Science, and over 15 years of experience working as a computer programmer at IBM, the National Institutes of Health, and the Salk Institute. Following my Ph.D. dissertation, I worked for two years as a Post-Doctoral Fellow at the J. Craig Venter Institute (JCVI) in La Jolla, CA, performing bioinformatics analyses of next generation sequencing data, applied to projects involving ChIP-Seq, gene expression analysis of RNA-Seq data and microarrays, metagenomics, and metatranscriptomics. In my postdoctoral position at The Scripps Research Institute (TSRI), I was involved in the bioinformatics analyses of next generation sequencing and genotyping data in association studies for the investigation of genetic variation and gene regulation mechanisms in admixed populations, as they relate to alcohol addiction, obesity, and other disorders. I was the PI for the NIAAA U01 Translational grant (AA021828) to determine the gene expression profile using RNA-seq data in alcoholic hepatitis (AH), and I am currently a Co-I on a NIAAA U01 for whole exome sequencing to study the genetic factors in AH. I was also awarded a pilot grant to use single-cell RNAseq from blood samples from several patients with liver disease. I was also a Co-I on a California Breast Cancer Research Program grant to investigate the epigenetic markers for pesticide exposure and cancer risk.
B. Positions and Honors

Employment
1985-1987 Scientist I, Geo-Centers, Inc. at Naval Research Laboratory, Washington, DC.
1988-1990 Graduate Teaching Assistant, George Washington University, Washington, DC.
1991-1994 Senior Associate Programmer, IBM Corporation, Bethesda, MD.
1999-2002 Computer Programmer, at Salk Institute on remote assignment from NIH.
2000-2002 Instructor (part-time), UCSD Extension and Mechanical Engineering Department, UCSD.
2004-2009 Graduate Student Researcher, Scripps Institute of Oceanography, UCSD
2010-2011 Post-Doctoral Researcher, The J. Craig Venter Institute, San Diego, CA 2011-2014 Post-Doctoral Researcher, The Scripps Research Institute, La Jolla, CA
2015-present Assistant Professor, Dept. of Epidemiology, Univ. of California, Irvine, CA

Honors
1981-1982 Bowie Women’s Club Scholarship
1981-1985 General Honors Scholarship
1981-1985 Senatorial Scholarship
1985 Scholastic Achievement Award
1985 Provost Scholar Award
1988-1989 Junior Distinguished Graduate Teaching Assistant
2006-2009 National Science Foundation Graduate Research Fellowship

C. Contribution to Science

1. Small RNAs. My graduate thesis project involved the combination of computational and biological techniques to identify and validate small RNA genes and their targets in two key marine organisms, the sea squirt and the diatom. Small non-coding RNA genes have been shown to regulate gene expression in a time and cell-state dependent manner, controlling essential processes such as embryological development, cell differentiation, cellular defense mechanisms, and aging. My work demonstrated the importance of non-coding RNA genes in biological systems, since my research further substantiated the existence and conservation of small RNAs throughout the tree of life.

2. Gene expression analysis using RNA-seq and microarray data. I performed the bioinformatics analysis of RNASeq sequence data to determine the role of cobalamin in diatom molecular physiology. I was also involved in the analysis of Affymetrix microarray data to uncover gene expression and regulatory pathways in diatoms during silicon limitation. I was also involved in an RNAseq study for human cardiomyopathy.
3. Metagenomics and metatranscriptomics. I performed novel bioinformatic techniques in several projects that used next generation sequencing (454, SOLiD, Illumina), and the de novo assembly, read mapping, functional annotation, and integration of metagenomics and metatranscriptomics data to determine differential gene expression in a microbial wastewater community sample powering a microbial fuel cell.

4. Genetic and epigenetic factors in human disease. My research has focused on genetic variants responsible a diverse set of human diseases, and have involved multiple approaches. For consumptive disorders in a Native American and a Mexican American population, such as obesity and alcohol addiction, the projects required the analysis of low coverage whole genome sequence data, integration with exome genotyping chip data, ancestry analysis, and statistical correlation. Additionally, I was involved in the study for epigenetic markers and environmental exposures.

DMS 230 - Item 1-224
5. Methods development for genomic data analysis. My research has required the development of bioinformatics methods. For a longevity project, I performed the bioinformatics analysis to uncover rare variants using pooled DNA target capture sequencing. Meta-analysis methods were utilized for multi-ethnic and admixed populations. Additionally, I was the senior author and supervised research in a study using gene expression to predict survival in oral cavity squamous cell carcinoma. I was the senior author and supervisor for a software tool to compare differential gene expression data across multiple samples.


Complete List of Published Work in My Bibliography:  

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

U01 AA026264  
Agency: NIH/NIAAA  
Period: 9/01/2017 – 08/31/2022  
Title: Alcoholic Hepatitis Consortia: An intramural/extramural collaboration to unravel genetic determinants  
Role: Co-Investigator (PIs: Laura Nagy and Ramon Bataller)  
Goal of project: The major goal of this project is to identify genetic contributions to alcoholic hepatitis by performing whole exome sequencing of DNA collected from patients with alcoholic hepatitis and heavy drinking controls without liver disease.

Completed Research Support  
U01 AA021838  
Agency: NIH/NIAAA  
Period: 04/01/2015 – 12/31/2019  
Title: Transcriptomics of Liver in Alcoholic Hepatitis  
Role: Principal Investigator  
Goal of project: This project will characterize the transcriptomes of over 200 samples from alcoholic hepatitis patients, patients with other types of liver disease, and normal healthy controls, using RNA-seq technology. The transcriptome data will be analyzed along with proteomic data generated from the same samples by another U01 in the consortium.

Sponsor: UC Irvine School of Medicine, and Veterans Administration Long Beach Healthcare System (Bimvirate Pilot Grant)  
Period: 04/2019 – 08/2020
Title: Single-cell RNA sequencing to investigate potential biomarkers in the progression from liver cirrhosis to hepatocellular carcinoma Role Co-Principal Investigator

Goal of project: This project will use single-cell RNAseq with peripheral blood mononuclear cells (PBMCs) from only a single patient from each of four different cirrhotic liver diseases to profile gene expression and find biomarkers that may indicate the progression from cirrhosis to liver cancer.

22UB-2311
Sponsor: UC California Breast Cancer Research Program
Period: 10/01/2016 – 09/30/2020
Title: Epigenetic markers for pesticide exposure and cancer risk
Role: Co-Investigator (PI: Hannah Park)

Goal of Project: This project will focus on identifying biomarkers for exposures to pesticides, which may be risk factors for breast cancer. In particular, we will examine DNA methylation profiles in the blood, and the levels of pesticides in the urine, for the 400 women in the study.
NAME: NOYMER, ANDREW  (ORCID: 0000-0003-2378-9860)  eRA COMMONS USER NAME: anoymer
POSITION TITLE: Associate Professor
EDUCATION/TRAINING

<table>
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<th>FIELD OF STUDY</th>
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<tr>
<td>Harvard College, Cambridge, Massachusetts</td>
<td>AB</td>
<td>01/1995</td>
<td>Biology</td>
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<tr>
<td>London School of Hygiene &amp; Tropical Medicine</td>
<td>MSc</td>
<td>09/1996</td>
<td>Medical Demography</td>
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<tr>
<td>University of California, Berkeley</td>
<td>PhD</td>
<td>12/2006</td>
<td>Sociology</td>
</tr>
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<td>University of California, Berkeley</td>
<td>NICHD trainee</td>
<td>06/2002</td>
<td>Demography</td>
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<tr>
<td>University of California, Berkeley</td>
<td>NIA trainee</td>
<td>06/2005</td>
<td>Demography</td>
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B. Positions and Honors

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<tr>
<td>2006–2012</td>
<td>Assistant Professor, Sociology, University of California, Irvine</td>
</tr>
<tr>
<td>2006–2011</td>
<td>Scientific Staff, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria</td>
</tr>
<tr>
<td>2008–2012</td>
<td>Assistant Professor, Public Health, University of California, Irvine</td>
</tr>
<tr>
<td>2012–2013</td>
<td>Associate Professor, Sociology, University of California, Irvine 2012– Associate Professor, Public Health, University of California, Irvine</td>
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Honors

President Society for Biodemography and Social Biology (SBSB), 2015–17.
Co-convener (with Stéphane Helleringer), International Union for the Scientific Study of Population (IUSSP) Panel on “the demographic causes and consequences of Ebola and other emerging infectious diseases”.

2002: Best Paper in Mathematical Sociology, Mathematical Sociology Section, American Sociological Association (for urban legend paper in J. Math. Soc.)

1996: Selwyn-Clarke Prize, best student in Medical Demography master's program, London School of Hygiene & Tropical Medicine, University of London

C. Contributions to Science

Selected Peer-reviewed publications on the demography of health and mortality: (if no authors are given, paper is single-authored by A.N.)


Did the 1918 influenza cause the twentieth century cardiovascular mortality epidemic in the United States? Steven Tate, Jamie J. Namkung and Andrew Noymer *PeerJ* 4:e2531 (2016)


*Clostridium difficile* infection: An emerging cause of death in the twenty-first century


Assessing the direct effects of the Ebola outbreak on life expectancy in Liberia, Sierra Leone and Guinea. Stephane Helleringer and Andrew Noymer *PLoS Currents Outbreaks* (2015) doi: 10.1371/currents.outbreaks.01a99f8342b42a58d806d7d1749574ea


Life expectancy during the Great Depression in eleven European countries.


Population decline in post-conquest America: The role of disease.

Cause of death affects racial classification on death certificates.

The 1918 influenza pandemic affected sex differentials in mortality: Comment on Sawchuk.

Testing the influenza-tuberculosis selective mortality hypothesis with Union Army data.
Social Science & Medicine 68(9):1599–1608 (2009)

The 1918–19 influenza pandemic affected tuberculosis in the United States.


NAME: ODEGAARD, ANDREW O.

eRA COMMONS USER NAME (credential, e.g., agency login): aodegaard

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<tr>
<td>Macalester College, St. Paul, MN</td>
<td>BA</td>
<td>05/2002</td>
<td>Biology</td>
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<tr>
<td>University of Minnesota, Minneapolis, MN</td>
<td>MPH</td>
<td>08/2006</td>
<td>Epidemiology</td>
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<tr>
<td>University of Minnesota, Minneapolis, MN</td>
<td>PhD</td>
<td>07/2009</td>
<td>Epidemiology</td>
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A. Personal Statement

I am an epidemiologist with significant training and experience in research and methods related to nutritional and physical activity research. I have broad and extensive training and experience in these research domains; and I am well versed in the spectrum of assessment tools and instruments and their strengths and limitations.

My research to date has included numerous, high profile publications related to diet, physical activity, lifestyle and health, with much of the focus on obesity, type 2 diabetes, and cardiovascular disease. I am excited to be a complementary part of the excellent team assembled for the current study; and apply my expertise to this exciting topic - particularly my direct experience working with the proposed data with similar methods to an ongoing research project of my own. My experience as a PI on other NIH and AHA grants provides me with the experience and insight into the process. Of note, Dr. Pereira and myself have an extensive collaborative history and I am well acquainted with the study team.

B. Positions and Honors Positions and Employment

2005-2008 Graduate Research and Teaching Assistant, University of Minnesota

2008-2009 NHLBI Cardiovascular Epidemiology Pre-doctoral Fellow, Epidemiology, Univ. of Minnesota

2009-11/2014 Research Associate, Division of Epidemiology & Community Health, Univ. of Minnesota

12/2014-present Assistant Professor, Department of Epidemiology, University of California, Irvine

Honors

The American Heart Association Research Leaders Academy, 2017

The American Heart Association Jeremiah and Rose Stamler Research Award for New Investigators, 2011 Student

Presentation Award Nominee, International Society for Behavioral Nutrition and Physical Activity, 2008
C. Contribution to Science

1. Role of beverage habits in relation to obesity, type 2 diabetes, and longevity

I have made important contributions to the topic of beverage habits and health. Beverage intake is one of the most habitual dietary intake habits across cultures, and the importance of this in health has only recently been documented. The 4 primary publications for this topic are noted below, and 3 deal with SSB intake. My research related to SSB and visceral adipose tissue was the first to examine this topic on the population level, and this and other research informs the secondary aim related to this in the grant.


3) Odegaard AO, Pereira MA, Koh WP, Yu MC. Soft Drink and Juice Consumption and Risk of Type 2 Diabetes: The Singapore Chinese Health Study *Am J Epidemiol* 2010 171(6):701-8


2. Role of dietary patterns in health and longevity

I have made important contributions to the topic of overall dietary intake and health by utilizing an advanced statistical method and deriving dietary patterns and examining them with the spectrum of chronic diseases that dominate today from diabetes, cardiovascular disease, colon cancer, and longevity. This research demonstrates the importance of the overall dietary pattern in health, and informs the current research by highlighting those patterns that are associated with higher risk, have higher amounts of empty calories in them, where the patterns inversely associated have significantly lower amounts of empty calories and higher amounts of plant-based foods. The emphasis on overall dietary patterns in health is gaining steam, especially in light from these studies which highlight how the content varies from healthful to less healthful diet patterns.


3. Dietary habits relevant to the culture of the current day and health

I have lead and published research studies that have received significant scientific and popular press attention related to the role of western fast food intake and risk of diabetes and coronary heart disease in an eastern country, as well as the role of breakfast habits in the role of obesity and metabolic risk. The current culture and environment of the U.S. disincentives the population to eat healthfully by incentivizing foods poor for health through subsidies. Unfortunately, most of the research related to these topics has been inferred, rather than tested. A central theme of my research agenda revolves around testing these assumed, but untested questions to provide evidence.


D. Research Support

**Ongoing Research Support**

American Heart Association National Scientist Development Grant Award 7/1/16-12/31/19 American Heart Association (PI Odegaard)

*Diet Beverage Intake and Micro and Macrovascular Outcomes in Persons with Diabetes* Role: Principal Investigator

The aims of this grant are to carry out an individual level meta-analysis pooling data from five longitudinal cohort studies (ARIC, MESA, Jackson Heart Study, Framingham Offspring Study, Cardiovascular Health Study). In the 4,400+ participants in this study with type 2 diabetes, we will examine their diet beverage habits in the context of their overall diet with incident microvascular outcomes (e.g. CKD), and macrovascular outcomes (CVD).

1 R01 AG055018-01A1 6/15/17-4/30/21

NIA/NIH (PI Odegaard)

*Abdominal adipose tissue depots and cardiometabolic disease risk in postmenopausal women* Role: Principal Investigator

This study will create an unparalleled analytic resource by utilizing a new technology that derives abdominal visceral adipose tissue (VAT) and subcutaneous (SAT) depots from existing Dual-Energy XRay Absorptiometry (DXA) scans. By applying this technology to the Women’s Health Initiative (WHI) DXA cohort of over 10,600 women we will create a rich, new analytic longitudinal cohort to address essential questions on the topic of abdominal adiposity/body composition, and cardiometabolic disease risk in women as they age. By addressing these major research questions, this study will contribute new and advanced insight and have major implications for cardiometabolic disease prevention.

1R01DK117028-01A1 11/1/18-7/31/23

NIDDK/NIH (PI Odegaard)

*Effect of Artificially Sweetened Beverages on Diabetes Control in Adults with Type 2 Diabetes*
This study is a randomized, parallel arm dietary intervention trial testing the question essential to people with type 2 diabetes – Do artificially sweetened beverages (aka diet beverages) impact clinical measures of diabetes control?

**Recently Completed Research Support**

1 R21 HL117646-01 7/22/13-10/30/15  
National Heart, Lung, and Blood Institute (PI Odegaard)

*Human Adenovirus-36 Antibody Status and Development of Childhood Obesity*

This study assesses the seropositivity for a virus at two time points in 839 black and white girls from the NHLBI National Growth and Health Study (NGHS) to examine aspects of a viral exposure with childhood obesity.

Role: Principal Investigator

PCORI PCORnet Bariatric Study 2/1/16-3/31/18  
Role: (Site PI Odegaard) This study involves 10 of PCORnet’s Clinical Data Research Networks (CDRNs) including 53 healthcare organizations and more than 60,000 bariatric patients, with 50 percent gastric bypass, 10 percent gastric banding, and 40 percent sleeve gastrectomy procedures. The main goal of the proposed study is to provide accurate estimates of the one-, three-, and five-year benefits and risks of the three most common bariatric procedures—Roux-en-y gastric bypass, adjustable gastric banding, and sleeve gastrectomy—with a focus on outcomes that are important to adults and adolescents with severe obesity: 1) changes in weight, 2) rates of remission and relapse of diabetes, and 3) risk of major adverse events.

1R21HL121627-01a 4/15-9/30/18 (no cost extension- publication costs)  
National Heart, Lung, and Blood Institute (PI Odegaard and Pereira)

*Novel Analyses of Abdominal Computed Tomography Data in CARDIA*

Role: Principal Investigator

The aims of this grant are to examine dietary intake with Non-alcoholic fatty liver disease (hepatic attenuation); examine the association of sedentary behavior with abdominal visceral, subcutaneous, liver, and intermuscular adipose tissue; develop and validate a prediction score from common clinical measurements to predict visceral and hepatic adipose tissue deposition.
BIOGRAPHICAL SKETCH

NAME: Ogunseitan, Oladele A.

eRA COMMONS USER NAME (credential, e.g., agency login): oogunseitan

POSITION TITLE: Professor and Founding Chair, Department of Population Health & Disease Prevention

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>Completion MM/YYYY</th>
<th>FIELD OF STUDY</th>
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</thead>
<tbody>
<tr>
<td>University of Ife, Nigeria</td>
<td>B.S.</td>
<td>06/1980</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of Ife, Nigeria</td>
<td>M.S.</td>
<td>06/1983</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of Tennessee, Knoxville, TN</td>
<td>Ph.D.</td>
<td>06/1988</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of California, Berkeley, CA</td>
<td>M.P.H.</td>
<td>06/1998</td>
<td>Environmental Health</td>
</tr>
<tr>
<td>Harvard School of Public Health, Boston, MA</td>
<td>Certificate</td>
<td>01/2014</td>
<td>Teaching by Case Method</td>
</tr>
<tr>
<td>U.S. Foreign Service Institute, Arlington, VA</td>
<td>Certificate</td>
<td>07/2017</td>
<td>Global Health Diplomacy</td>
</tr>
</tbody>
</table>

A. **Personal Statement**

My research seeks to discover and mitigate environmental risk factors contributing to adverse human health impacts of development across national boundaries. Bibliometric analysis of research productivity on the global challenge posed to environmental quality and human health by the hazardous nature of electronic waste show that I am the top ranked U.S. researcher. I currently co-chair Apple Inc.’s Green Chemistry Advisory Board to help reduce toxic components of electronics and reduce e-waste. I served on the State of California’s Green Ribbon Science Panel (2009–2012), and on the State’s Community Health Protection, and Hazardous Waste Reduction Advisor Panel (2016–2017). I currently serve on the Hoover Medal Board of Award, and I was named to a League of Materials Superhero by the Foundation of The Minerals, Metals and Materials Society. I was awarded a Jefferson Science Fellowship by the U.S. National Academy of Sciences, Engineering and Medicine. The U.S. Department of State recognized my work with a Meritorious Honor Award for “exceptional teamwork and contributions to the successful achievement of U.S. goals at the Third United Nations Environment Assembly”.

Twenty students have earned their Ph.D. degrees under my supervision (I am currently mentoring 2 additional Ph.D. students), and I have supervised 8 postdoctoral trainees who are in research-related careers in government agencies, academia or corporate institutions committed to improving the environmental quality and human health. As founding Chair of the Department of Population Health and Disease Prevention (2007-2019), I was responsible for implementing educational curricula, developing research infrastructure, investing in community engagement, and ensuring career and professional development of students, faculty, and partners of public health at UC Irvine. I direct the workforce development program for our NIH-funded Institute for Clinical and Translational Science (ICTS); I direct the education program for the University of California System-wide Global Health Institute; and I served two terms on the Board of Directors of the Association of Schools and Programs in Public Health.

B. **Positions and Honors**

**Positions and Employment**

1992- Assistant, Associate, Full Professor of Social Ecology, University of California, Irvine, CA
1999-2000 Faculty Fellow, Harvard University, Kennedy School of Government, Cambridge, MA
1999-2000 Investigator, Marine Biological Laboratory, Woods Hole, MA
2004- Professor of Public Health, University of California, Irvine, CA
C. Contributions to Science

1. Global Health and Environmental Impacts of Chemicals in Engineered Products – The use of toxic substances in engineered consumer products was long assumed to be a necessity, either to protect desirable functions or to keep products affordable for profitable mass retail. Typically, the adverse impacts of such toxic substances are recognized when symptoms have accumulated, and damage is irreversible. In the past 20 years, my research projects have sought to evaluate such adverse impacts, develop strategies for remediation, and recommend alternative less toxic substances to replace toxic staples. I was the P.I. of a Biocomplexity in the Environment – Materials Use, Science, Engineering and Society (NSF-MUSES) grant that explored the multidisciplinary research questions associated with toxic materials use and disposal in electronic waste, and their impacts on human health and ecosystem functions. Principal Investigator on a UC Systemwide multi-campus project entitled “UC-SMART Products: Selecting Materials to Achieve Reduced Toxicity Products” funded by the Office of the President. My specific role in these
multidisciplinary collaborative projects was to provide quantitative data on various aspects of toxic impacts and to conduct leaching assessments and modeling, and to provide information that will support better decision-making by engineers, product designers, and material scientists. I also directed the UC Systemwide Lead Campus Component of the Toxic Substances Research & Teaching Program entitled Research and Education in Green Materials (REGM), with a mission to advance multidisciplinary research and education on the assessment of the impact of toxic chemicals on ecosystem functions and human health. The ultimate goal is to provide scientific justification for the invention, assessment, and adoption of less-toxic “green” materials as alternatives to toxic substances used in engineered products. To translate the research outcomes into effective policy, I served on the State of California’s Green Ribbon Science Panel (2009 – 2013) to support the Department of Toxic Substances Control in the implementation of the landmark “Safer Consumer Products Law” effective October 1st, 2013. I am also active at the national and international levels as the former Chair of the Materials and Society committee of The Minerals Metals and Materials Society (TMS). In 2014, TMS Foundation selected me in a national traveling exhibition as a League of Materials Superhero. As part of my work with the Office of International Health and Biodefense, U.S. Department of State, I applied the techniques of life cycle analysis and biosensors to investigate the growing problem of antibiotic resistance in dangerous human pathogens. The following articles are selected to represent this research theme:


1. Development of Metrics for Human Health and Environment Interactions – One of the most challenging research questions in environmental science is the weighting or valuation of ecosystem services, especially with progressive problems such as loss of biodiversity, pollution, and global climate change. In 2005, I published a widely acclaimed single-authored article entitled “Topophilia and the Quality of Life” in Environmental Health Perspectives, generally considered to be the top peer-reviewed journal that publishes original research in public health. The journal commissioned a special interview with me, and an editorial essay was published with the article. This research tested, for the first time, the hypothesis that individual preferences for qualitative environmental factors are significantly associated with quality of life as defined by a new latent construct defined as topophilia and the World Health Organization’s internationally validated instrument for quality of life (WHO-“QOL”-25/00). The publication continued the line of work that I began during a sabbatical leave at Harvard University’s Belfer Center for Science & International Affairs, Environment & Natural Resources Program, Kennedy School of Government. An influential follow-up of our research on this topic area was published in 2011 with my former graduate student, Dr. Hipp. We investigated the hypothesis that perception of mental restorativeness is significantly modified by objective and perceived environmental conditions. We discovered that perceived restorativeness is significantly constrained on days with temperatures above the monthly average and during high tides, proxies for warming and sea level rise associated
with modeled climate change scenarios. Constraints on human experience of natural environmental systems could exacerbate mental health impacts. Several news organizations featured the research results and the implications for policies to protect natural environments. Yale School of Forestry & Environmental Studies selected the article for a feature essay.


1. Translational Science of Disease Prevention – I am the inaugural director of research education, training, and career development for the NIH-funded UC Irvine Institute for Clinical and Translational Science. I have focused attention on identifying gaps in translation, especially in disease prevention and global environmental health. The following publications exemplify my recent work in this topic area.


1. Ecological Assessments of Environmental Quality – As the “unseen” biological fabric underlying life on Earth, disentangling the forms and functions of prokaryotes has become an extremely important research topic for understanding global scale ecosystem issues, including epidemics and global climate change. My book entitled Microbial Diversity generated considerable praise in many published reviews and has been acquired or adopted internationally by institutions on all continents. The late Distinguished Professor Lynn Margulis, member of the National Academy of Sciences and recipient of the National Medal of Science contributed the preface to the book. World-renowned biologist, Professor Edward O. Wilson of Harvard University also reviewed and published a comment on the book. Formal reviews of the book have appeared in prestigious academic journals, including the
Quarterly Review of Biology (University of Chicago). My aim is to elucidate the contributions of microbial diversity to environmental processes.


D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

Lincoln Dynamic Foundation
World Institute for Sustainable Development of Materials (WISDOM)
Role: Co-Director
Schoenung, J., Ogunseitan, O.
07/01/2020 – 06/30/2025
$1 Million

Microsoft, Inc.
Ogunseitan, O.
Sustainable Development of Materials in Printed Circuit Boards for the Next Generation Electronic Products
Role: Co-Principal Investigator
07/01/2021 – 06/30/2022
$208,598

7200AA19RFA00006
Ogunseitan, O. (UCI)
One Health Workforce - Next Generation (OHW-NG)
Role: Co-Director
09/01/2019 – 08/30/2024
$85 Million

NIH - Institute for Clinical and Translational Science -The ICTS is mandated to transform existing research to improve medical care and public health and to train the next generation of clinical researchers.
Role: Co-Principal Investigator
07/01/2019 – 06/30/2024
$23,963,734

Consortium of Universities for Global Health
Ogunseitan, O.
Delphi Procedure for Next Generation Competencies for One Health
Role: Principal Investigator
01/01/2021 – 02/14/22
$5,000

Global Network for Academic Public Health
Ogunseitan, O.
04/01/2021 – 04/01/22
This is Public Health-Global: “Antibiotics Stewardship is Global Health”
Role: Principal Investigator
$5,000
Innovative Learning and Technology Initiative

Ogunseitan, O. (PI)

07/01/2019 – 06/30/2022

University of California, Office of the President - To develop and implement online course, Global Health Policy and Diplomacy for the UC Global Health Institute (UCGHI).

Role: Principal Investigator

$90,000

MRI-19-600583

01/01/2019 – 06/30/2022

Tarroja, B (PI)

University of California Office of the President

Multi-campus Research Programs and Initiatives

Maximizing the Environmental Utility of Battery Storage. Role: Co-Principal Investigator. DP7 DE024888

Role: Co-Principal Investigator

$270,000
**NAME:** Parker, Daniel M.

**eRA COMMONS USER NAME** (credential, e.g., agency login): DPARKER1

**POSITION TITLE:** Assistant Professor

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

<table>
<thead>
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<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>University of Washington, Seattle, Washington</td>
<td>BA</td>
<td>2009</td>
<td>Anthropology</td>
</tr>
<tr>
<td>Pennsylvania State University, State College, Pennsylvania</td>
<td>MA</td>
<td>2011</td>
<td>Anthropology and Demography</td>
</tr>
<tr>
<td>Pennsylvania State University, State College, Pennsylvania</td>
<td>PhD</td>
<td>2014</td>
<td>Anthropology and Demography</td>
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**A. Personal Statement**

My research and teaching focuses on Global Health, with an emphasis on spatial epidemiology and demography. My research program is empirical, based on detailed geographic, demographic, and epidemiological surveillance systems and considers the roles of human movement and migration patterns on the spatial and temporal distribution of infectious diseases as well as access to healthcare services. I incorporate statistical analyses, geographic information systems, anthropology, and wet lab approaches to analyze field data and I draw on all of these approaches in my lecturing and mentorship as well. This research is useful for designing and implementing targeted public health interventions. I am currently involved in malaria research in Asia and Africa; in neglected tropical diseases and central nervous system infections in Laos and Cambodia; in tuberculosis screenings in refugee camps on the Thailand-Myanmar border; and maternal and child health among migrants and refugees along the Thailand-Myanmar border. At this stage in my career I am focusing more heavily on building a research team and mentoring a new generation of researchers, with an emphasis on training upcoming experts from endemic regions. Recent publications include mentored students.

# indicates shared first authorship


B. Positions, Scientific Appointments, and Honors

**Positions and Employment**

2020 – Present  Visiting Professor in Epidemiology, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

2019 – Present  Assistant Professor (courtesy), Department of Epidemiology and Biostatistics; University of California, Irvine, U.S.A.

2017 - Present  Assistant Professor, Department of Population Health and Disease Prevention; University of California, Irvine, U.S.A

2014 – 2017  Postdoctoral Researcher, Shoklo Malaria Research Unit; Mahidol-Oxford Tropical Medicine Research Unit; Mae Sot, Thailand

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**Other Experience and Professional Memberships**

2020 – Present  Associate Editor, PLOS Neglected Tropical Diseases

2018 – Present  Editorial Board, Spatial Demography

2018 – Present  Member, Royal Society of Tropical Medicine and Hygiene

2018 – Present  Global Assessor (reviewer for small grants); Royal Society of Tropical Medicine and Hygiene

2017 – Present  Director of GHREAT (Global Health Research, Education and Translation); Department of Population Health and Disease Prevention; University of California, Irvine

2016 – Present  Member, International Society for Infectious Diseases

2015  Consultant, Save the Children Nepal, mapping and GIS for malaria health services and elimination

2014  Consultant, Community Partners International Myanmar, mapping and GIS for malaria elimination

2011 – Present  Member, American Society of Tropical Medicine and Hygiene

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**Honors**

2020  Dean’s Honoree for Public Health Celebration of Teaching, University of California, Irvine

2020  Inducted into UCI’s Delta Rho chapter of the Delta Omega Honorary Society in Public Health

2020  Distinguished panelist for “The Future of the COVID Curve” at the Orange County Forum

2010  Juan Comas Award for best student paper, American Association of Physical Anthropologists Annual Meeting, Albuquerque, NM

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C. Contribution to Science [67 peer-reviewed publications, 1,972 citations, h-index=27 (from Google Scholar)]

1.) Human demography and molecular epidemiology of malaria along the Thailand-Myanmar and China-Myanmar borders.

My dissertation work and early research focused on micro-scale demographic and epidemiological patterns on the Thailand-Myanmar and China-Myanmar borders. Through this work I investigated potential relationships between migration, malaria transmission, and the distribution of drug-resistant malaria parasites. I helped to document and describe the dynamics of human migration and malaria epidemiology in areas that were experiencing civil conflict and large amounts of human migration. This work also considered the changing patterns in malaria parasite sensitivity to commonly used antimalarials, and the potential ways that drug resistant parasites are linked via human migration and under different transmission intensities.
#indicates shared first authorship


## 2. Spatial and temporal dynamics and targeted malaria elimination programs in Southeast Asia.

In my postdoctoral work I focused more heavily on targeted malaria interventions in Kayin State of Myanmar and other regions within Southeast Asia. Most governments in the region have committed to eliminating *P. falciparum* malaria by the year 2030 and several public health interventions (including reactive case detection and mass drug administration) have been piloted and implemented in order to reduce or eliminate malaria from regions that continue to have the disease. My work has shown that interventions targeting secondary malaria infections at units smaller than the village (e.g. in clusters of houses) are inefficient in Southeast Asia as many infections are acquired outside of the village and therefore do not spatially cluster within the village. Conversely, provision of socio-culturally appropriate early diagnosis and treatment clinics that target all community members can be extremely effective. My research was also the first to show that mass administration of antimalarials can, when adherence is sufficiently high, provide a protective “herd effect” even for individuals (i.e. pregnant women or young children) who do not participate in the mass administration.

#indicates shared first authorship


## 3. Provision of health services for neglected migrant and displaced populations along the Thailand-Myanmar border.

DMS 248 - Item 1-242
Finally, toward the end of my postdoctoral research I began to expand my research program to also include a focus on the health of migrants and displaced populations (e.g. refugees) along the Thailand-Myanmar border. Public health and medical services for these populations are limited in both financial resources and skilled labor. Furthermore, the complexities surrounding border populations, with multiple languages, ethnicities and nationalities, lead to a situation where many people slip through cracks in the public health systems. In this work I’ve been documenting patterns in health seeking behavior with regard to vaccinations among migrant children, contraceptive uptake among refugees, and multi-drug resistant tuberculosis in migrants and refugees. This work has shown that migrant children in this area are frequently years behind in their vaccine schedules and many have no documentation of the vaccines that they have acquired. Interviews with MDR-TB patients revealed that many were unable to complete rounds of TB treatment because of frequent displacement because of seasonal work patterns and because of the difficulties in finding diagnosis and treatment centers that offer services to migrants. Finally, my research regarding contraceptive uptake among refugees and displaced persons indicates a large amount of unmet need with regard to reproductive health services, with extremely high fertility rates and a general lack of available contraceptives or other reproductive health resources. This work shows that there are major gaps in the existing data and health care services for migrants and refugees, which is true not only in this region but in many others with displaced populations.

# indicates shared first authorship


Complete List of Published Work in My Bibliography:
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: PAYÁN, DENISE DIAZ

eRA COMMONS USER NAME (credential, e.g., agency login): DPAYAN

POSITION TITLE: Assistant Professor of Public Health

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<th>FIELD OF STUDY</th>
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<tr>
<td>Harvard College, Cambridge, MA</td>
<td>B.A.</td>
<td>06/2008</td>
<td>History and Science</td>
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<tr>
<td>Harvard Kennedy School, Cambridge, MA</td>
<td>M.P.P.</td>
<td>05/2010</td>
<td>Health Care Policy</td>
</tr>
<tr>
<td>University of Southern California, Los Angeles, CA</td>
<td>Ph.D.</td>
<td>08/2015</td>
<td>Public Policy &amp; Management</td>
</tr>
<tr>
<td>University of California, Los Angeles, Los Angeles, CA</td>
<td>Postdoctoral Fellowship</td>
<td>06/2017</td>
<td>Health Services Research</td>
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A. Personal Statement

Denise D. Payán, PhD, MPP, is an Assistant Professor in the Department of Public Health at the University of California, Merced (UC Merced). Her research includes evaluating obesity prevention and reduction programs and policies; investigating policymaking processes and implementation; and conducting community-engaged research to address nutrition-related health disparities. She has developed and evaluated health promotion and policy interventions to improve the health of Latinos and African Americans in various settings (e.g., schools, faith-based organizations, safety net clinics). Dr. Payán leads the Community Health & Innovative Policy (CHIP) Lab, which conducts applied public health and health services research to promote equitable and community-oriented policy solutions. The team includes a postdoctoral fellow, research specialist, two PhD students, and undergraduate research assistants. Dr. Payán was appointed Deputy Director of the California Initiative for Health Equity & Action (Cal-IHEA), a statewide research translation center that provides a critical link between the University of California and the state’s health policy community.

In 2020-2021, Dr. Payán was co-PI of the Global Food Initiative UC Merced Campus Collaborative and co-investigator of a COVID-19 study examining the pandemic’s impact on Latino immigrants in rural California. She is bilingual (Spanish) and bicultural with extensive training and experience in multidisciplinary research and mixed methods.


B. Positions and Honors

**Positions and Employment**

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<th>Year</th>
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<tr>
<td>2007</td>
<td>Intern, Department of Demographic Studies, Ministry of Health, Mexico City, MX</td>
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<td>2008</td>
<td>Intern, Health Career Connection, SOS Mentor, Los Angeles, CA</td>
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<tr>
<td>2009</td>
<td>Intern, Division of Healthcare Informatics, Regence BlueCross BlueShield, Portland, OR</td>
</tr>
<tr>
<td>2009</td>
<td>Course Assistant, Health Care Policy 100, Harvard Kennedy School, Cambridge, MA</td>
</tr>
<tr>
<td>2011-2013</td>
<td>Health Policy Research Assistant, RAND Corporation, Santa Monica, CA</td>
</tr>
<tr>
<td>2013</td>
<td>Course Assistant, PPD 542: Policy and Program Evaluation, USC, Los Angeles, CA</td>
</tr>
<tr>
<td>2013</td>
<td>Adjunct Lecturer, Health Economics and National Health Policy, California State University Northridge (CSUN), Northridge, CA</td>
</tr>
<tr>
<td>2013-2015</td>
<td>Evaluation Project Assistant, USC Price School of Public Policy, Los Angeles, CA</td>
</tr>
<tr>
<td>2015</td>
<td>Adjunct Lecturer, USC Price School of Public Policy, Los Angeles, CA</td>
</tr>
<tr>
<td>2015-2017</td>
<td>Health Services Research Postdoctoral Fellow, Department of Health Policy and Management, UCLA Fielding School of Public Health and the RAND Corporation, Los Angeles, CA</td>
</tr>
<tr>
<td>2017-2018</td>
<td>Adjunct Research Associate, RAND Corporation, Santa Monica, CA</td>
</tr>
<tr>
<td>2017-2018</td>
<td>Assistant Professor of Public Health, Department of Public Health, School of Social Sciences, Humanities and Arts, UC Merced, Merced, CA</td>
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<tr>
<td>2020-2020</td>
<td>Deputy Director, California Initiative for Health Equity &amp; Action (Cal-IHEA), Merced, CA</td>
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**Other Professional and Training Experiences**

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<tr>
<td>2003</td>
<td>Participant, National Hispanic Youth Initiative in Health, Biomedical Research, and Policy Development (NHYI)</td>
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<tr>
<td>2004</td>
<td>Participant, Allied Health Careers Opportunity Program (AHCOP), Charles R. Drew University of Medicine and Science</td>
</tr>
<tr>
<td>2006</td>
<td>Participant, Summer Medical and Dental Education Program (SMDEP), University of Washington</td>
</tr>
<tr>
<td>2010</td>
<td>EDGE Fellow, National Science Foundation, USC Graduate School, and USC Price School of Public Policy</td>
</tr>
<tr>
<td>2014</td>
<td>Participant, NVivo Training Workshop</td>
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<tr>
<td>2017</td>
<td>ICPSR Sponsored Scholar, Robert Wood Johnson Foundation New Connections Program</td>
</tr>
<tr>
<td>2018</td>
<td>Scholar, Robert Wood Johnson Foundation New Connections Capstone Symposium</td>
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**Professional Affiliations**
2011- AcademyHealth
2015- American Public Health Association (APHA)
2016- Society for Public Health Education (SOPHE)
2019- Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)
2019- California Initiative for Health Equity and Action (Cal-IHEA)
2020- Center for Information Technology Research in the Interest of Society (CITRIS) and the Banatao Institute
2020- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Network of Minority Health Research Investigators (NMRI)

Honors
2004 Hispanic Outreach Taskforce Positive Image Award
2004 Allied Health Careers Opportunity Program Research Skills Award
2007 Strong Women, Strong Girls (SWSG) National Mentor of the Month
2007 Harvard Foundation Award for Intercultural Student Contributions
2008 Homenaje Latino Award (A Collaboration of Harvard College Student Groups)
2010-2014 University of Southern California Ph.D. Fellowship from the Office of the Provost
2013 Dr. E. Richard “Rick” Brown Keeneland Conference Scholarship
2013 Enhancing Diversity in Graduate Education (EDGE) Travel Grant
2017 Paper of the Year - Honorable Mention for 2016 by the Journal of the American Planning Association (Lowery et al., 2016)
2020 Health Career Connection’s 30 Inspiring & Impactful Alumni

C. Contributions to Science
1. Structural barriers to healthy eating and active living in minority communities. A large part of my work has focused on identifying structural barriers to healthy eating and active living among racial/ethnic minorities and other vulnerable populations. I contributed to a novel study comparing the availability of fresh fruits and vegetables in farmers’ markets across Los Angeles County neighborhoods (8). The article received honorable mention for the paper of the year award in a top planning journal in the U.S. I also conducted focus groups to examine barriers and facilitators to healthy eating and active living in South Los Angeles as part of a CDC-funded evaluation. One article was the first to explore adolescents’ perceived barriers and facilitators to school lunch meals in a traditional public school setting after implementation of the Healthy, Hunger-Free Kids Act of 2010 (7). Another article identified key intrapersonal and environmental barriers to physical activity among adolescents and adults at risk for obesity and provided community-based policy recommendations (5). During my postdoctoral fellowship, I expanded my focus to include global health research, resulting in several publications on the structural causes and correlates of food insecurity and obesity among people living with HIV/AIDS (PLHIV) in Latin America and the Caribbean (4, 6). Article 4 was the first study outside of the U.S. to examine the association between food insecurity and obesity among PLHIV. We found a significant association between severe food insecurity and increased body mass index, body fat, and overweight status. Article 6 investigated structural determinants of food insecurity among PLHIV in the Dominican Republic—detailing how stigma affects labor participation and identifying access barriers to charitable and government nutrition assistance programs.


DMS 252 - Item 1-246

2. Community-engaged research to address nutrition-related disparities. I have closely collaborated with community-based organizations and research teams on multiple community-engaged studies to reduce nutrition-related health disparities. One of my career goals is to help to eliminate racial/ethnic nutrition-related health disparities using equitable policy, systems and environmental (PSE) interventions aligned with community perspectives. Some of this work was conducted with my mentor, Dr. Derose, who has considerable expertise developing interventions using community-based participatory research (CBPR) principles. In one NIH-funded study, we examined the content of health promotion sermons in the first HIV stigma reduction intervention evaluated in both Latino and African American churches (10). I also collaborated on a cluster randomized controlled trial to evaluate a multi-level, faith-based intervention with unique policy and text/messaging components to address obesity in African American and Latino churches. The results showed statistically significant less weight gain, lower BMI, and healthier diets in African American and Latino participants from intervention sites (12). Another article reported on the feasibility of the mobile messaging intervention component (11). We further published results from a systematic review on the efficacy and use of CBPR principles in faith-based obesity interventions (9). This work has been integral in advancing an in-depth understanding of the institutional capacity and feasibility of collaborating with community- and faith-based organizations to address obesity disparities.


3. Coalitions and partnerships to advance health policy and health promotion programs. Given my health policy background, I have used policymaking and community coalition theories to examine the impact of advocacy coalitions and partnerships to improve population health. One study, funded by a highly competitive doctoral fellowship at USC, used the advocacy coalition framework to examine the types of coalitions, stakeholders, beliefs, and strategies in California’s menu labeling policy debate. I identified two advocacy coalitions (public health, industry) and found the public health coalition was larger and more effective in advocating clear, consistent messaging to obtain policy support (14). Using the same data, I published an article on the translational gap between research evidence and state health policy (13). On a CDC-funded study, I examined partnerships to advance health promotion programs in clinical and community settings to address a critical implementation science gap, namely, how clinical–community partnerships facilitate implementation of evidence-based interventions in safety-net settings (15).


Complete List of Published Work in MyBibliography

D. Research Support

Ongoing Research Support
UC Tobacco-Related Disease Research Program (PI: Song) 08/01/2018 – 07/31/2022
UC Merced Nicotine and Cannabis Policy Center (NCPC) This award established the Nicotine and Cannabis Policy Center (NCPC) whose aims are to establish grassroots support tobacco and cannabis control activities; monitor tobacco and cannabis control policy efforts; support tobacco and cannabis research projects; and establish a visible and stable presence for tobacco and cannabis control policy research and coordination in the San Joaquin Valley.
Role: Co-Investigator

Completed Research Support (Past 3 Years)
University of California Office of the President (PI: Rodriguez) 08/01/2020 – 07/31/2022
California Initiative for Health Equity & Action (Cal-IHEA) Cal-IHEA supports the translation of research evidence generated by faculty into state health policy and public health practice to advance health equity.
Role: Co-Investigator

University of California Global Food Initiative (PIs: Payán, Rios) 07/01/2020 – 06/30/2021
Global Food Initiative Campus Collaborative - UC Merced The UC Merced Campus Collaborative Center will pursue two goals: (1) design the infrastructure for the centralized, systematic assessment of resource, capacity, and information needs and evaluation of targeted interventions and sustainability efforts; and (2) facilitate data-informed decisions on resource allocation, capacity building, and health policy.
Role: Co-Principal Investigator

UC Merced Health Sciences Research Institute (PI: Young) 07/01/2020 – 06/30/2021
Health and Economic Impact of the COVID-19 Pandemic on Latino Immigrant Families in Rural California We will collect a second wave of data in different regions of California to supplement original CLIMA data collection efforts.
Role: Co-Investigator

Center for Information Technology Research in the Interest of Society (CITRIS) and the Banatao Institute Campus Seed Funding Program (PIs: Rodriguez, Payán, Garcia) 06/01/2020 – 02/28/2021
Building an Academic-Community Partnership to Advance Telehealth Implementation for Low-Income Californians in Response to COVID-19 The study will build the infrastructure for tracking telehealth implementation in FQHCs in Northern California and examine the mitigating impact of telehealth on blood pressure exacerbations attributable to COVID-19.
Role: Co-Principal Investigator

UC Office of the President Research Grants Program Office (PI: Young) 05/04/2020 – 11/04/2020
This qualitative study assesses the impact of COVID-19 policy responses on Latino immigrants’ health and well-being in rural regions and will develop analytical tools needed for ongoing assessment.
Role: Co-Investigator

CARE UC Innovation Fellowship Program (PI: Payán) 04/22/2020 – 09/30/2020
Food Insecurity among Immigrants in the U.S.-Mexico Border
Graduate Student Fellow: Kimberly Sanchez
Role: Principal Investigator

UC Merced Committee on Research Grant Program (PI: Payán) 07/01/2019 – 06/30/2020
A pilot study to 1) systematically search for and review obesity bills introduced in California’s legislature between 1999 and 2018, and 2) develop a state obesity policy database.
Role: Principal Investigator
BIOGRAPHICAL SKETCH

NAME
Phalen, Robert F.

eRA COMMONS USER NAME (credential, e.g., agency login)

POSITION TITLE
Professor of Medicine
Professor of Occupational & Envir. Health
Director of Air Pollution Health Effects Lab.

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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</thead>
<tbody>
<tr>
<td>San Diego State University, San Diego, CA</td>
<td>B.S.</td>
<td>1964</td>
<td>Physics/Math</td>
</tr>
<tr>
<td>San Diego State University, San Diego, CA</td>
<td>M.S.</td>
<td>1966</td>
<td>Physics/Radiation Biology</td>
</tr>
<tr>
<td>University of Rochester, Rochester, NY</td>
<td>Ph.D.</td>
<td>1972</td>
<td>Biophysics/Toxicology</td>
</tr>
</tbody>
</table>

A. Personal Statement

As Director of the Air Pollution Health Effects Laboratory at UCI I have been involved with aerosol physics and inhalation studies of hazardous materials for over 40 years. I have organized and directed numerous international conferences on topics that include; applied aerosol science; comparative mammalian respiratory tract anatomy; health effects of particulate air pollution; tobacco smoke properties and effects; and inhaled aerosol dosimetry. Six conferences have produced dedicated peer-reviewed issues of journals, for which I have been the guest editor. The most recent is a virtual special issue of the Journal of Aerosol Science, "Inhaled Aerosol Dosimetry", 2021 (with 16 peer-reviewed papers).

B. Positions and Honors

1972 - 1974: Postdoctoral Research Associate, Aerosol Physics Group, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM (lung modeling grant).

1974 - 1984: Assistant, then Associate Professor of Community and Environmental Medicine: Director, Air Pollution Health Effects Laboratory, University of California, Irvine, CA.

1985 - 2020: Professor of Community and Environmental Medicine/Medicine; Director, Air Pollution Health Effects Laboratory; Professor of Occupational Health, Department of Medicine, University of California, Irvine, CA.

2021 – Present Professor of Medicine, Professor of Occupational and Environmental Health. Co-director of the Air Pollution Health Effects Laboratory.

Honors

of Environmental Pollutants 2015-present). Fellow: (1) Southern California Academy of Sciences; (2) American Association for the Advancement of Science; and (3) Academy of Toxicological Sciences. Recipient of the 2021 Mercer Award jointly issued by The American Association for Aerosol Research, and The International Society for Aerosols in Medicine for contributions to aerosol science and aerosol medicine.

Selected Books

C. Selected Publications

D. Current Research and Other Support

1. Stocking Family Fund Endowment: R.F. Phalen, P.I., $104,000 indefinite period. This fund is for research and publications related to the impact of inhaled particles and gases on children’s health. The fund, started in 1988 has provided funding to date of about $524,000.

2. Phalen Family Fund: $270,000 income for air pollution research, started in 2011.

3. Inhaled Aerosol Dose Conferences, 2014 & 2019, $74,000 total income.

Note: Previous grant and contract award totals: $11,466,294 as P.I.; and 108,335,649 as Co-P.I. and/or Investigator.
NAME: RICHARDSON, DAVID BARRIE

eRA COMMONS USER NAME (credential, e.g., agency login): DAVID_RICHARDSON
POSITION TITLE: PROFESSOR

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
<td>DUKE UNIVERSITY, DURHAM, NC</td>
<td>BA</td>
<td>1991</td>
<td>POLITICAL SCIENCE</td>
</tr>
<tr>
<td>UNC SCHOOL OF PUBLIC HEALTH, CHAPEL HILL, NC</td>
<td>MSPH</td>
<td>1994</td>
<td>EPIDEMIOLOGY</td>
</tr>
<tr>
<td>UNC SCHOOL OF PUBLIC HEALTH, CHAPEL HILL, NC</td>
<td>PHD</td>
<td>1997</td>
<td>EPIDEMIOLOGY</td>
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A. Personal Statement

Dr. Richardson is Professor of Epidemiology, program director of the Occupational Epidemiology Training Program, and Deputy Director of the North Carolina Occupational Safety and Health Education and Research Center (NC OSHERC), funded by the National Institute for Occupational Safety and Health (NIOSH). He has a background in occupational and environmental epidemiology, with a primary focus on occupational and environmental carcinogens. As PI on several NIH-funded grants, he has laid the groundwork for the proposed research by strengthening epidemiological methods for cohort and case-control studies of environmental carcinogens, including prior cohort and case-control studies of workers employed at Department of Energy facilities, as well as participation in large international collaborative studies. His prior work involves research addressing issues including measured and unmeasured confounders, measurement error, outcome misclassification, and selection bias. Dr. Richardson and Dr. Schubauer-Berigan have an extensive record of collaboration, have co-authored multiple published articles on cohort methods, and have undertaken substantial work on occupational cohort studies of cancer.

Ongoing and recently completed projects that I would like to highlight include:

R01-OH-011409 CDC/NIOSH  Richardson (PI) 8/1/2019 – 7/31/2022
Occupational exposure to ionizing radiation: Models for policy making
The goal of this project is to assess radiation-related cancer risks with attention to adequacy of contemporary standards via comparisons of international pooled nuclear worker data and Japanese atomic bomb survivor data.

R01CA242852 NIH/NCI  Richardson (PI) 9/20/2019 – 08/31/2023
Low-Dose Exposure to Ionizing Radiation in Adulthood and Subsequent Cancer
The goal for this project is to evaluate risks of cancer associated with low dose protracted exposures accrued in adulthood, with relevance to occupational and medical exposures by updating nuclear worker cohorts in USA, UK, and France.
Combined analysis of lung cancer among uranium miners

The goal of this project is to assess occupational exposure mortality trends in an international pooled study of uranium miners.

B. Positions, Scientific Appointments, and Honors

Positions and Employment
2019 - Professor, Department of Epidemiology, University of North Carolina at Chapel Hill
Deputy Director, North Carolina Occupational Safety and Health Education and Research Center
2009 - 2018 Associate Professor, Department of Epidemiology, University of North Carolina at Chapel Hill
2007 - Director, Program in Occupational Epidemiology, University of North Carolina at Chapel Hill
2001 – 2008 Assistant Professor, Department of Epidemiology, University of North Carolina at Chapel Hill
1999 – 2000 Post Doctoral Researcher, International Agency for Research on Cancer, Lyon, France
1997 – 1998 Post Doctoral Researcher, Department of Epidemiology, University of North Carolina

Other Experience
2013- Member, Institute of Medicine, Committee on Research Directions in Human Biological Effects of Low Level Ionizing Radiation
2012- Member, Science Advisory Board, Radiation Advisory Committee, US EPA, Washington, D.C.
2011- Member, Institute of Medicine, Committee Review of the Department of Labor’s Site Exposure Matrix
2010-2020 Associate Editor, Environmental Health Perspectives
2009- Member, Presidential Advisory Board on Radiation and Worker Health, White House, Washington DC
2009 Visiting Scientist, International Agency for Research on Cancer, Lyon, France
2009- Associate Editor, American Journal of Epidemiology
2008 Visiting Research Fellow, Radiation Effects Research Foundation, Hiroshima, Japan
2008- Associate Editor, Occupational and Environmental Medicine

Honors
2016 Best Paper in Epidemiology in Occupational Health, Lead author of “Risk of cancer from exposure to ionizing radiation: a retrospective cohort study of workers in France, the United Kingdom, and the United States (INWORKS)” and awarded at EPICOH
2015- Honorary Professor, Division of Environmental Epidemiology, Utrecht University, The Netherlands
2014 Article of the Year, Lead author of “Assessment and indirect adjustment for confounding by smoking in cohort studies using relative hazards model” with Eric Tchetgen Tchetgen, Steve Cole and Dominique Laurier, which received the Society of Epidemiologic Research and American Journal of Epidemiology
2012 Teaching Innovations Award, School of Public Health, University of North Carolina at Chapel Hill
2011 Best paper in Biometrics, Coauthor of “Detecting disease outbreaks using local spatiotemporal methods” with Yingqi Zhao, Donglin Zeng, Amy Herring, Amy Ising, Anna Waller, and Michael Kosorok.

C. Contributions to Science (Selected from >200 peer-reviewed publications)

1. With a team of collaborators, I have conducted methodological work related to occupational and environmental cohort studies. These studies emphasized temporal factors in effects of protracted exposures, strengthening classical methods such as standardized mortality analyses, as well as innovative approaches to bias reduction through methods such as negative control outcomes and g-estimation approaches.

a. Keil AP, Richardson DB. Reassessing the Link between Airborne Arsenic Exposure among Anaconda Copper Smelter Workers and Multiple Causes of Death Using the Parametric g-Formula. Environ Health
Perspect 2017;125(4):608-614. PMID: 27539918 PMCID: PMC5381993


1. My research on radiation health effects has directly addressed questions of concern to government agencies, communities, and workers. This research has found excesses of mortality associated with occupational exposures to asbestos, plutonium, and external gamma radiation, and has suggested that older adult workers may be particularly sensitive to the carcinogenic effects of such exposures. By providing evidence of excess mortality risk among US nuclear workers, this work helped support passage of the Energy Employees Compensation Act of 2000, as well as work on reviewing and help to inform programs related to compensation for radiation exposures (Part E of the program legislation) as well as non-radiological exposures (Part B of the program). My work on chronic lymphocytic leukemia, now classified as a form of lymphoma, helped to lead to a reevaluation of the literature, prompted further research on the topic, and has led to a change in the compensation rules that has substantial impact for federal workers exposed to radiation.


b. Richardson D, Wing S. "Radiation and Mortality of Workers at Oak Ridge National Laboratory: Positive Associations for Doses Received at Older Ages." Environmental Health Perspectives (1999) 107:649-656. PMID: 10417363 PMCID: PMC1566496


Complete List of Published Work in My Bibliography:

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: RITT-OLSON, ANAMARA

eRA COMMONS USER NAME (credential, e.g., agency login): RITTOLSON
POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>New York University</td>
<td>BFA</td>
<td>06/1992</td>
<td>Acting</td>
</tr>
<tr>
<td>California State University, Long Beach</td>
<td>MA</td>
<td>05/1997</td>
<td>Research Psychology</td>
</tr>
<tr>
<td>University of Southern California</td>
<td>PhD</td>
<td>12/2004</td>
<td>Preventive Medicine</td>
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A. Personal Statement

My work focuses on factors that promote mental health, resiliency, and well-being among culturally diverse adolescents and young adults. I approach my research from a community base, striving for engagement, responsibility, and capacity building. I study diverse populations, and honor both individual and structural complexities. I have designed, taught, and evaluated dozens of health promoting programs using diverse modalities including mhealth approaches. My passion and focus are on improving the mental health of adolescents and young adults. I am dedicated to addressing the risk factors of depression and finding ways to alleviate its impact. I recognize that traditional approaches must be revised for a digitally native generation. My next phases of research will capitalize on my strong background to better address the impending threats to adolescent mental health. I have been leading a qualitative study on mental heath and substance use among cancer survivors. I was the Director of the Community Health track for the Keck School of Medicine’s Master in Public Health program, research cluster leader for the USC Center for Young Adult Cancer Survivorship, and the Director of Community Outreach for the Institute for Addiction Sciences. I currently serve at the Director of Academic Programs at UCI and I am the director of training and engagement for the CERES initiative, a multi site international collaborative focused on mental health. My greatest strengths are collaboration and my diversity in utilization of methodologies.

A. Positions, Scientific Appointments, and Honors

- Senior Research Associate, Division of Adolescent Medicine, Childrens Hospital Los Angeles, 2002-2005
- Research Associate, Institute for Prevention Research, Department of Preventive Medicine, Keck School of Medicine of the University of Southern California, 2004-2011
- Adjunct Faculty, Keck School of Medicine, Masters in Public Health Program, 2011-2016
- Lecturer University of California, Irvine Program in Public Health 2016-2017
- Assistant Professor, Institute for Prevention Research, Department of Preventive Medicine, Keck School of Medicine of the University of Southern California, 2015-2021
- Associate Professor, Program in Public Health, University of California, Irvine

Honors
- Cancer Fellow, National Cancer Institute, 2003-2004
- Outstanding Graduate Student, CSULB, 1997

Service
- Director of Community Engagement, Institute for Addiction Sciences, 2018-present
- Director, Community Health Track, Masters in Public Health Program, 2018- present
- Member, Community Scholars Collaborative on Health Equity, CHES, 2018- present
- Health Behavior Research Cluster Leader, USC Center for Young Adult Cancer Survivorship, 2018-present

C. Contributions to Science

1. **Interventions to strengthen well being among adolescents and young adults.** Developing novel means of intervention to strengthen well-being among adolescents and young adults is a primary focus of my work. I have studied smoking prevention in multiple settings and within different cultural frameworks.


1. **Peer influence on health behaviors.** I have studied the influence of peers on health behaviors; and found that depressed teens may be highly susceptible to normative pressures to use tobacco. Additionally, depressed teens have strained relationships with their peers and have lower social skills which increase social isolation and decrease


1. **Mental health and depression among adolescents and young adults.** I have conducted studies in diverse youth with an emphasis on intervenable predictors and moderators of depression and found that mindfulness based programs, programs that increase social skills and those that address stress management are protective against depression.


1. **Acculturation and depressive symptoms in Latinx adolescents.** I served as a co-investigator on Project RED: a cohort study of Latinx adolescents with Dr. Unger. We conducted surveys with high school students and followed that cohort into their early 20s. We explored the roles of peers, family, and identity in health risk behaviors and mental health. This study refined our understanding of the role that acculturation, acculturative stress, and depressive symptoms played in substance use among Latinx youth and highlighted the need to promote healthy peer relationships.


1. **Mental health and substance abuse among childhood cancer survivors.** Working with Drs. Milam and Hamilton on the baseline Project Forward study, I helped devise recruitment plans, developed intervention materials to promote post traumatic growth and self-efficacy among childhood cancers survivors (CCS). My work has explored the role of adult identity on mental health and have found that substance use patterns among cancer survivors may be in part due to emotional and physical distress. I served as the last author guiding the interpretation of national data that found increased substance use among survivors as compared with non-cancer experiencing peers with Drs. Milam and Hoyt of UCI.


NAME: RO, ANNIE

eRA COMMONS USER NAME (credential, e.g., agency login): anniero

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>University of California, Berkeley</td>
<td>B.A.</td>
<td>05/2002</td>
<td>Psychology</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>M.P.H.</td>
<td>05/2006</td>
<td>Health and Social Behavior</td>
</tr>
<tr>
<td>University of Michigan, Ann Arbor</td>
<td>Ph.D.</td>
<td>08/2011</td>
<td>Health Behavior and Health Education, minor: Demography</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>Postdoctoral</td>
<td>07/2013</td>
<td>Public Health</td>
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A. Personal Statement

I am a population health researcher who examines social factors that underlie immigrant health, with the underlying goal of understanding how social marginalization and low socioeconomic status affect the health of Latino and Asian immigrants. I am especially interested in how immigration status operates as a social risk factor among immigrant populations. My research in this area has focused on how undocumented status creates psychosocial stressors that affect the mental and physical health of young adults, how Asian and Latino undocumented immigrants differ in their physical health status, how undocumented immigrants interact with the formal health care system, and accurate measurement of immigration status in secondary data sources. I have formal training in social epidemiology and demography, and have used large-scale, secondary data sources, such as surveys and patient medical records, to explore my research questions. I have also collected qualitative data to understand how the multifaceted social risks of undocumented status affect young adults’ perceptions of their medical needs and decisions to seek care.

My previous experience in this area makes me well suited to be the PI on this project, which will examine the health care utilization patterns of undocumented immigrants in Los Angeles County. I have multiple funded studies examining the health and well-being of undocumented immigrants and have been involved in several projects with an explicit focus on COVID and the undocumented population. I am well-acquainted with measurement issues among this population and the patchwork of policies at the federal, state, and local levels that affect their eligibility and use of public services. I am currently the mPI for an R01 examining intergenerational exposure to structural racism and birth outcomes among mothers in South Carolina. I have experience leading large research teams with investigators spread across multiple sites.

Ongoing and recently completely projects I would like to highlight include:

1R01MD016046-01
Ro (mPI)
9/27/2021-6/30/2024
Structural Racism and Adverse Birth Outcomes in the US South: A Multigenerational Perspective

UCI CRAFT-COVID Committee
Ro (PI)
9/1/2020-6/30/22
ER use among undocumented immigrants during the COVID-19 pandemic

University of California Office of the President
Enriquez (PI), Role: Co-Investigator
1/1/19-12/31/21
UC Collaborative to Promote Immigrant and Student Equity

Citations:


B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2019- Associate Professor, Program in Public Health UC Irvine, Irvine, CA
2017- Member, Interdisciplinary Association for Population Health Science
2013-2019 Assistant Professor, Program in Public Health UC Irvine, Irvine, CA
2006- Member, American Public Health Association
2006- Member, Population Association of America
2006-2011 Graduate Research Assistant, University of Michigan, Ann Arbor, MI
2004-2006 Research Assistant, Health Research for Action, Berkeley, CA
2004-2006 Research Assistant, UCSF Center for AIDS Prevention Studies, San Francisco, CA

Honors

1998-2002 Cal Alumni Scholar
2002 Cum Laude, University of California, Berkeley
2006-2011 Rackham Merit Fellowship, University of Michigan, Horace H. Rackham School of Graduate Studies
2010 Richard Janz Memorial Scholarship
2013 UCLA Chancellor’s Postdoctoral Research Award nominee
2014-2016 NIH Loan Repayment Program
2015 UC Irvine Excellence in Undergraduate Teaching Award

C. Contributions to Science

1. Immigration Status and Health. This area of research considers how immigration status affects the physical and mental health of immigrants and identifies unique psychosocial factors that contribute to undocumented immigrants’
I have used representative secondary data sources to compare the physical health patterns of Latino and Asian undocumented immigrants. I am currently involved in a large primary data collection effort to compare the mental health and academic outcomes of undocumented college students, citizen college students with undocumented parents, and citizen college students with citizen parents. This work has been funded by the Russell Sage Foundation and the UC Multicampus Research Initiative.

2. **Undocumented Immigrants’ Health Care Access and Utilization.** This research investigates patterns of health care access and utilization among undocumented immigrants. I integrate models of health care utilization with socioecological theory to understand how health care access intersects with structural barriers from immigration status (e.g., financial strain, immigration concerns, insurance eligibility) to create unmet medical need. I also examine how exogenous events, like COVID-19 and immigration threats, affects health care utilization among this population. This work has been funded by UCI CRAFT COVID.

3. **Socioecological Determinants of Minority Health.** This area of research considers the role of psychosocial and socioeconomic factors on the health of racial and ethnic groups in the United States. I have explored a variety of social risk factors related to social stratification, including racial discrimination, gender discrimination, and occupational mobility. This work utilizes theories of stress and coping and accumulated disadvantage to understand how social marginalization that originates from structural inequalities becomes embedded into the health status of racial/ethnic groups.

Complete List of Published Work in Google Scholar:

https://scholar.google.com/citations?user=Tw-AHyAAAJ&hl=en
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: ROBY, DYLAN H

eRA COMMONS USER NAME (credential, e.g., agency login): DROBY2
POSITION TITLE: Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tr>
<td>University of California, Los Angeles, Los Angeles, California</td>
<td>BA</td>
<td>1998</td>
<td>Geography (Public Policy Minor)</td>
</tr>
<tr>
<td>The George Washington University, Washington, DC</td>
<td>M.Phil</td>
<td>2002</td>
<td>Public Policy (Health)</td>
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<tr>
<td>The George Washington University, Washington, DC</td>
<td>Ph.D.</td>
<td>2006</td>
<td>Public Policy (Health)</td>
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A. Personal Statement

I am a health services researcher and policy analyst with a focus on health care access, health insurance coverage and markets, safety net providers, vulnerable populations, and health disparities. Much of my work in the past decade has focused on evaluating public programs’ ability to reduce disparities in quality, access, and structural barriers to health. I also focus on efforts to manage chronic illness, including disease management, risk stratification and targeting of high-cost high-need populations, and the use of patient reported outcomes data to inform decision-making. I am especially interested in the impact of state health reform decisions on individuals who seek care through the health care safety net, including public hospitals and community health centers. I have been a principal investigator, co-principal investigator, or team lead on several projects to implement innovative programs to improve management of chronic illness and use data to improve patient care. As the Director of the Health Policy Division within the new Department of Health, Society, and Behavior, I will endeavor to educate leaders in health policy and health care management to engage in evidence-based innovation and policy change to drive improvements in our health system.

B. Positions and Honors

Professional employment

1996-1998  Research Assistant, UCLA Center for Health Policy Research, Los Angeles, CA
2000  Student Research Assistant, The George Washington University Center for Health Services Research and Policy, Washington, DC

  Graduate Intern, Health Policy Studies Division, Center for Best Practices, National Governors’ Association, Washington, DC
2001  Research Associate, The George Washington University Center for Health Services Research and Policy, Washington, DC

  Instructor, The George Washington University School of Public Health and Health Services, Washington, DC
2003  Senior Research Associate, The George Washington University Center for Health Services Research and Policy, Washington, DC
2006 Senior Research Associate, UCLA Center for Health Policy Research, Los Angeles, CA
2008 Faculty Associate, Department of Health Administration, University of Phoenix Online
2008 Assistant Researcher, Department of Health Services, UCLA School of Public Health, Los Angeles, CA
2011 Research Scientist, UCLA Center for Health Policy Research, Los Angeles, CA
2012 Instructor, UCLA Extension Certificate Program in Health Care Management and Leadership

2006- 2015 Adjunct Assistant Professor, Department of Health Policy and Management, UCLA Fielding School of Public Health, Los Angeles, CA
2007- 2012 Associate Director of the MPH Program in Health Policy and Management, UCLA Fielding School of Public Health, Los Angeles, CA
2009- 2014 Director of Health Economics and Evaluation Research, UCLA Center for Health Policy Research, Los Angeles, CA
2017 Assistant Professor, Department of Health Services Administration, University of Maryland School of Public Health, College Park, MD
2021 Adjunct Associate Professor, Department of Health Policy and Management, UCLA Fielding School of Public Health, Los Angeles, CA
2019 Program Director, MPH in Health Policy Analysis and Evaluation, University of Maryland School of Public Health, College Park, MD
2021 Associate Professor, Department of Health Services Administration, University of Maryland School of Public Health, College Park, MD
2021 Associate Chair and Director of Graduate Studies, Department of Health Services Administration, University of Maryland School of Public Health, College Park, MD

Honors

2010 Delta Omega Public Health Honorary Society in Public Health – Faculty Inductee
2010-2012 NIH National Institutes of Minority Health and Health Disparities Loan Repayment Award
2012 UCLA Extension Distinguished Instructor Award
2014 UCLA Department of Health Policy and Management, Professor of the Year
2019 George F. Kramer Practitioner of the Year, University of Maryland School of Public Health

C. Contribution to Science

1. Disparities in Access and Quality for Vulnerable Populations:

One of the core areas of my research has been examining health care service use, disparities, and differences in insurance coverage for vulnerable populations, including low-income Latinos, Asian Americans, and the undocumented. Much of this work relies on data from national or state surveys, including the Medical Expenditure Panel Survey, National Health Interview Survey and California Health Interview Survey.


2. Health Reform and the Impact of the Affordable Care Act:

I have focused on modeling the financial and economic impacts of various programs and policy interventions. I have expertise in conducting dynamic modeling as it relates to health insurance expansion under the Affordable Care Act, and also simulating the impact of the ACA on hospitals subject to cuts of specific safety net programs. I have also been active in modeling the impact of insurance mandates and public programs. I have also been engaged in research and analysis of changes in insurance markets and networks.


3. Evaluation of Safety Net Programs:

My research on the health care safety net and health disparities has focused on local variation in county indigent care programs, state Medicaid programs, delivery system change, poverty, and public hospital and community health center financing and operations. This work explores the link between health care access, quality, and the ability for safety net populations to achieve improved health outcomes through public programs and delivery system redesign and reform.


4. Chronic Disease Management:

I have extensive experience examining racial/ethnic disparities in chronic illness prevention and management, including conducting large-scale evaluations of Medicaid pilot programs to manage diabetes, COPD, asthma, heart disease, mental illness, and HIV/AIDS. My work has led me to investigate the structural barriers that disease management programs,
patient-centered medical home models, and chronic care model implementations must address to effectively reduce health disparities in a low-income, vulnerable population.


Full list of published work available from:
https://scholar.google.com/citations?user=ZJelO5cAAAAJ&hl=en

D. Research Support

Selected Ongoing Research Support

1. **20181519 (PI: Dylan Roby)**
   3/1/2016-12/1/2021
   *California Health Policy Research Program, Renewal Years 4-8*
   UC Berkeley Center for Labor Research & Education (Prime), California Endowment (Funder)
   This project focuses on predicting the impact of health insurance reforms on California’s population and facilitating research requests and providing evidence to a Stakeholder Advisory Board.
   Role: Subcontract PI

2. **4316512 (PI: Dylan Roby)**
   7/1/2015-6/30/2023
   *California Simulation of Insurance Markets (CalSIM) Modeling*
   UCLA Center for Health Policy Research (Prime), California Health Benefit Exchange (Funder)
   Co-lead on development of microsimulation modeling capacity for state of California to predict insurance coverage changes due to health reforms and other policy changes.
   Role: Subcontract PI
NAME: RUNNERSTROM, MIRYHA GOULD

eRA COMMONS USER NAME (credential, e.g., agency login): miryha@uci.edu

POSITION TITLE: Associate Professor of Teaching

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Washington University, Ellensburg, WA</td>
<td>B.S.</td>
<td>08/2001</td>
<td>Geology</td>
</tr>
<tr>
<td>University of California, Irvine, CA</td>
<td>M.A.</td>
<td>03/2004</td>
<td>Social Ecology</td>
</tr>
<tr>
<td>University of California, Irvine, CA</td>
<td>Ph.D.</td>
<td>12/2008</td>
<td>Social Ecology with a concentration in Environmental Analysis and Design</td>
</tr>
</tbody>
</table>

A. Personal Statement

My academic training centered on research design and implementation in environmental health science and the development of transformational theoretical models. My current research foci include public health pedagogy, and environmental quality and health (see the following citations). I currently teach courses on environmental health and climate change and health.


B. Positions and Honors

**Positions:**

<table>
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<tr>
<th>Years</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-present</td>
<td>Associate Professor of Teaching, Program in Public Health, University of California, Irvine, CA</td>
</tr>
<tr>
<td>2014-2018</td>
<td>Assistant Professor of Teaching, Program in Public Health, University of California, Irvine, CA</td>
</tr>
<tr>
<td>2011-14, 2007-09</td>
<td>Adjunct Lecturer, Program in Public Health and School of Social Ecology, University of California, Irvine</td>
</tr>
<tr>
<td>2009-11</td>
<td>Adjunct Lecturer, Westwood College, Anaheim, CA</td>
</tr>
<tr>
<td>2002-08</td>
<td>Graduate Teaching Assistant, School of Social Ecology, University of California, Irvine, CA</td>
</tr>
<tr>
<td>2007-08, 2001-03</td>
<td>Graduate Research Assistant, School of Social Ecology, University of California, Irvine, CA</td>
</tr>
<tr>
<td>2000-01</td>
<td>Research Assistant, Department of Geological Sciences, Central Washington University, Ellensburg, WA</td>
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**Honors:**

<table>
<thead>
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<tbody>
<tr>
<td>2021</td>
<td>Chancellor’s Award for Excellence in Undergraduate Research, University of California, Irvine</td>
</tr>
<tr>
<td>2018-2020</td>
<td>Provost’s Teaching Fellow, University of California, Irvine</td>
</tr>
<tr>
<td>2018</td>
<td>Instructional Technology Innovation Award, Division of Teaching Excellence and Innovation, University of California, Irvine</td>
</tr>
<tr>
<td>2016</td>
<td>UROP Faculty Mentor of the Month, December 2016, Undergraduate Research Opportunities Program (UROP), University of California, Irvine</td>
</tr>
<tr>
<td>2015</td>
<td>Celebration of Teaching Nomination for Lecturer of the Year, University of California, Irvine</td>
</tr>
<tr>
<td>2015</td>
<td>Excellence in Service Award, National Society of Leadership and Success, University of California, Irvine</td>
</tr>
<tr>
<td>2006-08, 2004</td>
<td>Social Ecology Excellence in Undergraduate Mentorship Award, University of California, Irvine</td>
</tr>
<tr>
<td>2007</td>
<td>Social Ecology Dean’s Dissertation Writing Fellowship, University of California, Irvine</td>
</tr>
<tr>
<td>2007</td>
<td>Entiat High School honor for professional success since attending high school, Entiat, WA</td>
</tr>
<tr>
<td>2006</td>
<td>Social Ecology Dean’s Dissertation Data Collection Fellowship, University of California, Irvine</td>
</tr>
<tr>
<td>2006</td>
<td>Planning, Policy and Design Outstanding Early Dissertation Award, University of California, Irvine</td>
</tr>
<tr>
<td>2005-07</td>
<td>Planning, Policy and Design Departmental Summer Research Grant, University of California, Irvine</td>
</tr>
<tr>
<td>2002-04</td>
<td>Environmental Health, Science, and Policy Departmental Summer Research Grant, University of California, Irvine</td>
</tr>
<tr>
<td>2001</td>
<td>Geological Sciences Departmental Field Methods Scholarship, Central Washington University</td>
</tr>
<tr>
<td>2001</td>
<td>L. Don Ringe Outstanding Senior Award, Department of Geological Sciences, Central Washington University</td>
</tr>
<tr>
<td>2001</td>
<td>Central Washington University Symposium on Undergraduate Research and Creative Expression (SOURCE), Best Poster - Science and Environment</td>
</tr>
<tr>
<td>2001</td>
<td>Sigma Gamma Epsilon, Eta Zeta Chapter Secretary and Charter Member, Central Washington University</td>
</tr>
<tr>
<td>2000</td>
<td>Phi Kappa Phi Honor Society</td>
</tr>
<tr>
<td>2000</td>
<td>Geological Sciences Departmental Scholarship, Central Washington University</td>
</tr>
<tr>
<td>2000</td>
<td>Silver Cortege Member at Central Washington University’s Commencement Exercises (awarded for high academic achievement)</td>
</tr>
</tbody>
</table>
C. Contributions to Science

My research centers on environments and activities that support psychological restoration, stress reduction, flow, and self-actualization. Through this work, I developed a novel theoretical framework for describing three pathways for psychological restoration through self-actualization processes (Runnerstrom, 2008). My framework differs from other research in this field, which centers on attention recovery and stress reduction through experiences in natural environments. Moreover, my findings indicate that actively engaging in enjoyable creative activities that are self-actualizing can be psychologically restorative. Today, humans are more removed from natural environments than ever before in our history, making the need for understanding psychologically restorative activities in everyday, urban settings even more pressing for mental and physical health.


D. Grant Support

2018
University of California Innovative Learning Technology Initiative (ILTI) for the development of PH173 - Health and Global Environmental Change
Description: Grant is supporting the development of a fully online version of PH173 - Health and Global Environmental Change that will be housed in the Program of Public Health at UC Irvine. Funds will be used to support the investigator, as well expert guest speakers, student fellows, and instructional design resources.
Role: Principal Investigator
Source: University of California, Innovative Learning and Technology Initiative
Amount: $78,000
Status: In progress

2017-2018
University of California Innovative Learning Technology Initiative (ILTI) for the development of PH172 - Climate Change and Disaster Management
Description: Grant is supporting the development of a new course on Climate Change and Disaster Management that will be housed in the Program of Public Health at UC Irvine. This course will be developed in collaboration with Co-Investigators Dr. Steven Parish from UC San Diego and Nancy Suski from Lawrence Livermore National Laboratory. Funds will be used to support the investigators, as well as a series of expert guest speakers, student fellows, and instructional design resources.
Role: Principal Investigator
Source: University of California, Innovative Learning and Technology Initiative
Amount: $110,000
University of California Departmental Grant for Academic Integration of Study Abroad with Public Health Practicum

**Description:** Grant will support travel to Botswana for myself and a staff member to evaluate the suitability of coursework offered at the University of Botswana and NGO as well as various healthcare Practicum sites. This funding will allow us to expand our international Practicum internship opportunities to include Botswana.

- **Role:** Principle Investigator
- **Source:** University of California
- **Amount:** $5,000
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: SCHNEIDER, MARGARET

cRA COMMONS USER NAME (credential, e.g., agency login): MARGARETSCHNEIDER

POSITION TITLE: Researcher

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>END DATE MM/YYYY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Stanford University, Palo Alto, CA</td>
<td>BA</td>
<td>06/1986</td>
<td>Human Biology</td>
</tr>
<tr>
<td>Stanford University, Palo Alto, CA</td>
<td>MA</td>
<td>06/1987</td>
<td>Health Behavior Education</td>
</tr>
<tr>
<td>University of California, Irvine, Irvine, CA</td>
<td>PHD</td>
<td>06/1994</td>
<td>Social Ecology</td>
</tr>
</tbody>
</table>

A. Personal Statement

During my 20+ years of professional engagement with research, I have amassed a set of experiences that make me uniquely qualified to contribute to the Evaluation Core for this proposed PHITaward. I have engaged in evaluation research related to complex programs and interventions for many of these years. As the site Process Evaluator for The Healthy Study, I was an active participant in the design, implementation and analysis of the process evaluation for this multi-site multi-year school-based intervention funded by NIDDK. The process evaluation used multiple methods, including both qualitative and quantitative methods. Results of the evaluation studies greatly aided in interpretation of the outcome results of this study. I have directed the Evaluation and Tracking component of the University of California, Irvine Clinical and Translational Science Award, known locally as the Institute for Clinical and Translational Science (ICTS) since 2010. In this capacity, I have engaged in internal evaluation studies that have included surveys, interviews, and analysis of archived data. I have also engaged with additional CTSA hubs to conduct multi-site evaluations, including a study of the impact of the training component of CTSAs and a study of the bibliometric impact of the CTSAs. At the same time that I have been engaged in these large-scale evaluation projects, I have also been PI on three RO1 grants investigating strategies for promoting physical activity among adolescents. My experience as an applicant, recipient, and PI of complex studies led me to be invited to become a standing member of the NIH Study Section on Psychosocial Risk and Disease Prevention. All of these experiences have provided me with the ideal background to direct the Pilot Studies function within the ICTS, which I have done since 2016. During my time in this position, I have brought together a consortium of 9 CTSA hubs to participate in an ongoing reviewer exchange program, thus improving the rigor of our application review process.


B. Positions and Honors

**Positions and Employment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>1994-1997</td>
<td>Specialist, Department of Urban and Regional Planning</td>
<td>University of California, Irvine</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>1994-1997</td>
<td>Research Associate, Center for Behavioral Research and Services</td>
<td>California State University, Long Beach</td>
<td>Long Beach, CA</td>
</tr>
<tr>
<td>1996-1997</td>
<td>Behavioral Scientist, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention</td>
<td>Atlanta, GA</td>
<td></td>
</tr>
<tr>
<td>1997-2005</td>
<td>Assistant Researcher, Department of Urban and Regional Planning</td>
<td>University of California, Irvine</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>2005-2014</td>
<td>Associate Researcher, Department of Planning, Policy and Design</td>
<td>University of California, Irvine</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>2010</td>
<td>Director of Evaluation and Tracking, Institute for Clinical and Translational Science</td>
<td>University of California, Irvine</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>2014-2019</td>
<td>Researcher, Department of Planning, Policy and Design</td>
<td>University of California, Irvine</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>2016</td>
<td>Director, Pilot and Translational Studies, Institute for Clinical and Translational Science</td>
<td></td>
<td></td>
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<tr>
<td>2019-</td>
<td>Researcher, Population Health and Disease Prevention, University of California</td>
<td>Irvine</td>
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**Other Experience and Professional Memberships**

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<tr>
<td>1990</td>
<td>Member, Society of Behavioral Medicine</td>
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<td>2010</td>
<td>Member, American Evaluation Association</td>
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**Honors**

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<th>Year</th>
<th>Honors</th>
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<tr>
<td>1989</td>
<td>Graduate Fellowship, University of California Regents</td>
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<td>1993</td>
<td>NIHM Pre-Doctoral Fellowship, National Institutes of Health</td>
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<tr>
<td>2012</td>
<td>Award for Excellence in Mentoring, Institute for Clinical and Translational Science</td>
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<tr>
<td>2013</td>
<td>Award for Excellence in Mentoring, Institute for Clinical and Translational Science</td>
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<tr>
<td>2013</td>
<td>Distinguished Service Award, Society of Behavioral Medicine</td>
</tr>
<tr>
<td>2016</td>
<td>Standing Member, NIH Study Section: Psychosocial Risk and Disease Prevention, National Institutes of Health</td>
</tr>
<tr>
<td>2021</td>
<td>President-elect, Society of Behavioral Medicine</td>
</tr>
</tbody>
</table>

C. Contribution to Science

1. As the Director of Evaluation for the University of California Irvine Institute for Clinical and Translational Science, I am currently involved in advancing the science of Evaluation Research. Evaluation Research on the institutional and national level involves both data collection and analyses aimed at improving processes and data collection and analysis aimed at demonstrating impact. Through collaborations with other Clinical and Translational Science Award hubs, I have advanced the current state of knowledge concerning how to document impact of a K award program and how to use bibliometrics to demonstrate research influence. Additional cross-CTSA research programs are in progress, including an evaluation of the impact on funding decisions brought about from including community members in the review process.


2. Much of my work has involved collaborating with schools to deliver and evaluate school-based health promotion interventions. As such, I have contributed significantly to the body of knowledge related to how to effectively work within the school setting to promote healthful student behavior. My application of process evaluation techniques to school-based studies has helped to identify best practices in school-based intervention. Through process evaluation of the Healthy Study (the largest multi-site school-based diabetes prevention study ever undertaken with NIH funding) we were able to identify barriers to and facilitators of successful intervention implementation (see Hall, Schneider, et al., 2013). These process data also led us to conclude that the PE component of this large multi-site study was delivered with high fidelity, suggesting that the modest impact of the intervention on BMI could not be attributed to poor implementation of the activity portion. The process data also enabled us to examine the relative impact of the intervention on students who acted as peer advocates for the intervention, and to show that these students, who made a public commitment to the goals of the Healthy Study, experienced greater improvements in BMI compared to the rest of the study participants. As a whole, then, my work in process evaluation of school-based intervention studies has demonstrated the high value-added for collecting these types of data to assist in the interpretation of intervention outcome results.


3. My work is uniquely translational in that I delve into the psychophysiological mechanisms underlying the affective response to exercise and work to translate my discoveries into community-based intervention. In a lab-based study conducted with support from the National Institutes of Child Health and Human Development (NICHD;RO1-HD-37746, Principal Investigator), I was able to demonstrate that frontal cortical asymmetry as assessed using EEG was associated with the affective response to acute exercise. Moreover, we also found that participation in moderate-to-vigorous physical activity was associated with the affective response to acute exercise. Building on these findings, I investigated the impact on physical activity of a school-based intervention that employed an affect-based approach to promoting adolescent activity. In addition to testing the intervention, I utilized the data collected during this study to examine how stable the affective response to acute exercise is, and whether it will predict adolescents’ response to the intervention. Results revealed that the affect-based intervention was not effective in promoting increased activity, perhaps suggesting that the affective response to exercise is a stable trait, and that programming should be designed to accommodate for individual differences in affective responding.


Complete List of Published Works in MyBiobliography:

D. Additional Information: Research Support and/or Scholastic Performance

**Ongoing Research Support**
UL1 TR001414, NCATS  
Cooper, Dan (PI) 08/15/15-03/31/2024  
Clinical Translational Science Center  
Role: Co-Investigator

**Completed Research Support**
UL1 TR001414, NCATS  
Cooper, Dan (PI) 08/15/15-03/31/18  
Clinical Translational Science Center  
Role: Co-Investigator

R01 DK088800-05  
Schneider, Margaret L (PI) 04/15/11-03/31/17  
Feeling States and Heart Rates: A Translational Study

R01 HD037746-08  
Schneider, Margaret L (PI) 08/15/05-06/30/10  
Osteoporosis Prevention in Sedentary Adolescent Females

R01 HD037746-01A1  
Schneider, Margaret L (PI) 06/19/00-05/31/05  
OSTEOPOROSIS PREVENTION IN SEDENTARY ADOLESCENT FEMALES

1U54RR023466-01, NCATS (NIH)  
Cooper, Dan (PI) 01/01/10-01/01/15  
Clinical Translation Science Center - University of California, Irvine  
Role: co-Investigator

1-U01-DK061259-01, NIDDK (NIH)  
Cooper, Dan (PI) 01/01/02-01/01/12  
Exercise Strategies to Prevent Pediatric Type 2 Diabetes
Role: Co-Investigator
NAME: TANJASIRI, SORA PARK

eRA COMMONS USER NAME (credential, e.g., agency login): stanjasiri
POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>University of California, Berkeley</td>
<td>BA</td>
<td>06/1986</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>MPH</td>
<td>06/1989</td>
<td>Behavioral Sciences</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>DrPH</td>
<td>12/1996</td>
<td>Community Health Sciences</td>
</tr>
</tbody>
</table>

A. Personal Statement

I am a health behavioral scientist who has worked for over three decades applying community-based participatory research (CBPR) to the development and testing of cancer prevention (tobacco, nutrition, physical activity, and HPV vaccination), early detection and survivorship interventions for disparity populations, including Latinx, Cambodians, Chamorros, Chinese Hmong, Koreans, Lao, Marshallese, Native Hawaiians, Thais, Tongans, Samoans, and Vietnamese. I have served as PI, Shared PI, or Co-PI on more than a dozen CBPR studies to address cancer and other health disparities, including on a five-year NCI-funded R01 intervention to increase pap testing among Pacific Islander women, a five-year P20 Partnership for Cancer Disparities Research, a 10-year U01 and U54 Community Network Program Center (CNPC) titled Weaving an Islander Network for Cancer Awareness, Research and Training (WINCART), and the current three-year Advancing Cancer Care Together (ACCT) partnership to increase access to timely screening, diagnoses and treatments for Chinese, Koreans and Vietnamese. I also currently lead the NCI-funded P20 Cancer Health Equity Research Partnership (CHERP) that aims to increase cancer disparities research among faculty at UCI. It is in this latter role, as well as through my Associate Director role at UCI’s Chao Family Comprehensive Cancer Center, that I regularly train and mentor junior faculty on cancer health disparities research.

Ongoing projects that I would like to highlight include:

NIH/NCI P20CA253254
CSUF/UCI-CFCCC Cancer Health Equity Research Partnership (CHERP)
Tanjasiri (PI)
09/23/2021-08/31/2025

NIH/NCI R01CA261888
Individual, Cultural, and Area-Based Factors Associated with Survivorship Care among Asian/Asian-American Childhood Cancer Survivors
Milam, Miller (PIs): Role: Co-I
07/01/2021-06/30/2026

NIH/NIA 1R61AG168948
CLOVER: Enhancing Electronic Health Systems to Decrease the Burden of Colon, Lung, Obesity, Vaccine-Preventable Illness, and Liver Cancer  
Chak, Chen, Zell (PIs); Role: Co-I  
10/05/2020-9/30/2025

Bristol-Myers Squibb Foundation  
Optimizing Access to Cancer Care for Asian American Medi-Cal Beneficiaries in Orange County  
Bristow, Tanjasiri (PIs)  
06/01/2018-5/31/2022

TRDRP T31CR2217  
Vaping among Multicultural Orange County Students (VAMOS)  
Foo, Tanjasiri (PIs)  
08/01/2019-06/30/2022

OMH 1CPIMP211286-01-00  
Health Equity and Literacy in OC (HEAL-OC) for COVID-19  
Perez (PI); Role: multiple PI for Evaluation Core  
07/01/2021-6/30/2023

B. Positions, Scientific Appointments, and Honors

Positions
1998 - 1999  
Postdoctoral Researcher, School of Social Ecology, University of California, Irvine, CA
1999  
Assistant Researcher, School of Social Ecology, University of California, Irvine, CA
2003  
Associate Professor, Department of Health Science, California State University, Fullerton, CA
2005  
Director, Center for Cancer Disparities Research, California State University, Fullerton, CA
2007  
Co-Director, Health Promotion Research Institute, California State University, Fullerton, CA
2008 - 2018  
Professor, Department of Health Science, California State University, Fullerton, CA
2011 - 2018  
Director, Health Promotion Research Institute, California State University, Fullerton, CA
2014 - 2018  
Chair, Department of Health Science, California State University, Fullerton, CA
2018  
Professor, Department of Epidemiology & Biostatistics, University of California, Irvine, CA
2018 -  
Associate Director, Cancer Health Disparities and Community Engagement, Chao Family Comprehensive Cancer Center, University of California, Irvine, CA
2019 -  
Equity Advisor, Program in Public Health, University of California, Irvine, CA

Scientific Appointments
2010 -  
Member, California Breast Cancer Research Program Scientific Council
2013  
Member, American Association for Cancer Research
2016 -  
Member, American Society of Preventive Oncology
2018 -  
Member, Study Section, NIH Healthcare and Health Disparities (formerly Health Disparities and Equity Promotion)

Honors

DMS 284 - Item 1-278
2012 Outstanding Professor Award, California State University, Fullerton, CA
2013 Champions of Health Professions Diversity Award, California Wellness Foundation, CA
2014 Wang Family Excellence Award in Education, Professional and Applied Sciences, California State University, Long Beach, CA

C. Contributions to Science

1. I am keenly interested in CBPR processes that inform community outreach, education and recruitment into clinical and community trials. I have led and/or participated in several large-scale evaluations of these processes to understand how they can be leveraged to address cancer health disparity problems, including basic science (e.g., biospecimen collection), primary prevention and early detection needs. While unique challenges exist, CBPR also provides enormous opportunities for the recruitment of underserved populations into studies, with studies resulting in 75% and higher retention of such participants over the course of multi-measurement studies.


1. Methodologically I have applied mixed methods to the understanding of culturally-informed behaviors and change strategies, including application of Photovoice, GIS mapping, and in-depth qualitative data collection and analyses to better understand community- and culturally-contextualized influences on cancer risk behaviors, access barriers, and disease experiences. These analyses contributed to the eventual development of community-level interventions and/or service programs.


1. I have a special interest in multi-level approaches to addressing cancer prevention and early detection, and have applied CBPR to needs assessment, intervention development and testing, and policy advocacy to increase tobacco prevention, tobacco cessation, physical activity and obesity prevention, and HPV vaccination. All of these studies have been in ethnic/racial populations, and have led to the development of community toolkits and trainings to assist local, regional and national community organizations to achieve healthier communities.


1. Early in my career I researched how specifically enabling interventions involving community health workers and community health navigators can be developed, and to what degree they facilitate access to cancer care for medically underserved populations. The successes of these earlier studies continue to inform my current work, most importantly by relying on such lay educators and navigators as foundational to effective interventions that overcome community barriers to achieve increased cancer control.

a. Tanjasiri SP, Sablan-Santos L, Merrill V, Quitugua LF, & Kuratani DG. Promoting breast cancer screening among Chamorro women in southern California. *Journal of Cancer Education* 2008; 23(1): 10-17. PMC3689549


d. Tanjasiri SP, Mouttapa M, Weiss JW, Sablan-Santos L. Design and outcomes of a community trial to increase Pap testing in Pacific Islander women. *Cancer Epidemiology, Biomarkers & Prevention* 2019; 28(9):1435-1442. PMID 31186260

1. Throughout my career I have devoted myself to mentoring women and minorities in research. I serve as a mentor on the NIH National Research Mentor Network (NRMN), the NCI Geographical Management of Cancer Disparities Program (GMaP), and at my own institution through my role as Equity Advisor for the UCI Program in Public Health.


**Complete List of Published Work in My Bibliography:**
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Elizabeth A. Thomas

eRA COMMONS USER NAME (credential, e.g., agency login): bthomas

POSITION

TITLE: Research Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<td>University of California, Berkeley, CA</td>
<td>B.A.</td>
<td>12/1989</td>
<td>Biochemistry</td>
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<td>University of California, Irvine, CA</td>
<td>Ph.D.</td>
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<td>Pharmacology</td>
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<tr>
<td>The Scripps Research Institute</td>
<td>Post-doc</td>
<td>06/2002</td>
<td>Molecular Biology</td>
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My current research program seeks to identify and characterize biochemical, genetic and epigenetic biomarkers in human populations with neuropsychiatric and neurodegenerative diseases, including Huntington’s disease, Alzheimer’s disease, attention-deficit hyperactivity disorder and bipolar disorder. These studies utilize a variety of human biospecimens, including post-mortem brain tissue, whole blood, saliva and serum, with techniques ranging from immunoassays to DNA methylation studies. Areas of focus include DNA methylation, oxidative stress, inflammation and neurotrophic factors. I have published 94 peer-reviewed papers on these and related topics.

Overall, the goals of my discovery and translational research studies are to improve the diagnosis, prevention and treatment of patients with these devastating disorders. I have worked in the Huntington’s disease field for >20 years, with the past 5 years focusing on the identification of biomarkers in peripheral fluids from Huntington’s patients. As LabDirector of the Interdisciplinary Institute of Salivary Bioscience Research (IISBR), I have focused on extensive work quantifying and optimizing measurements of several biomarkers in saliva samples, including cytokine proteins, neurofilament light (NFL), glial fibrillary acidic protein (GFAP) and S100B. In a recent publication from last year (Corey-Bloom et al., 2020), we found that salivary cytokines, including Interleukin-6 and interleukin 1B, correlated better with clinical symptoms than blood levels of these same proteins. Another recently published manuscript shows that salivary levels of NFL are associated with the number of head impacts in collegiate water polo players (Monroe et al., In press). These results suggest that salivary biomarkers could meet the urgent need for a less invasive means of identifying and monitoring the progression of disease symptoms in diverse populations. Our currently proposed work to investigate salivary cytokines in cognitively-normal aged individuals has the potential for high translational relevance with respect to early diagnosis and screening for clinical trials. I have led translational integrated research projects for 20 years in many areas of neuroscience and am confident in our research team’s ability to carry out the proposed studies.

DMS 287 - Item 1-281
Additional current research projects include:

Elisabeth Severance Prentiss Foundation: PI: Thomas; 09/01/2019-8/30/2023 “Saliva lithium monitoring in patients taking lithium medications”

Major goals: This project will continue our efforts on monitoring salivary levels of lithium medications and optimized individualized dosing regimens in patients taking lithium medications.

R21NS111655-01: PI: Thomas; 1/1/2018-12/30/2021

“Exploration of salivary huntingtin for biomarker discovery”

Major goals: The goals of this study are to measure and characterize levels of the disease protein huntingtin in saliva and blood samples from patients with Huntington’s disease.

4UH3OD023332-03: PI: Blair; 9/21/2018-6/30/2022; Co-I: Thomas

“Early Life Stress and the Environmental Origins of Disease: a population-based Prospective Longitudinal Study of Children in Rural Poverty (ECHO)”

Major goals: The funding under the ECHO program will extend our prior data collection in order to amplify and enhance our focus on adverse chemical as well as non-chemical environmental exposures and neurodevelopment and obesity outcomes.

B. Positions and Honors

<table>
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<tr>
<th>Positions</th>
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<td></td>
<td>2002-2009</td>
<td>Assistant Professor, Department of Molecular Biology, The Scripps Research Institute</td>
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<td></td>
<td>2008-2020</td>
<td>Honorary Senior Research Fellow, The Mental Health Research Institute, Melbourne, AUS</td>
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<tr>
<td></td>
<td>2009-2012</td>
<td>Associate Professor, Department of Molecular Biology, The Scripps Research Institute 2012-2017 Associate Professor, Department of Molecular and Cellular Neuroscience, The Scripps Research Institute</td>
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<td></td>
<td>2017-2019</td>
<td>Visiting Associate Researcher, Department of Public Health, University of California, Irvine 2017-present Adjunct Associate Professor, Department of Neuroscience, The Scripps Research Institute</td>
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<tr>
<td></td>
<td>2020-present</td>
<td>Professional Researcher, Department of Epidemiology, University of California, Irvine 2020-present Lab Director, The Interdisciplinary Institute of Salivary Bioscience Research</td>
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</table>

Scientific Service


2005-present International Grant Reviewer: Israeli Ministry of Science, Technology and Space (Israel), Genome Canada/Competition III and Ontario Mental Health Foundation (Canada); NMRC (Singapore); AFM,
(France); AATRM CATHA Research, (Spain); Medical Research Council and The Wellcome Trust and the NIHR (UK), The Neurological Foundation of New Zealand and The Health Research Council of New Zealand (New Zealand), Health Research Board (Ireland).

2015-present Journal Editor: Frontiers in Genetics, Frontiers in Psychiatry
2018-present Advisory Board, Huntington’s Disease Society of America Center of Excellence

**Honors/Awards**

1992/1993 Henry Wood Elliot Memorial Award/Scholarship, University of California
1997/1998 International Serotonin Club Travel Award
1997-1999 Brain & Behavior Research Foundation (NARSAD) Young Investigator Fellowship
2001 Young Investigator Award, American Society for Neurochemistry
2002 Outstanding Young Investigator Award, The International Union of Basic and Clinical Pharmacology (IUPHAR)
2005 Young Investigator Travel Award, CAG Triplet Repeat Disorders, Gordon Research Conference
2006 Travel Award, Hereditary Disease Foundation, CAG Symposia
2008 International Travel Award, Collegium Internationale Neuropsychopharmacology

**C. Contribution to Science**

1. **Characterized peripheral levels of neurofilament light (NFL) in neurodegenerative disease and head injury.** Our recent study on Huntington’s disease (HD) subjects determined whether NFL protein levels correlated with predicted years to onset in premanifest HD and symptom severity in manifest HD, thereby substantiating its usefulness as a prognostic and/or disease activity marker. Through the use of an electrochemiluminescence immunoassay analysis, we compared plasma NFL levels in normal controls, and individuals with premanifest and manifest HD. We have investigated the association between these levels and a battery of clinical measures, as well as currently used prediction methods for disease onset. We found that plasma NFL was correlated with years to onset in premanifest HD (PM) and significantly elevated following HD symptom onset. Importantly, plasma NFL was not correlated with symptom progression after HD symptom onset. These findings have important considerations when considering plasma NFL as a useful biomarker in clinical trials of manifest HD subjects. We further characterized NFL, and S100B levels in saliva samples from collegiate water polo players to assess their role in head injuries. Our data show that salivary levels of NFL, but not S100B, were associated with the number of head impacts sustained by water polo players in competition.
   b. Monroe, D. C., **Thomas, E.A.**, Cecchi, N.J., Granger, D.A., Hicks, J.W., Small, S.L. Salivary S100Calcium-Binding Protein Beta (S100B) and Neurofilament Light (NFL) after Acute Exposure to Repeated Head Impacts in Collegiate Water Polo Players. *Scientific Reports*, In Press.

2. **Identified huntingtin protein in saliva and proposed its use as a biomarker to assess disease course and severity in Huntington’s patients.** Our group was the first to measure the disease protein, huntingtin, in saliva from Huntington’s disease patients and normal controls. We found that salivary levels of huntingtin protein were elevated in symptomatic patients and significantly correlated with several clinical measures, indicating disease relevance. These studies suggest that measurements of salivary huntingtin offer significant promise as a relevant, non-invasive disease biomarker for this disease, and its use could be implemented into therapeutic monitoring of clinical trials using huntingtin- lowering strategies. Additional studies have shown that salivary levels of uric acid, an antioxidant found throughout the body, show sex-specific correlations to disease symptoms in patients, which could have implications.
for disease monitoring in male vs. female patients.


3. **Identified DNA methylation biomarkers for psychiatric symptoms in Huntington's disease patients.** Brain-derived neurotrophic factor (BDNF) plays an important role in the pathophysiology of HD, as well as other neurodegenerative and psychiatric disorders. Epigenetic alterations in the complex BDNF promoter have been associated with its deregulation in a number of different pathological conditions. These studies measured BDNF promoter IV methylation and BDNF protein levels in blood and saliva from Huntington's patients. Results from these studies showed that BDNF protein levels were decreased in saliva, and BDNF promoter methylation increased in whole blood, from Huntington's disease patients when compared to controls. Further BDNF promoter methylation levels were correlated with anxiety and depression symptoms in patients suggesting that these methylation sites could represent a biomarker of psychiatric symptom severity in Huntington's patients.


4. **Discovered novel epigenetic therapeutics for Huntington’s disease.** These studies were the first to show that histone deacetylase (HDAC) inhibitors selectively targeting HDAC1 and/or HDAC3 improved motor and cognitive disease phenotypes in several different Huntington’s disease model systems. Additionally, these HDAC1/3-targeting inhibitors were shown to alter chromatin structure leading to changes in the expression of disease-related genes. Further, we implicated diverse epigenetic mechanisms in these beneficial effects, including DNA methylation changes that we predict occur downstream from histone acetylation changes. These findings suggested that HDAC1/3-targeting inhibitors represent relevant therapeutic options for Huntington’s disease and Friedreich’s ataxia, in which a Phase I clinical trial has already been conducted.


5. Characterized novel molecular disease signatures occurring with disease onset and progression in schizophrenia. While microarray analysis had been previously performed on post-mortem brain samples from subjects with different psychiatric diseases, our study was the first to analyze transcriptome patterns from post-mortem brain from subjects with schizophrenia at different ages and stages of illness. Using a unique cohort of subjects who had schizophrenia for only short periods of time provided by the Victorian Brain Bank in Australia, we showed that gene expression changes vary greatly from early-stage patients to chronic patients, and showed a differential aging effect in normal subjects compared to those with schizophrenia. As a follow up to these studies, we identified a novel subgroup of subjects who could be defined by low levels of expression of the muscarinic M1 receptor.


NAME: David S. Timberlake

eRA COMMONS USER NAME (credential, e.g., agency login): DAVIDTIMBERLAKE

POSITION TITLE: DAVIDTIMBERLAKE

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<td>California Polytechnic State University, SLO</td>
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<td>San Diego State University, San Diego</td>
<td>MPH</td>
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<td>Epidemiology</td>
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<tr>
<td>University of California, San Diego</td>
<td>PHD</td>
<td>06/2003</td>
<td>Epidemiology</td>
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<tr>
<td>University of Colorado, Boulder</td>
<td>Postdoc.</td>
<td>12/2006</td>
<td>Behavioral Genetics</td>
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A. Personal Statement
I have engaged in research in the field of tobacco regulatory science over the past several years. My research grants and manuscripts have used several different methodologies in quantitative and qualitative research to address issues ranging from tobacco harm reduction to the marketing of smokeless tobacco. I am particularly qualified to conduct the specific aims outlined in the current proposal because of my prior research on the co-use of cannabis and tobacco (publications #1 and #2), and my experience with focus groups (publication #3) and semi-structured interviews (publication #4). Using data from a national survey, I reported a positive correlation between blunt smoking and nicotine dependence among individuals who co-used cannabis and tobacco in various forms (publication #1). National data was also used in observing a shift in the demographics of blunt smokers from African-Americans to non-white Hispanics/Hispanics across birth cohorts (publication #2). The use of focus groups, which is particularly relevant to this application (Specific Aim II), enabled our group to query cigarette smokers about perceptions of smokeless tobacco in a way that could not be accomplished with surveys (publication #3). This study utilized the same analytical method (i.e. domain analysis) that is proposed in the current application. More recently, I conducted semi-structured interviews with tobacco control advocates and policymakers about the feasibility of Finland’s goal of becoming tobacco free by the year 2030 (publication #4). This project, which was funded by U.S. Fulbright, exemplifies my experience conducting interviews and analyzing transcript data.


B. Positions and Honors

Positions and Employment
1995–1996 Epidemiologist (ASPH Intern), Division of Diabetes Translation, CDC, Atlanta, GA
1996-1997 Data Analyst, Department of Statistical Genetics, Sequana Therapeutics, La Jolla, CA
1997-2000 Statistician, Health Services Research and Development, Veterans Affairs San Diego Healthcare System and University of California, San Diego, San Diego, CA
2000-2003 Doctoral Research, Department of Medicine and Center for Molecular Genetics, University of California, San Diego, CA
2003-2006 Postdoctoral Fellow, Institute for Behavioral Genetics, University of Colorado, Boulder
2007-2013 Assistant Professor, College of Health Sciences, University of California, Irvine, CA
2013-Present Associate Professor, College of Health Sciences, University of California, Irvine, CA

Other Experience and Professional Memberships
2003-2006 Behavior Genetics Association
2007-2013 Society for Research on Nicotine and Tobacco

Awards and Honors
05/27/2010 Teaching Excellence, College of Health Sciences, University of California, Irvine
8/2017 - 5/2018 Fulbright–University of Tampere Scholar Award (research/teaching)

C. Contributions to Science

My primary research contribution has been the feasibility of promoting smokeless tobacco as a less harmful alternative to cigarette smoking for smokers in the United States. This is a highly contentious issue that originated from epidemiologic studies conducted in Sweden. Some researchers have questioned whether the “natural experiment” observed in Sweden can be translated to the United States. These concerns include a possible gateway from smokeless tobacco to cigarettes (publication #5); the content of print advertising of snus (publication #6); the effect of advertising on youth initiation of smokeless tobacco (publication #7); and the risk of mortality from using smokeless tobacco (publication #8). Our research has indicated the following: 1) the gateway to smoking is unlikely; 2) smokers’ receptivity to smokeless tobacco is minimal; 3) the advertising of novel smokeless products is primarily oriented to smokers; and 4) print advertising is an effective media for influencing youths’ initiation of smokeless tobacco and preference for discount snuff. With exception of the gateway study, the aforementioned studies suggest that tobacco harm reduction is unlikely to be successful in the United States.

- Timberlake DS, Huh J, Lakon C. Use of propensity score matching in evaluating smokeless tobacco as a gateway to smoking. *Nicotine Tob Res.* 2009 Apr; 11(4): 455-46. PMID: 19307445

D. Research Support

Current Research Support

Chao Family Comprehensive Cancer Center (Pilot Project 2020) (D. Timberlake) 2/28/20 - 3/1/21
*The burgeoning cannabis industry and availability of cheap tobacco in Orange County, CA*
This project will examine the association between the retail availability of cigarillos and local cannabis policies. Role: PI
**Institute of Social Sciences**

**Tobacco-Related Disease Research Program (T31IP1678) (D. Timberlake, C. Li, L. DAnna)**  
7/1/20 - 6/30/22

*Investigating the potential for non-tobacco wraps to displace cigarillos for blunt smoking*

This pilot project will examine blunt smokers’ receptivity to using non-tobacco wraps as a replacement for tobacco, via an analysis of Twitter data and qualitative data from focus groups of blunt smokers.

**Role:** PI

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**California Bureau of Cannabis Control (RG-1603164402-805)** (D. Timberlake, T. Bruckner, C. Pechmann, L. Silver, A. Padon)  
1/1/21 - 12/30/22

*Exploring Cannabis Policies and Practices That Influence Adolescent Use: Evolution of Local Cannabis Law, Products, Sales, and Marketing*

This study will bring together four approaches to clarify how cannabis policy may be influencing adolescent use. First, it will leverage the Public Health Institute’s (PHI) unique Cannabis Local Laws Database (CLLD) of laws across all 539 California jurisdictions to assess progress in local cannabis legalization. Next, it will use data from the California Healthy Kids Survey (CHKS) from the years 2016/17 to 2020/21 to examine how variations in local laws are associated with trends in adolescent cannabis and other drug use. Third, it will study how cannabis market sales, and specifically products that appeal to youth, have evolved from 2017 to 2021. Finally, it will examine to what extent current law effectively precludes underage access to websites that directly market cannabis.

**Role:** PI

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**Past Research Support**

**P20 CA174292; P20 CA174188 (D. Timberlake; J. Yang)**  
9/01/14 – 8/31/17

*National and local retail advertising of e-cigarettes aimed at ethnic minorities*

The goal of this project was to assess the marketing messages of electronic nicotine delivery systems aimed at ethnic minorities. The messages were assessed nationally in the form of online advertisements, and locally in the form of retailers’ conveyance of the benefits of electronic cigarettes.

**Role:** PI of a smaller grant originating from the P20s.

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**UC Cancer Research Coordinating Committee (103679) (D. Timberlake)**  
7/01/14 – 6/30/16

*A novel approach for testing the association between smokeless tobacco use and cancer*

The goal of this project was to test the association between smokeless tobacco use and mortality from various cancers using a series of cross-sectional surveys (Tobacco Use Supplements to the Current Population Survey) and mortality data from the National Longitudinal Mortality Study.

**Role:** PI
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: TURNER, LEIGH

eRA COMMONS USER NAME (credential, e.g., agency login): lgturner

POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<td>University of Manitoba, Winnipeg, Manitoba</td>
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<td>California</td>
<td>MA 05/1995 Religion and Social</td>
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<tr>
<td>University of Southern California, Los Angeles, California</td>
<td>PHD 05/1996 Religion and Social</td>
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<tr>
<td>University of Southern California, Los Angeles,</td>
<td>Ethics</td>
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A. Personal Statement

My primary contributions to scholarship are in the ethics of novel and emerging biotechnologies, public health ethics, and translational research ethics. I have a particular interest in how hyperbole and marketing misrepresentations are used to promote premature commercialization of emergent biomedical technologies and undermine responsible communication of scientific research. My current research examines ethical, legal, and social issues related to stem cell research and the development of regenerative medicine therapeutic products. Combining ethical analysis with empirical social science research methods, my research explores the premature commercialization of regenerative medicine products by U.S. businesses and international companies selling unlicensed and unproven stem cell interventions. I have published my empirical research and related ethical analyses and policy contributions in such leading journals as Cell Stem Cell, Stem Cell Reports, Cytotherapy, and Regenerative Medicine. I have contributed to current policy debates concerning the regulation of stem cell and regenerative medicine products, and helped translate my research findings during interactions with various regulatory bodies. A related research focus examines how "hype" and misleading advertising claims are used to inaccurately promote and publicize other kinds of novel biomedical technologies such as artificial intelligence and machine learning tools, fecal microbiota transplantation, and "direct-to-consumer" brain stimulation devices. This research program also emphasizes the importance of honesty, transparency, and accuracy in public communication of scientific research findings.


B. Positions, Scientific Appointments and Honors

**Positions and Scientific Appointments**

2021 - Professor, University of California, Irvine, Irvine, CA
2008 - 2021 Associate Professor, University of Minnesota, Minneapolis, MN
2008 - 2008 Associate Professor, McGill University, Montreal
1998 - 2000 Clinical Assistant Professor, University of Toronto Joint Centre for Bioethics, Toronto 1996 - 1997 Research Associate, The Hastings Center, Garrison, NY
1996 - 1996 Research Assistant, University of Southern California, Los Angeles, CA

**Honors**

2016 - 2016 Ryan Bioethicist in Residence, Southern Illinois University
2013 - 2013 Erasmus Mundus Visiting Scholar, Radboud University Nijmegen 2006 - 2007 Distinguished Visiting Fellowship, University of Toronto
2003 - 2004 Member, Institute for Advanced Study, Princeton, New Jersey

C. Contribution to Science

1. My research examining premature commercialization of regenerative medicine products has combined internet-based searches using the Google search engine with data-mining approaches to develop detailed empirical studies of U.S. and Canadian companies engaged in direct-to-consumer marketing of unlicensed and unproven stem cell interventions. This research has helped draw attention to the problem of premature commercialization of stem cell and regenerative medicine products in the United States and Canada. Prior scholarship commonly focused on stem cell tourism to international clinics, and paid insufficient consideration to the spread of such businesses within the United States. This research has resulted in considerable news media coverage and interaction with various federal and state regulators.


2. My research has investigated how an important public good, the ClinicalTrials.gov platform used for registering and listing clinical studies, has been undermined by listings of "pay-to-participate" clinical studies that do not appear to comply with contemporary ethical and regulatory standards for research involving human participants. This scholarship has drawn attention to the importance of ensuring that clinical trials are carefully screened -- applying scientific and ethical standards for review -- before they are deposited and made publicly visible in clinical trials registries.


3. Working with colleagues engaged in basic science research, translational clinical research, and the clinical practice of medicine, I have contributed to science by exploring the role scientific societies, professional societies, and concerned scientists can play in promoting informed public understanding of contemporary research findings. This research -- combined with public outreach efforts -- supports efforts to promote patient education and public awareness of ethical, scientific, and legal aspects of contemporary novel and biomedical technologies. This research focus is designed to challenge hyperbole and marketing misrepresentations and ensure public conversations and policy debates remain grounded in reliable, trustworthy, credible sources of scientific information.


4. In collaboration with Professor Jeremy Snyder and other colleagues, I have explored crowdfunding campaigns of individuals seeking financial support for access to unlicensed and unproven stem cell interventions. These studies have explored the role of online crowdfunding platforms in promoting the circulation of misinformation about stem cells and other regenerative medicine products. This research also examines how inaccurate claims about stem cell interventions and other regenerative therapy products circulate unchecked on crowdfunding websites. This research initiative has implications for broader understanding of how health-related misinformation circulates on crowdfunding platforms and social media sites.


5. Working with colleagues, I have engaged in ethical analysis and empirical social science research related to "right-to-try" legislation. This scholarship identifies various ethical concerns with "right-to-try" laws and also explores whether patients use this route to access investigational products or pursue more established routes such as the expanded access regulatory pathway for accessing non-FDA approved investigational products outside clinical trial context.


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: UBAN, KRISTINA A.

eRA COMMONS USER NAME (credential, e.g., agency login): ubankr

POSITION TITLE: Assistant Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

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<td>12/2002</td>
<td>Psychology</td>
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<td>University of Colorado at Denver; Denver, CO</td>
<td>MA</td>
<td>12/2006</td>
<td>Clinical Psychology</td>
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<td>University of British Columbia; Vancouver, BC</td>
<td>PhD</td>
<td>12/2012</td>
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<td>Children’s Hospital Los Angeles; Los Angeles, CA</td>
<td>Postdoc</td>
<td>06/2018</td>
<td>Pediatric Neuroimaging</td>
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A. Personal Statement

My research is situated at the intersections between developmental neuroendocrinology, teratogens, and public health. My research examines dynamic brain-body interactions across development following teratogen exposure, leveraging biomarkers including multimodal magnetic resonance imaging and salivary bioscience. In July 2018, I established the Developing Brains Laboratory at the University of California, Irvine and became a core faculty member of UCI’s Interdisciplinary Institute for Salivary Bioscience Research. My training is diverse, transdisciplinary, translational, and collaborative, working closely with basic scientists, clinical psychologists, medical providers, public health agencies and policy makers to optimize outcomes for humans impacted by teratogens. In the past 2 years, my research program began to examine health disparities in brain development by examining how teratogens and sociodemographic factors interact to impact developing human brains.

Ongoing and recently completed projects that I would like to highlight include:

K01 AA026889-01 Uban (PI)
07/01/2018-06/30/2023

NIH/NIAAA
Assessing stable characteristics of neuroendocrine function among boys and girls with prenatal alcohol exposure as a novel clinical tool:
Individuals affected by prenatal alcohol exposure (PAE) can present with a complex profile of adaptive, cognitive, behavioral and mental health problems referred to as fetal alcohol spectrum disorder (FASD). Alterations in neuroendocrine function may serve as a fundamental neurobiological mechanism for increased mental health problems among individuals with PAE; thus, improving or normalizing neuroendocrine function may be a viable option to help improve outcomes for individuals with FASD. The primary aim of the proposal is to provide the candidate with essential tools to examine individual differences in neuroendocrine alterations, and their role in susceptibility for mental health problems among human adolescents with FASD.
Role: PI
Brain and Cognitive Development in the PASS Cohort: The Impact of Prenatal Alcohol Exposure

In this proposal, we aim to better understand how quantity, frequency and timing (QFT) of prenatal alcohol exposure (PAE) plus early life experience impact brain and cognitive development.

Role: Co-I until June 2018

Citations:

B. Positions and Honors

**Positions and Employment**

2012-2018*Postdoctoral Research Fellow, Pediatric Neuroimaging, Children’s Hospital LA, CA

(*please note two maternity leaves in timeframe)

2018- Tenure-track Assistant Professor, Public Health, IISBR, University of California, Irvine, CA

2018- Core Faculty for the Institute of Interdisciplinary Salivary Bioscience Research, UCI

2019- Adjunct Assistant Research Professor, USC’s Keck School of Medicine, Children’s Hospital Los Angeles

2020- Faculty Fellow, Center for the Neurobiology of Learning and Memory, UCI

**Other Experience and Professional Memberships**

2006- Member, Society for Neuroscience (SfN)

2006- Member, International Society for Developmental Psychobiology (ISDP)

2006- Member, Research Society on Alcoholism (RSA)

2006- Member, FASD Study Group (FASDSG)

2012- Reviewer, *Neuroscience* (21 assignments)

2013- Member, Flux Congress

2013- Reviewer, *Psychoneuroendocrinology* (8 assignments)

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DMS 299 - Item 1-293
C. Contributions to Science

1. The effects of Prenatal Alcohol Exposure (PAE) on the Developing Brain: The stress system is a main mechanism for outside factors, like teratogens and life adversity, to “get under the skin” and produce long-lasting consequences on physical and neurobiological health. Disentangling the effects of prenatal alcohol exposure (PAE) versus stress exposure and early-life adversity is essential for understanding the FASD brain, and informing effective interventions. Further, my research has contributed to understanding early biomarkers of FASD for early identification and intervention. My most impactful contribution thus far is providing insight into alcohol versus stress effects (and their interactive effects) on the developing brain using rat models of PAE. In these models, I have used various stress models to perturb endocrine function and reveal underlying dysregulation of the hypothalamic-pituitary-adrenal and gonadal axes. During my postdoctoral fellowship, I extended my investigation of endocrine dysregulation and altered brain development following PAE to human adolescents using salivary bioscience and multimodal neuroimaging (MRI). Additionally, I have been a key collaborator on a series of studies utilizing archived structural (sMRI) and diffusion tensor imaging (DTI) scans as part of the Collaborative Initative on Fetal Alcohol Spectrum Disorders (CIFASD), and the mediating role of socioeconomic status (SES) on the developing human adolescent brain with PAE.


2. **Influence of Gonadal Hormones on Brain and Behavior:** Many sex differences in brain and behavior exist. Some are due to organization differences between males and females, while many are due to activational effects via sexually dimorphic endocrine function, and have implications for furthering our understanding of mechanisms involved in resilience/vulnerability to mental health problems, and cognitive decline in the aging brain. My contributions to science include elucidating novel mechanisms of how gonadal hormones relate to brain and cognitive outcomes.


3. **Understanding the impact of perinatally acquired HIV on brain and cognition:** Understanding mechanisms involved in fetal programming that produce long-lasting alterations in brain and cognitive measures is essential for long-term health care plans and reducing health care costs for society. I have contributed to our understanding of fetal programming by applying my skill set of examining the impact of prenatal environments on later brain measures, to a cohort of youth with perinatally acquired HIV.


**Complete List of Published Peer-Reviewed Work on PubMed:**
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: VIEIRA, VÉRONICA M.

eRA COMMONS USER NAME (credential, e.g., agency login): vmv@bu.edu

POSITION TITLE: Professor and Chair, Environmental and Occupational Health

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts Institute of Technology, Cambridge MA</td>
<td>B.S.</td>
<td>06/98</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Stanford University, Stanford CA</td>
<td>M.S.</td>
<td>06/00</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Boston University School of Public Health, Boston MA</td>
<td>D.Sc</td>
<td>09/03</td>
<td>Environmental Health</td>
</tr>
</tbody>
</table>

A. Personal Statement

My research deals extensively with modeling methods for examining the contributions of risk factors and environmental exposures to the underlying patterns of disease disparities. I am currently the Principal Investigator (PI) of an intervention study to examine air pollution in elementary schools near the Ports of Los Angeles and Long Beach funded by the California Air Resources Board. In addition, I am an MPI on a new study investigating exposure to PFAS and childhood cancers in communities with contaminated drinking water in LA and Orange Counties. I was also an MPI of an NIMHD R01 investigating disparities in ovarian cancer and geographic barriers to access to care [1]. In addition, I am a co-investigator on a CDC/ATSDR health study of PFAS exposure in Orange County studying drinking water contamination and health outcomes in predominantly Hispanic communities [2]. I have also investigated the associations between fracking and birth defects in Texas [3] and chemical mixtures and adolescent risk-taking behaviors in a Massachusetts community impacted by a Superfund Site [4]. I look forward to working closely with the multidisciplinary team of investigators on this important project. As an investigator of the proposed study, I will contribute my expertise of cancer incidence studies, spatial analyses and environmental health disparities research.

B. Positions and Honors

Positions and Employment

Oct 2006 – Feb 2010 Assistant Professor, Department of Environmental Health, Boston University School of Public Health, Boston MA

Feb 2010 – Oct 2011 Associate Professor, Department of Environmental Health, Boston University School of Public Health, Boston MA

Nov 2011 - present Adjunct Professor, Department of Environmental Health, Boston University School of Public Health, Boston MA

Oct 2011 - June 2018 Associate Professor, Program in Public Health, University of California, Irvine CA

July 2018 - present Professor, Program in Public Health, University of California, Irvine CA

Oct 2019 - present Interim Chair, Department of Environmental and Occupational Health, Program in Public Health, University of California, Irvine CA

Professional Membership

2004 – Present International Society of Environmental Epidemiologists, Secretary-treasurer 2011-17

2006 – Present International Society of Exposure Science

Select Honors and Service

2017 International Society for Environmental Epidemiology (ISEE) Tony McMichael Mid-Term Career Award, Presented at the 2017 ISEE Annual Meeting, Sydney Australia.

2019 Standing Member, 4-year term, NIH IRAP Study Section

2020 Associate Editor, 3-year term, Environmental Health Perspectives journal


Community health studies of PFOA exposure via drinking water: The DuPont Washington Works facility in Parkersburg, West Virginia is located on the Ohio River and released Perfluorooctanoic acid (PFOA, C8) into the air, ground water, and Ohio River from the 1950s until recently, contaminating the local drinking water. A class action lawsuit brought by the surrounding communities against DuPont resulted in a year-long survey (August 2005 - July 2006) called the C8 Health Project. To investigate the health effects of PFOA released from the facility into the environment, the settlement also established a Science Panel to assess whether or not there is a probable link between PFOA exposure and disease in the community. I contributed to PFOA exposure modeling [5], including the prediction of groundwater concentrations at the drinking water public service districts and the uncertainty of those predictions [6]. I also examined the impact of drinking water exposures among private well users [7] and collaborated on numerous health studies. My cancer study [8] contributed to the Science Panel probable link finding for kidney and testicular cancers and recently to establishing a future California drinking water standard for PFOA.


Air pollution and infant/child health outcomes: We investigated the relationship between ambient PM$_{2.5}$ concentrations and infant morbidity in a Massachusetts population-based cohort using novel spatial and temporal modeling methods including remote sensing and generalized additive models (GAMs). Our results showed associations with birth defects [9] and otitis media and bronchiolitis [10]. We also observed PM$_{2.5}$ associations with asthma clinical encounters among children in the same birth cohort [11]. A study in France concluded that neonatal mortality was elevated in areas with higher air pollution [12]


Evaluation of generalized additive models (GAMs) for spatial analysis of epidemiologic data: As a researcher with the Boston University Superfund Research Program for over 10 years, colleagues and I have developed a framework for applying GAMs to analyze geographic data collected in epidemiologic studies [13]. We have evaluated these methods using simulated datasets that test the ability of GAMs to detect spatial patterns in individual point-level data [14]. As many of the social and environmental risk factors for important public health outcomes share a spatial component, having critical methods to analyze patterns in these data can provide useful information about which factors are the significant contributors to disease risk. Using GAMs, we can account for spatially-varying risk factors such as low socioeconomic status which may be associated with observed patterns of risk. After adjustment, if the patterns no longer exist, then we have identified contributing risk factors. Our MapGAM package in R [15] is freely available for researchers and public health practitioners to analyze their own data [http://cran.r-project.org/web/packages/MapGAM/MapGAM.pdf]. We have recently extended our work to formally test differences across multiple time periods [16].


Mixtures of chemical and non-chemical stressors: Recent work has focused on the contribution of both environmental exposures and non-chemical risk factors on the risk of disease. This is a natural extension of our GAM modeling approach that looked at bivariate simultaneous effects on longitude and latitude where environmental and socioeconomic stressors were assessed for their role in geographic disparities of ADHD-related risk near the New Bedford Harbor Superfund Site in Massachusetts [17]. Non-chemical stressors were also significant risk factors for risky behavior among adolescents in our mixture analyses with prenatal biomarkers of PCBs, DDE, HCB, Pb, and Hg [18]. We used these measured biomarkers from the New Bedford cohort to develop exposure models for predicting organochlorine and heavy metal exposures among all births near the superfund site during that time period [19]. This allowed us to examine associations between mixtures of prenatal biomarkers, SES, and risk of teen births [20].

Application of GAMs to international datasets for spatial analysis: Epidemiologic datasets and disease registries often collect geocoded addresses that can be used to explore spatial associations of health outcomes. Location can serve as a proxy for environmental and contextual risk factors that may be measured or unmeasured in the data set. Not only can GAMs be used to confirm or refute exposure hypotheses, they can also generate new hypotheses for further investigation. For example, a spatial analysis of rheumatoid arthritis (RA) among women in Sweden identified regional differences that could not be attributed to diagnostic differences [21]. GAMs have also been used to examine the contribution of environmental inequalities to mortality risk for hematological malignancies near a petrochemical refinery in Italy [22]. GAMs can also provide information for spatial patterns over time, as was done with ALS incidence in Denmark [23]. Recently, we examine the role of the social and built environment on childhood obesity in Portugal [24].
D. Research Support most relevant to proposed application

NIEHS 1R01ES032196-01A1  
09/03/21-08/31/24  
Exposure to per- and polyfluoroalkyl substances (PFAS) and risk of cancer in children  
The primary goal of the project is to investigate the effect of pre- and postnatal exposure to per- and polyfluoroalkyl substances (PFAS) on the risk of cancer in children, using data from the California Linkage Study of Early-onset Cancers (CALSEC) and other sources.  
Role: Principal Investigator (MPI)

California Air Resources Board (CARB) 20RD015  
05/15/21-05/14/25  
HI-FIVE - Health Impacts of Filtration ImproVements in Elementary Schools  
The overall goal of this study is to investigate the possible health benefits directly associated with PM2.5 exposure reduction through improved filtration in elementary schools in a highly exposed community in Southern California.  
Role: Principal Investigator

U01 TS000308  
09/30/19–09/29/24  
CDC/ATSDR  
UC I PFAS Health Study (Bartell, PI)  
Goal: This study, along with other studies in the CDC/ATSDR PFAS multi-site health study, will determine whether modelled and measured serum concentrations PFAS are associated with a variety of cross-sectional health outcomes in child and adult participants.  
Role: Co-Investigator

NIMHD 1 R01 MD009697-01A1  
04/12/16-12/31/21  
National Institute of Minority Health and Health Disparities (NIMHD)  
Spatiotemporal Analysis of Disparities in Ovarian Cancer Treatment and Survival  
Goal: The goal of the current proposal is to define the contribution of geographic location to racial and socioeconomic disparities in ovarian cancer treatment and survival. This research will contribute to our understanding of the relationship between distance to receiving care and ovarian cancer mortality and quality of care.  
Role: Principal Investigator (MPI)

COVID-19 Emergency Responders Surveillance Study  
09/01/20-01/31/21  
MA-042-21010600 Orange County Health Care Agency  
Goal: The primary goal of this project is to determine the seroprevalence of COVID-19 antibodies and its relationship to exposure factors among paramedics and firefighters in Orange County, CA.  
Role: Principal Investigator

Population-Wide Surveillance of COVID-19 Antibodies in Orange County  
05/01/20-04/30/21  
Orange County Health Care Agency  
Goal: This study consists of a population-based survey and COVID-19 antibody test for 5,000 adults living in Orange County, CA, the 6th largest county in the US, to determine the prevalence of exposure to SARS-CoV2.  
Role: Co-Investigator (MPI Bruckner and Boden-Albala)

NIEHS P42 ES007381-11  
04/01/12-03/31/21  
National Institute of Environmental Health Sciences (NIEHS)
Detecting and Analyzing Patterns in Epidemiologic and Toxicologic Data. Project 2 of the Superfund Basic Research Program at Boston University (David Ozonoff, Project Director).

Goal: Development and application of methods for spatial epidemiology. Application of these and related methods for analysis of chemical mixtures (analysis of chemical responses surfaces).

Role: Project Leader of Project 2

NIEHS 1 R01 ES019897-01A1

05/01/11-04/30/17

National Institute of Environmental Health Sciences (NIEHS)

Spatial and Temporal Modeling of PM$_{2.5}$ and Infant Morbidity

Goal: This study will investigate the relationships between ambient PM$_{2.5}$ concentrations and infant morbidity in a population-based cohort using novel spatial and temporal modeling methods including remote sensing and generalized additive models.

Role: Principal Investigator

NIEHS R21 ES023120-01

07/01/13-06/30/16

National Institute of Environmental Health Sciences (NIEHS)

Bayesian integration of biomarkers and spatial exposure data (Bartell, PI)

Goal: The major goals are to determine the sensitivity of previously reported C8 Health Project epidemiologic associations between PFCs and pregnancy-induced hypertension/preeclampsia to spatiotemporal exposure uncertainty, and to reanalyze those data using new Bayesian models that combine spatiotemporal exposure estimates with exposure biomarkers.

Role: Co-Investigator

Komen Foundation Grant IIR13264020

12/01/13-11/30/17

Environmental exposures, early proliferative changes and breast cancer risk

Goal: This study will examine the spatial associations between breast cancer risk, environmental exposures, and contextual factors including community-level socioeconomic status and housing characteristics.

Role: Principal Investigator at UCI (subcontract from Harvard University)
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: WENZEL, LARI PH.D.

eRA COMMONS USER NAME (credential, e.g., agency login): LARI_WENZEL

POSITION TITLE: Professor of Medicine and Public Health

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
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<th>Completion Date</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Wisconsin, Madison, WI</td>
<td>BA</td>
<td>1978</td>
<td>Psychology</td>
</tr>
<tr>
<td>University of Wisconsin, Madison, WI</td>
<td>MS</td>
<td>1980</td>
<td>Counseling</td>
</tr>
<tr>
<td>Arizona State University, Tempe, AZ</td>
<td>PhD</td>
<td>1988</td>
<td>Counseling Psychology</td>
</tr>
</tbody>
</table>

A. Personal Statement

I am a Professor in the Department of Medicine in the School of Medicine and the Program in Public Health, in the College of Health Sciences at the University of California, Irvine. I am also a Senior Research Associate at the Health Policy Research Institute. The overall goal of my cancer control research program is to improve health outcomes and quality of life (QOL) for cancer survivors. To accomplish these goals, our team has successfully developed and tested a web-based Patient-Centered Outcome Aid, designed to assist newly diagnosed ovarian cancer patients in their treatment decision-making (PCORI; CE-12-11-4755). In addition, we have led the analyses from a large ovarian cancer cooperative group trial to identify patient-reported outcome predictors of long-term (8+ years) ovarian cancer survival (DOD W81XWH-16-2-0038). We previously developed and tested an NCI-funded biobehavioral intervention designed to improve QOL, and associated neuroendocrine and immune parameters for cervical cancer survivors, a particularly vulnerable multi-ethnic cancer survivor population (CA-118136; CA-98794).

I am actively involved in academic, scientific and collaborative interactions nationally. A significant component of my work in quality of life and health outcomes improvement has included leadership positions within the NCI-funded national cancer cooperative group networks, including as an NRG Oncology Patient-Centered Outcomes Research Committee Co-Chair, and a mentor within the ECOG-ACRIN (NCI’s) Community Oncology Research Program. Within this work scope I have contributed to the patient-reported outcome measurement science, which is so vital to assessing risks and benefits associated with cancer clinical trial and cancer control endpoints. In addition, I am active in the NCI Symptom Management and Quality of Life Steering Committee.

At the UCI Chao Family Comprehensive Cancer Center (CFCCC), I previously served as the Associate Director of Population Science and Cancer Control for four years and Program Leader of the Cancer Prevention, Outcomes and Survivorship program for three years. I began directing the Biobehavioral Shared Resource (BBSR) in 2003, and continue to serve as Director of this core in addition to my role as co-Chair of the Mentorship, Education and Training Committee for our faculty engaged in cancer research. My breadth of experience in cancer survivorship, clinical trials research, and various leadership roles in the field, allow me to be responsive to the growing importance of patient-reported outcomes in clinical and cancer control trials. I am committed to developing the BBSR’s capacity to offer PROs in the most efficient and technologically advanced means possible, including web-based data collection, Computer Adaptive Testing, and Epic integration with clinical data. To this end, the BBSR will not only provide state-of-the-science consultative services to the medical center and cancer center members specifically, but also fulfill...
the CFCCC mission to “improve the quality of life for those with cancer through clinical trials and compassionate care.”


B. Positions and Honors

**Positions and Employment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position and Employment</th>
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<tbody>
<tr>
<td>1995-1996</td>
<td>Assistant Clinical Professor: Department of Medicine, Div. of Hematology/Oncology, University of California at Irvine</td>
</tr>
<tr>
<td>1995-1999</td>
<td>Associate Scientist: Center for Behavioral Research; Chair: Psychosocial Research Programs, AMC Cancer Research Center, Denver, CO</td>
</tr>
<tr>
<td>1999-2001</td>
<td>Assistant Adjunct Professor: Dept. of Medicine, Epidemiology Division, University of California, Irvine</td>
</tr>
<tr>
<td>2001-2005</td>
<td>Associate Adjunct Professor: Dept. of Medicine, College of Medicine, University of California, Irvine</td>
</tr>
<tr>
<td>2005-2008</td>
<td>Associate Professor: Department of Medicine, and Program in Public Health, College of Health Sciences, University of California, Irvine</td>
</tr>
<tr>
<td>2014-2017</td>
<td>Program Leader, Cancer Prevention, Outcomes and Survivorship, Chao Family Comprehensive Cancer Center, University of California, Irvine</td>
</tr>
<tr>
<td>2014-2018</td>
<td>Associate Director, Population Science and Cancer Control, Chao Family Comprehensive Cancer Center, University of California, Irvine</td>
</tr>
<tr>
<td>2018-2019</td>
<td>Acting Vice Dean, Academic Affairs, School of Medicine, University of California, Irvine</td>
</tr>
<tr>
<td>2003-present</td>
<td>Senior Research Associate: Health Policy Research Institute, University of California, Irvine</td>
</tr>
<tr>
<td>2003-present</td>
<td>Director, Biobehavioral Shared Resource, Chao Comprehensive Cancer Center, School of Medicine, University of California, Irvine</td>
</tr>
<tr>
<td>2008-present</td>
<td>Professor: Department of Medicine, and Program in Public Health, College of Health Sciences, University of California, Irvine</td>
</tr>
<tr>
<td>2010-2020</td>
<td>Associate Dean, Faculty Development, School of Medicine, University of California, Irvine</td>
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**Honors**

<table>
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<tr>
<td>2008-2010</td>
<td>Invited Chair, National Cancer Institute Scientific Committee on Symptom Management and Health-related Quality of Life Liaison Working Group</td>
</tr>
</tbody>
</table>

DMS 309 - Item 1-303
C. Contributions to Science

1. Patient-Reported Outcomes in Clinical Trials. Cancer and its treatment lead to symptoms and quality of life disruptions throughout the disease course. In a clinical trial, patient-reported outcomes measurement provides a mechanism to evaluate treatment benefit or risk, which complements the primary outcome of overall or progression free survival. Our health-related quality of life work in cancer clinical trials has contributed meaningful patient-reported outcomes, which continues to inform treatment decision-making, clinical trial design and interpretation, clinical practice and future studies.


2. Health-Related Quality of life in Cancer Survivorship. Cancer survivorship research encompasses the physical, psychosocial, emotional and economic sequelae of the diagnosis and its treatment. Our research has contributed to the knowledge base of cancer survivorship, specifically identifying sociodemographic, disease-specific and psychosocial factors which adversely affect, or conversely buffer against quality of life disruptions.


3. **Biobehavioral Interventions.** Throughout my career, I have worked to develop interventions targeted at improving outcomes for cancer survivors, including improved mood, improved communication with the health care team, and disease-specific benefits. Our interdisciplinary team was the first to demonstrate that psychosocial telephone counseling (PTC) benefits depression, quality of life, and gynecologic concerns for cervical cancer survivors, and that these improvements are associated with improvements in T-helper type 2 and counter-regulatory cytokines. We also noted that telomere length of peripheral blood leukocytes could be affected by changes in the chronic stress response specific to this population. This stemmed from foundational work conducted with colleagues on the benefits of PTC for breast cancer survivors, or those at risk. Together, these studies have added significantly to the growing understanding of a potential biobehavioral pathway relevant to outcome improvement and cancer survivorship.

   
   
   

4. **Questionnaire Validation.** Cancer clinical trials and cancer control studies regularly, and with increasing frequency, include patient-reported outcome measures. These measures must represent robust psychometric properties in order to adequately assess the construct of interest. These questionnaire validations demonstrate contributions to patient-reported outcome measurement science in cancer.

   
   
   

**Complete List of Published Work in My Bibliography:**

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**D. Research Support**

**Current Research Support**

W81XWH2010308 (Hoyt, PI) 05/15/20 – 05/14/23

**DOD**

*Inflammatory Processes, Emotion Regulation, and Depression in Prostate Cancer Survivors*

This study calls upon stress and coping, psychoneuroimmunology, and emotion regulation theories and research to investigate the causes and mechanisms of depression among prostate cancer patients.

DMS 311 - Item 1-305
Role: Co-Investigator

BIQSFP-NRT (Wenzel, PI) 09/01/20 – 08/31/21
NCI/BIQSFP

*Disease-related Symptom Scale Validation in Recurrent Ovarian Cancer Phase III Studies GY004 and GY005*

This study will validate the use of Disease-Related Symptom-Physical (DRS-P) scale for NRG-GY004, a Phase III study on treatment of women with recurrent platinum-sensitive ovarian, fallopian tube, or primary peritoneal cancer and NRG-GY005 - a randomized Phase II/III study on treatment of recurrent platinum-resistant or -refractory ovarian, fallopian tube, or primary peritoneal cancer patients.

Role: PI

DOM Chair’s Research Grants (Zell, PI) 09/01/20 – 08/31/21

*Influence of Patient-Centered Outcomes on Colon Cancer Care Delivery*

The goal of this project is to understand cancer survivors’ and providers preferences and perceived barriers around treatment directed at minimizing potential for malignant recurrence during the perioperative period during colon cancer care.

Role: BBSR Director

BMS-210405 (Bristow, Tanjisiri) 05/01/18 – 04/30/21
BMS Foundation

*Optimizing Access to Cancer Care for Asian American Medi-Cal Beneficiaries in Orange County*

This multi-level, multi-modal study was funded to build and test an inter-professional educational platform to bridge the work of researchers, health system leaders, and clinical care providers in the community to ultimately optimize cancer care quality, with a particular focus on cancers that disproportionately affect Asian Americans in Orange County.

Role: Consultant

P30 CA062203 (Van Etten, PI) 09/11/97 – 01/31/21
NIH/NCI

*Cancer Center Support Grant*

The Cancer Center Support Grant provides support for administration and infrastructure for the Chao Family Comprehensive Cancer Center.

Role: Director of the Biobehavioral Shared Resource

ACC-2019 (Wenzel) 02/01/19 – 12/31/20
UCI/CFCCC Anti-Cancer Challenge

*Improving Depression Screening in a Multi-ethnic Cancer Population*

This main purpose of this pilot is to capture current depression screening practice and referral patterns at UCI and UCSF outpatient oncology clinics and identify barriers to screening for depression and referring for care and identify practitioner preferences for optimal depression screening management, including Health-IT.

Role: PI

DOD W81XWH-16-2-0038 (Birrer, PI) 09/03/17 – 09/29/20
DOD/CDMRP

Subaward with Mass Gen Hosp. (Award #223328) and University of Alabama, Birmingham

*Department of Defense Ovarian Cancer Research Program’s Outcomes Consortium Development Genomic, Epigenomic and Psychosocial Characteristics of Long-Term Survivors of Ovarian Cancer*

This grant addresses the issue that the vast majority of women who suffer from ovarian cancer will die from the disease. Ovarian cancer is the most lethal of all gynecologic cancers; however, a small number of ovarian cancer patients are long-term survivors. This proposal will specifically determine those features within the tumors, and the patients, that predict for long-term survival from ovarian cancer.

Role: Co-Principal Investigator

DMS 312 - Item 1-306
ECOG-ACRIN NCORP Research Base

ECOG-ACRIN Medical Research Foundation is funded as one of the multi-disciplinary, comprehensive, and community-based sites in NCI’s Community Oncology Research Program that designs and conducts cancer prevention, control, care delivery, health-related quality of life clinical research studies that also address disparities in minority and underserved populations.

Role: Mentor, ECOG-ACRIN Patient Reported Outcomes Working Group

Completed Research Support

PCORI-55242 (Wenzel, PI) 06/17/13 – 12/31/17

Patient-Centered Outcomes Research Institute

Ovarian Cancer Patient-Centered Decision Aid

This study addresses how women make the decision in choosing traditional IV or IP therapy with its potential for considerable down time, complications and reduced quality of life during treatment, but better chances of survival.

Role: PI
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: WODARZ, DOMINIK

eRA COMMONS USER NAME (credential, e.g., agency login): dwodarz

POSITION TITLE: Professor, Public Health, University of California Irvine

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
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<tr>
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<th>DEGREE</th>
<th>Completion Date</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Imperial College, London, United Kingdom</td>
<td>B.Sc.</td>
<td>06/1996</td>
<td>Biology</td>
</tr>
<tr>
<td>Institute for Advanced Study, Princeton, NJ</td>
<td>Postdoctoral</td>
<td>08/2002</td>
<td>Mathematical Biology</td>
</tr>
</tbody>
</table>

A. Personal Statement
I have a broad background in mathematical models that describe biological processes, especially in the context of diseases and biomedical questions. I have extensive experience with modeling the in vivo dynamics of carcinogenesis, as well as with modeling the in vivo dynamics of viral infections and immune responses. This research has so far been published in 167 papers and four books. I work with a broad computational tool kit, including ordinary differential equations, stochastic models, as well as a variety of spatial modeling approaches including agent-based models. I started this work as a PhD student at the University of Oxford, expanded on it as a postdoctoral researcher at the Institute for Advanced Study in Princeton, and have been working in this area of research as a faculty member both at the Fred Hutchinson Cancer Research Center, and at the University of California Irvine. During this time, I have been PI and co-investigator on a number of funded NIH and NSF grants, and have successfully led and coordinated scientific work in the context of larger projects. I have worked successfully with a number of experimental laboratories and have previously led projects that involved combinations of mathematics and experiment.

B. Positions and Honors

Employment
1998-2002 Long term member in the program of Theoretical Biology, Institute for Advanced Study, Princeton
2002-2004 Associate Member, Fred Hutchinson Cancer Research Center
2004-2008 Associate Professor, Department of Ecology and Evolution, University of California Irvine
2008-2019 Professor, Department of Ecology and Evolution, University of California Irvine
2019-present Professor, Program in Public Health, Susan and Henry Samueli College of Health Sciences, University of California Irvine

Other Experience and Professional Memberships
2008-present Editor, Biological Theory: Integrating Development, Evolution, and Cognition
2010-present Editor, Mathematical Biosciences
2010-present Editor, PLOS ONE
2019-present Associate Editor: PLOS Computational Biology
C. Contributions to Science

I am working on mathematical models of biological processes, applied to problems in virology, immunology, cancer, as well as ecological and evolutionary dynamics in general. An important theme in my work is to closely couple my mathematical work with experimental and clinical data through collaborations with leading institutions and researchers in the relevant fields. Some of my research accomplishments are listed as follows.

1. Mathematical Oncology: A significant part of our research program has been dedicated to investigate cellular evolutionary dynamics to understand how cancer initiates and progresses, and how treatment approaches can be improved such that tumor evolution towards a resistant state is prevented. This work spans a broad range of topics, including the dynamics of treatment responses, the evolution of drug resistance, the role of genetic instability for cancer initiation, the dynamics of stem cells, evolution of escape from feedback control, and the role of feedback regulatory processes in cancer therapy. Some of this work is described in our books “Dynamics of Cancer: Mathematical Foundations of Oncology” and “Targeted Cancer Treatment in Silico”. As an example, the following summarizes some of our work related to the treatment of leukemias.

Recently, our work focused on the treatment of chronic lymphocytic leukemia (CLL) with the tyrosine kinase inhibitor ibrutinib. In collaboration with MD Anderson Cancer Center, we developed mathematical approaches to quantitatively characterize the treatment response of CLL to ibrutinib, which has resulted in a number of novel insights: (i) By using mathematical models to quantify the death rate of CLL cells in blood and the tissue compartments during ibrutinib therapy, we found that a substantial amount of cell death occurs in the tissue compartments. It was previously believed that cell death mostly occurred in the blood compartment, once cells redistributed to that compartment during treatment. (ii) Parameter estimation allowed us to calculate the percentage of the tissue tumor burden that redistributed from the tissue to the blood, which was previously thought to be substantial. We found, however, that only a small fraction of the total tissue tumor cells redistributed to the blood during therapy, and that the majority of the cells died in the tissue. (iii) We found an interesting correlation between traditional risk factors and treatment responses among the patient cohort. Significantly faster treatment-induced cell death rates were measured in patients that were characterized by “high-risk” IGHV unmutated CLL, which was typically associated with poor prognosis in the context of chemotherapy, than in “lower risk” IGHV mutated CLL. Hence, the prognostic meaning of traditional risk factors might have to be re-evaluated in the context of newer treatments. (iv) Based on these parameter estimates, we subsequently built a mathematical framework to study the evolution of drug resistance in CLL treated with ibrutinib. Such models can be used to predict disease relapse times under different treatment schedules, based on patient-specific parameter estimates. We are currently developing this further by analyzing the dynamics of disease relapse in an NIH patient cohort.


2. Treatment of cancers with oncolytic viruses: Oncolytic viruses have been engineered to specifically infect cancer cells, but not healthy cells. They replicate in the cancer cells and spread the infection to further cancer cells. The idea is to infect a patient with such viruses with the aim to drive the tumor into remission and to also attack metastatic lesions. Many promising results have been obtained in a variety of clinical trials, and one virus (T-vec or Imlygic) has been FDA approved.
approved for the treatment of metastatic melanoma and is thought to partially act through the induction of relevant immune responses.

Our lab was the first to develop a mathematical / computational framework to study the dynamics of oncolytic viruses in 2001, with the aim to investigate correlates of successful virus spread and to ultimately predict testable treatment regimes that improve outcome. Since then, this area of investigation has gained a large number of investigators, with many studies building on the mathematical foundations that we established.

Recently, we studied the very early dynamics of virus spread in a spatially structured population of cells in vitro, because such early dynamics remained poorly understood and are likely crucial for determining the long-term outcome of oncolytic virus infection. In collaboration with Hung Fan at UC Irvine, we applied spatially structured computational models to data on virus spread using a GFP-labeled virus that replicated on a 2-dimensional monolayer of 293 cells with agar layover. Two distinct patterns of viral spread were observed under identical conditions. About 50% of growth foci in culture displayed a “robust growth pattern”, characterized by a plaque-like expansion of the infected cells. The other infection foci resulted in “limited growth”, characterized by a relatively slow infected cell expansion, followed by growth cessation. Using a mathematical-experimental approach, we found that these results can be explained by the occurrence of a race between virus spread and the spread of an interferon-induced antiviral state, where stochastic dynamics determine whether the infection moves into the domain of attraction of the robust growth outcome, or into the domain of attraction of the limited growth pattern. This work has defined important correlates of initial robust virus spread at the earliest stages of the dynamics, which are likely key for successful outcome of oncolytic virus therapy.

3. Dynamics of viruses and immune responses: We have a long-standing interest in understanding the dynamics of virus infections in vivo, and their interactions with cytotoxic T lymphocyte (CTL) responses, an important branch of the adaptive immune system to fight viral infections. We have performed a large body of work in this area of research, including topics concerned with CTL memory, virus dynamics in murine infections, virus replication in CD4 T helper deficient hosts, and interactions between HIV and immune responses. A common theme is the application of mathematical models to experimental data to interpret observations and to test mathematical predictions. Some of this work is summarized in my book “Killer Cell Dynamics”.

A recent interest of the lab has been the direct cell-to-cell transmission of HIV-1 and the consequences for virus dynamics. HIV-1 can spread through its target cell population in two ways (1) During free virus transmission, offspring virus particles are released into the extracellular environment, and subsequently can infect new target cells upon contact. (2) In contrast, during direct cell-to-cell transmission, an infected cell connects with a target cell through the formation of virological synapses, which results in the simultaneous transfer of multiple viruses to the target cell. The most basic question concerns the relative contribution of free virus and synaptic transmission to the growth of the virus population in its target cell population. In a series of papers, we developed detailed mathematical models that take into account both modes of virus transmission. In collaboration with David Levy from NYU, the models were applied to in vitro experimental data to estimate parameters, which showed that free virus and synaptic transmission contribute approximately equally to virus spread. In collaboration with Benjamin Chen’s lab at Mount Sinai, we used mathematical models to investigate how common the co-transmission of different virus strains occurs through virological synapses in vivo. We applied our models to an experimental system in which humanized mice were infected with reporter viruses

labeled with different fluorescent colors. This work suggests a relatively frequent occurrence of viral co-transmission, indicating that synaptic transmission plays an important role for evolutionary dynamics in vivo, particularly in the context of recombination. This collaboration further demonstrated micro-anatomical clustering of viral types within lymphoid tissues, through the application of mathematical techniques to experimental data. This implies that viral spread is driven by local processes and not by a diffuse viral cloud.


D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

<table>
<thead>
<tr>
<th>Project ID</th>
<th>PI/Co-PI</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSF DMS-1815406</td>
<td>Wodarz PI</td>
<td>08/15/2018</td>
<td>07/31/2021</td>
</tr>
<tr>
<td>“Hybrid Deterministic-Stochastic Methodology for Simulating Spatial Evolution in Large Populations”</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>This project develops novel mathematical methodology to study evolutionary processes in spatially structured, large populations, and applies the methodology to specific biological problems.</td>
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<table>
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<tr>
<td>NSF DMS-1662146/1662096</td>
<td>Komaorva and Levy PI</td>
<td>09/01/2017</td>
<td>08/31/2021 (NCE)</td>
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<tr>
<td>“Collaborative Research: Infection multiplicity and virus evolution, from experiments to large scale multi-population stochastic computations”</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Role: Co-Investigator</td>
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<tr>
<td>This project combines mathematical and experimental approaches to investigate the role of multiple infection of cells for the evolution of viruses. I am an investigator on this project, developing and analyzing computational evolutionary models of virus infections.</td>
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<td>U54-CA217378</td>
<td>Lowengrub/Waterman/Lander PI</td>
<td>04/01/2018 – 03/31/23</td>
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<tr>
<td>“Complexity, Cooperation and Community in Cancer”</td>
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<td></td>
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<tr>
<td>Role: Co-Investigator of project 3 on the center grant</td>
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<td></td>
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</tr>
<tr>
<td>The Center will foster scientific research and outreach focused on advancing the hybrid field of cancer systems biology. Collaborative, interdisciplinary projects will use animal models, genome-wide analysis, and mathematical modeling to address fundamental questions about cancer and its origins. Projects focused on colorectal cancer, melanoma and leukemia will be complemented by pilot studies and diverse scientific outreach activities.</td>
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<tr>
<td>NSF GEO/OCE 1848576</td>
<td>Lead PI: Adam Martiny</td>
<td>09/01/2018 – 08/31/22</td>
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<tr>
<td>“Convergence: RAISE: Linking the adaptive dynamics of plankton with emergent global ocean biogeochemistry”</td>
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</table>
Role: Co-Investigator
This project aims to couple evolutionary processes and evolutionary theory with earth system science models in order to improve understanding of the adaptive dynamics of plankton in oceans. I am an investigator on this grant, involved in the development and analysis of computational models.

Completed Research

NSF IBSS1416907  PI Kimberly Jameson  08/01/2014 – 07/03/2017
“New Methods for Investigating the Formation of Individual and Shared Concepts and their Dynamic Dispersion Across Related Societies”.
Role: Co-Investigator
This project combined mathematical modeling with sociological data to examine the spread of language and concepts across Mesoamerican societies. I was an investigator on this project and developed mathematical models describing the cultural spread of concepts.

NIH 1U01CA187956  Goel and Wodarz, PI  08/01/2014-08/01/2019 (08/1/2020, NCE)
“Aspirin and cancer prevention in Lynch syndrome: from cell to population data”
This project combines mathematical modeling with in vitro and in vivo experiments to elucidate the mechanisms of aspirin-mediated protection against colon cancer and applies the models to epidemiological data.
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: WU, JUN

eRA COMMONS USER NAME: JUNWU1

POSITION TITLE: Professor

EDUCATION/TRAINING

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Tsinghua University, China</td>
<td>B.E.</td>
<td>07/1997</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Pennsylvania State University</td>
<td>M.S.</td>
<td>06/2000</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>Ph.D.</td>
<td>06/2004</td>
<td>Environmental Health</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>Postdoctoral</td>
<td>06/2005</td>
<td>Environmental Health</td>
</tr>
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</table>

I am Professor of Environmental and Occupational Health in the Program in Public Health, UC Irvine. My research aims to provide a strong scientific basis to protect public health from exposure to air pollution and built environmental factors through exposure assessment and environmental epidemiological studies. For environmental exposure assessment, I focused on developing advanced exposure assessment methods using geographical information system (GIS) techniques, global positioning system (GPS) tracking, spatial modeling, air quality modeling, and sophisticated statistical methods. I have conducted more than 10 projects as PI, subcontract PI or co-investigator and have published more than 30 papers in environmental exposure assessment. Previous research has included characterization ambient and personal exposure to environment agents including air pollutants, meteorology, soil lead, and built environment (e.g. green space, walkability, and neighborhood resources) using measurement data, GIS, and rich spatial data; development of advanced statistical methods for spatiotemporal modeling of air pollutant mixtures; and characterization of time-activity patterns using questionnaire and GPS tracking. For environmental epidemiology, I focused on the impact of air pollution (gases and particles; mass, source, composition) and the built environment on reproductive outcomes and children’s health and have published more than 20 papers in this area. In addition, I have a strong interest in environmental justice related to disparities in exposure and adverse health outcomes. I have been working with local communities in Orange County on characterizing local environmental exposures, particularly for air pollutants and metal exposures in soil. I was the recipient of the prestigious Walter A. Rosenblith New Investigator Award from the Health Effects Institute (HEI) in 2010. My research has been recognized with the 2005 Young Investigator Award and the 2014 Joan M. Daisey Outstanding Young Scientist Award, respectively, from the International Society of Exposure Sciences (ISES).


**B. Positions and Honors**

**Positions and Employment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
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<tbody>
<tr>
<td>2000-04</td>
<td>Graduate Student Researcher</td>
<td>School of Public Health, UCLA</td>
</tr>
<tr>
<td>2004-05</td>
<td>Postdoctoral Researcher</td>
<td>Institute of the Environment, UCLA</td>
</tr>
<tr>
<td>2005-06</td>
<td>Assistant Researcher</td>
<td>School of Public Health, UCLA</td>
</tr>
<tr>
<td>2006-13</td>
<td>Assistant Professor</td>
<td>Program in Public Health, UC-Irvine</td>
</tr>
<tr>
<td>2013-</td>
<td>Associate Professor</td>
<td>Program in Public Health, UC-Irvine</td>
</tr>
<tr>
<td>2019-</td>
<td>Professor and Graduate Director</td>
<td>Environmental Health Sciences Graduate Program,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Department of Environmental and Occupational</td>
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<tr>
<td></td>
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<td>Health, Program in Public Health, UC-Irvine</td>
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**Other Experience and Professional Memberships**

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<tbody>
<tr>
<td>2002-</td>
<td>Member, International Society for Exposure Science</td>
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<tr>
<td>2012-</td>
<td>Member, International Society for Environmental Epidemiology</td>
<td></td>
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<tr>
<td>2014-16</td>
<td>Academic Councilor, International Society for Exposure Science</td>
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</tr>
<tr>
<td>2014-18</td>
<td>U.S. National Institute of Environmental Health Sciences, ad hoc reviewer</td>
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<tr>
<td>2015</td>
<td>U.S. Environmental Protection Agency, panel reviewer</td>
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<tr>
<td>2012-15</td>
<td>Editorial Board: Geography Journal</td>
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<tr>
<td>2016-</td>
<td>Editorial Board: Environmental International</td>
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**Honors**

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<tr>
<td>2000, 03</td>
<td>Chancellor’s Fellowship, UCLA</td>
</tr>
<tr>
<td>2003</td>
<td>Samuel J. Tibbitts Fellowship, School of Public Health, UCLA</td>
</tr>
<tr>
<td>2005</td>
<td>International Society of Exposure Analysis (ISEA) Young Investigator Award</td>
</tr>
<tr>
<td>2007</td>
<td>Committee on Research Award, UCI School of Medicine</td>
</tr>
<tr>
<td>2010</td>
<td>Walter A. Rosenblith New Investigator Award, Health Effects Institute</td>
</tr>
<tr>
<td>2012</td>
<td>Celebration of Teaching School Honoree Award for Excellence in Undergraduate Teaching</td>
</tr>
<tr>
<td>2014</td>
<td>International Society of Exposure Science (ISES) Joan M. Daisey Outstanding Young Scientist Award</td>
</tr>
</tbody>
</table>

**C. Contribution to Science**

1) **Spatial and Temporal Modeling of Air Pollution Exposure**: Exposure assessment is the key link between environmental pollution and health, and often the weakest component in environmental health studies. Pollutant levels may vary dramatically in time and space, but traditional exposure analysis usually does not properly capture the spatiotemporal variability of pollution. My work focused on the use of geographical information system (GIS), dispersion and airshed modeling, spatial-temporal modeling, and other statistical approaches to improve the assessment of personal exposure to air pollutants at various spatial and temporal scales. Through my doctoral work, I developed models to estimate the exposure of individual subjects by taking into account their time-activity patterns and pollutant concentrations in different microenvironments (a). Later a novel approach was developed to estimate daily particulate matter (PM) concentrations at a zip-code level before, during and after the 2003 southern California

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wildfires using limited measurements, light extinction, meteorology, and MODIS satellite images (b). EPA’s evaluation and parametrization of the complex CMAQ model has considered the unique results from this study that blended ground based PM observations with MODIS satellite data. Moreover, my team published one of the first studies to predict onroad concentrations of key air pollutants from traffic, including particle number and polycyclic aromatic hydrocarbon (PAH) (c). Recently, we developed advanced models that leverage spatially-extensive short-term sampling data with spatially-sparse long-term monitoring data to reliably predict nitrogen oxide concentrations at a high spatiotemporal resolution over a large area (entire southern California) and for a long time span (>20 years) (d). Our novel modeling approach used constrained mixed-effect models with ensemble learning that effectively enhances reliability of model predictions.


2) **Time-Activity Classification**: Precise knowledge about where individuals spend time is important for air pollution epidemiology because of heterogeneous pollutant exposures in different microenvironments. However, barriers exist for obtaining accurate time activity data for human subjects because of uncertainties in diary data and challenges in working with large amounts of global positioning system (GPS) data. I examined the use of GPS in air pollution epidemiological studies, particularly method development for time-activity classification (a) and GPS application in environmental epidemiological studies (b). I published the first study that modeled personal exposure to PAH using GPS tracking, traffic data, and simple questionnaire data (c).


3) **Environmental Epidemiology**: Another major area of my research is environmental epidemiology, particularly the impact of pollution on reproductive health. I have the expertise to combine enhanced exposure prediction methods with advanced biostatistical tools that incorporate spatiotemporal details during the analysis of health data. By using hospital-based data, I published the first studies linking traffic-generated air pollution with the development of preeclampsia in pregnant women (a). I further examined which sources of and components of air pollution mixture contribute most to the adverse health outcomes using advanced and validated exposure models and birth registry data for the entire California. I published one of the first studies showing certain pollution sources (e.g. gasoline, diesel, and meat cooking) and components (e.g. ultrafine particles) are possible risk factors for adverse pregnancy outcomes (b). Since the effect of air pollution may be confounded by neighborhood built environment and vice versa, I investigated the relationship between community built environment (e.g. green space exposure, walkability, and access to healthy resources) and pregnancy outcomes with and without considering potential confounding by air pollution exposure. I published one of the first studies showing the beneficial effects of greenness on term birth weight, and linking greenness with a reduced risk of preterm birth (c). I also found that the distribution of community resources has a significant association with the risk of developing gestational diabetes (d).


4) **Scientific Collaborations in Environmental Epidemiological Studies**: Besides the projects I have been PI or Co-PI on, I played important roles and co authored on a number of papers that linked environmental pollution with other health endpoints, such as respiratory outcomes (a) and childhood cancer (b). I am currently collaborating with other investigators to examine the effects of air pollution and the built environment on various health outcomes, including neurodevelopment in adolescents (c), cardiovascular outcomes, cognitive decline and dementia in elderly, childhood autism, and breast and brain cancers.


**List of Published Work in MyBibliography (out of a total of 95 papers):**

**D. Additional Information: Research Support and/or Scholastic Performance**

**Ongoing Research Support**

Wu A(PI) 07/01/20–12/31/22
Health Effects of Air Pollution Foundation, South Coast Air Quality Management District

**Impact of Ambient Air Pollution on the Risk and Survival of Breast Cancer in Los Angeles County: The Multiethnic Cohort Study**
This study will use state-of-the art machine learning methods to develop accurate spatiotemporal estimates of air pollutants and noise pollution, and further will examine the impact of air pollution and noise on the risk of developing both invasive breast cancer and DCIS breast cancer as well as breast cancer survival in subjects from the Multiethnic Cohort Study. Role: subcontract PI; PI: Anna Wu at University of Southern California

R01 ES030353 Wu and Getahun (MPI) 08/01/19–04/30/23
National Institute of Environmental Health Sciences

**Air Pollution and Pregnancy Complications in Complex Urban Environments: Risks, Heterogeneity, and Mechanisms**
This study will examine the relationship between exposure to the mixture of air pollutants and built environment factors and pregnancy complications using prospectively-recorded high quality clinical data and residential addresses from the electronic health record of Kaiser Permanente Southern California. Role: MPI

R01 ES026171 Wu (subcontract PI) 02/01/17–08/31/21
National Institute of Environmental Health Sciences

A cohort study of air pollution, lung cancer, and COPD in Los Angeles County

The goal of this research is to investigate the associations between exposure to airborne particulate matter (PM_{2.5}, PM_{10}) and the risk of lung cancer, COPD risk among California Multiethnic Cohort participants. Further, the study will assess the extent to which these PM-associations are modified by co-pollutants (e.g., NO_{2} and NO, traffic markers), individual-level (e.g., race/ethnicity, gender, smoking status), and neighborhood-level (e.g., socioeconomic status, ethnic enclave) factors.

Role: subcontract PI; PI: Iona Cheng at Cancer Prevention Institute of California

Completed Research Support as PI, Co-PI or subcontract PI (last 3 years):

R01 ES026171  Wu (subcontract PI)  02/01/17 – 08/31/19
National Institute of Environmental Health Sciences

A cohort study of air pollution, lung cancer, and COPD in Los Angeles County

R21 ES025558  Wu (subcontract PI)  09/01/15 – 08/31/18
National Institute of Environmental Health Sciences

Childhood Autism and Air Pollution - a Statewide Study

R01 ES023451  Wu (subcontract PI)  05/01/15 – 04/30/18
National Institute of Environmental Health Sciences

Environment and Cognitive Decline in Older Hispanics
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: YAN, GUIYUN

eRA COMMONS USER NAME (credential, e.g., agency login): guiyunyan8

POSITION TITLE: Professor

EDUCATION/TRAINING

<table>
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<td>B.S.</td>
<td>06/1986</td>
<td>Entomology</td>
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<tr>
<td>Peking University, Beijing, China</td>
<td>M.S.</td>
<td>06/1989</td>
<td>Molecular Biology</td>
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<tr>
<td>University of Vermont, Burlington, VT</td>
<td>Ph.D.</td>
<td>05/1994</td>
<td>Population Genetics</td>
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<tr>
<td>University of Wisconsin, Madison, WI</td>
<td>Postdoctoral</td>
<td>05/1997</td>
<td>Vector Biology and Parasitology</td>
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A. Personal Statement

My research focuses on vector biology and malaria epidemiology in Africa. I am broadly trained in insect ecology, molecular population genetics and parasitology, with over 20 years of research experience in Africa. I am the PI of 3 active NIH grants and have been the PI of more than 20 NIH-, NSF- and WHO-funded grants and one Gates Foundation grant, in the area of malaria epidemiology and vector biology. I have authored more than 240 peer-reviewed publications. I have the expertise, leadership skills and dedication to complete the proposed research project. My previous research has laid the groundwork for the proposed research by establishing and characterizing the field study sites, by establishing the systematically collected baseline data, and by establishing strong connections with the collaborators. The current application builds on the progress of the parent ICEMR grant, and represents a major advance in the translational and implemental research of malaria.


B. Positions and Honors

Positions and Employment
1998-2002 Assistant Professor, Biological Sciences, State University of New York at Buffalo
2002-2005 Associate Professor, Biological Sciences, State University of New York at Buffalo
2005-2008 Associate Professor, Program in Public Health, College of Health Sciences, University of California, Irvine
2008-present Professor, Program in Public Health, College of Health Sciences, University of California, Irvine

Other Experience and Professional Memberships
2001-2005 Panel Member, US Army's Military Infectious Diseases Research Program
2003, 2004 ad hoc panel member, NIH TMP study section
2006-2010 Panel member, NIH Vector Biology (VB) study section
2006-2017 Subject Editor, Journal of Medical Entomology
2010-2014 Member, Grand Challenges in Global Health Efficacy working group on the development of guidelines for the conduct of caged field trials of genetically modified mosquitoes in disease endemic areas
2011-pres Ad hoc member, NIH VB study section
2013, 2014 Panel Member, Congress Directed Medical Research Programs

Honors
2005 Accomplished Alumnus Award, University of Vermont
2011 ICEMR Award of Excellence, NIAID, NIH

C. Contribution to Science

1. Malaria epidemiology. African highlands used to be free of malaria or had very low incidences. However, since the late 1980s a series of malaria epidemics have hit the area. My research has examined the mechanisms leading to the resurgence of malaria in African high-elevation areas, including climate, environmental changes, topography and antimalarial drug resistance in the Plasmodium parasites, human migration, and insecticide resistance. We proposed a “landscape-climate” model as the leading mechanism of malaria outbreaks in the highlands. The model helps design targeted vector control as a main tool for epidemic malaria control in western Kenya highland. In Asia, I lead a project to investigate malaria vectorial system and malaria epidemiology in the border region between China, Myanmar and Thailand. Our findings were cited in WHO's world malaria report and used as evidence in the formulation of national guidelines for malaria control in Africa. I served as the principal investigator in all of these studies.

2. **Population genetics and genomics of disease vectors.** This line of research focuses on the genetic and genomic basis of insect disease vectors for vector competence. I was involved in a genome sequencing project of 16 Anopheles mosquito species and Aedes albopictus mosquitoes. These projects laid a foundation for better understanding the genetic basis of vector competence. Using genome sequence data and transcriptome sequencing we examined the genetic basis of vector competence and other important life history traits of mosquitoes. I am a co-investigator of the mosquito genome sequencing projects and serve as the principal investigator for projects of using genome sequencing data for vector biology studies.


3. **Insecticide resistance surveillance and genetics.** My research in insecticide resistance focuses on resistance mechanisms and resistance management of *Anopheles* mosquitoes. Because the current first-line vector control tools rely on the use of synthetic insecticides, insecticide resistance monitoring and management is a major issue in effective vector control. Using next-generation sequencing and classic population genetics tools, we identified new candidate genes for resistance surveillance. I served as the principal investigator in these studies.


4. **Impact of environmental changes on vector-borne diseases.** This line of research focuses on deforestation in Africa and urbanization in Asia. These two forms of environmental changes are most common in the respective region, but how they may affect vector-borne disease transmission is not well understood. My research demonstrated that deforestation significantly increased the vectorial capacity of malaria in African highlands, facilitated malaria transmission and increased the risk of outbreaks. Urbanization in Asia, particularly southern China, has also led to increased vectorial capacity for dengue vectors. These studies increased our understanding of transmission of vector-borne diseases under the context of a rapidly changing ecosystem and helped design effective intervention methods. I served as the principal investigator or co-investigators in all of these studies.


5. **Evaluation of vector control and field operational research.** This line of research in vector control and operational research focuses on mathematical modeling of optimal intervention approaches and field testing of the effectiveness of the approach. Because the current first-line malaria control tools are insecticide-treated bed nets and indoor residual spray which target indoor-biting mosquitoes and protect residents sleeping inside the nets, tools that can target early biting and outdoor biting mosquitoes are critically needed. One possibility is to control mosquito larvae before they emerge into a free-flying adult stage. However, there is a critical knowledge gap on mosquito larval ecology. By integrating field ecology, remote sensing, GIS and modeling, my research has gathered critical data for larval control to be effective. Other areas include how to integrate excising tools into a cost-effective manner for malaria control.


Complete List of Published Work in My Bibliography:

D. Additional Information: Research Support and/or Scholastic Performance

**Ongoing Research Support**

1. NIH U19 AI129326 (Yan) 04/01/17-03/31/24 3.6 calendar months
   NIH/NIAID
   “Environmental Modifications in sub-Saharan Africa: Changing Epidemiology, Transmission and Pathogenesis of Plasmodium falciparum and P. vivax Malaria”
   The goal of this program project is to examine the impact of environmental modifications from water resource development on malaria epidemiology, vector biology, and pathogenesis in East Africa.
   Role: PI

2. NIH U19 AI129326-03S1 (Yan) 04/01/19-03/31/21 1 calendar month
   NIH/NIAID
   “Adaptive interventions for optimizing malaria control: A cluster randomized SMART trial”
   The goal of this project is to determine optimal vector control methods to maximize the impact on malaria incidence reduction.
   Role: PI

3. NIH D43 TW001505 (Yan) 06/01/00-12/31/24 1 calendar month
   NIH/FIC
   “Population Biology of African Malaria Vectors”
   The goal of this D43 training grant is to train students and scientists from malaria-endemic African countries in vector biology.
   Role: PI

4. R01 AI36850 (Chen) 05/01/18-04/30/23 0.5 calendar months
   NIH/NIAID
   “Impact of urbanization on vector biology and transmission of dengue in China"
   The goal of this project is to determine the impact of urbanization on the ecology of Aedes mosquitoes and transmission of dengue in southern China.
   Role: co-Investigator

5. R21 AI132953-01A1 (Zhang) 04/01/19-03/31/21 0.5 calendar month
   NIH/NIAID
   “Genomic Basis of Anti-Schistosome Resistance in Snails"
   The goal of this project is to determine the impact of genetic basis of snail resistance to schistosome.
   Role: co-Investigator
Appendix D:
Affiliated Faculty
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Current Home Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Bartell, Ph.D.</td>
<td>Professor</td>
<td>environmental epidemiology, exposure science, statistical methods</td>
<td>Environmental and Occupational Health</td>
</tr>
<tr>
<td>Bernadette Boden-Albala, P.P.H., Dr.P.H.</td>
<td>Professor</td>
<td>Social epidemiology, cardiovascular disease, social determinants of health in stroke patients and those at high risk for stroke, network analysis, and intervention research</td>
<td>Health, Society, and Behavior</td>
</tr>
<tr>
<td>Maria Corrada-Bravo, Sc.D.</td>
<td>Professor in Residence</td>
<td>aging, dementia, oldest-old, risk and protective factors for dementia, longitudinal epidemiological studies</td>
<td>Neurology</td>
</tr>
<tr>
<td>Wendy Cozen, D.O.</td>
<td>Professor</td>
<td>translating molecular cancer epidemiology into interventions to improve public health and health outcomes, including immunology, microbiome, tumor microenvironment and health disparities</td>
<td>Medicine</td>
</tr>
<tr>
<td>Daniel Gillen, Ph.D.</td>
<td>Professor</td>
<td>survival analysis, longitudinal data analysis, clinical trials, sequential testing, and epidemiologic methods</td>
<td>Statistics</td>
</tr>
<tr>
<td>Michael Hoyt, Ph.D.</td>
<td>Associate Professor</td>
<td>bio-behavioral processes related to adjustment and coping with cancer and other chronic diseases</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Claudia Kawas, M.D.</td>
<td>Professor</td>
<td>aging, dementia, oldest-old, risk and protective factors for dementia, longitudinal epidemiological studies</td>
<td>Neurology</td>
</tr>
<tr>
<td>Sunmin Lee, Sc.D.</td>
<td>Professor</td>
<td>social epidemiology, health disparities, minority and immigrant health, cancer prevention and screening</td>
<td>Medicine</td>
</tr>
<tr>
<td>Yunxia Lu, Ph.D.</td>
<td>Associate Professor</td>
<td>cancer etiology and prevention, cancer prognosis, obesity epidemiology, pharmacoepidemiology</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Daniel Parker, Ph.D.</td>
<td>Assistant Professor</td>
<td>infectious disease, epidemiology, malaria</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Bin Nan, Ph.D.</td>
<td>Professor</td>
<td>statistics and biostatistics</td>
<td>Statistics</td>
</tr>
<tr>
<td>Hannah Lui Park, Ph.D.</td>
<td>Associate Professor in Residence</td>
<td>cancer epigenetics, environmental exposures, DNA methylation, biomarkers, genetic and epigenetic epidemiology</td>
<td>Pathology</td>
</tr>
<tr>
<td>Dara Sorkin, Ph.D.</td>
<td>Associate Professor</td>
<td>psychology and social behavior, diabetes, diverse populations</td>
<td>Medicine</td>
</tr>
<tr>
<td>David Timberlake, Ph.D.</td>
<td>Associate Professor</td>
<td>genetic epidemiology, epidemiology of tobacco, alcohol, and other substances of abuse</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Nathan Wong, Ph.D., M.P.H.</td>
<td>Adjunct Professor</td>
<td>epidemiology, prevention, coronary calcium,</td>
<td>Medicine</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Research Area</td>
<td>Department</td>
</tr>
<tr>
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<tr>
<td>Guiyun Yan, Ph.D.</td>
<td>Professor</td>
<td>metabolic syndrome, cardiovascular diseases</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vector biology of malaria and other vector-borne infectious diseases</td>
<td></td>
</tr>
<tr>
<td>Zhaoxia Yu, Ph.D.</td>
<td>Associate Professor</td>
<td>statistics and statistical theory</td>
<td>Statistics</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Expertise</td>
<td>Current Home Department</td>
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<tr>
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<tr>
<td>Bruce Blumberg, Ph.D.</td>
<td>Professor</td>
<td>Obesogens, nuclear hormone receptor signaling</td>
<td>Developmental and Cell Biology</td>
</tr>
<tr>
<td>Vincent Caiozzo, Ph.D.</td>
<td>Professor</td>
<td>Physiology, muscle toxicology</td>
<td>Orthopedic Surgery</td>
</tr>
<tr>
<td>Jefferson Y. Chan, M.D., Ph.D</td>
<td>Professor</td>
<td>Oxidative stress response to xenobiotics</td>
<td>Pathology</td>
</tr>
<tr>
<td>Derek Dunn-Rankin, Ph.D.</td>
<td>Professor</td>
<td>Droplet formation and vaporization, optical particle sizing</td>
<td>Mechanical and Aerospace Engineering</td>
</tr>
<tr>
<td>Rufus D. Edwards, Ph.D.</td>
<td>Professor</td>
<td>Air pollution exposure assessment</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Lisa Grant Ludwig, Ph.D.</td>
<td>Professor</td>
<td>Disaster resilience, paleoearthquakeology, earthquake policy</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Sunny Jiang, Ph.D.</td>
<td>Professor</td>
<td>Water quality, microbiology</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Alana LeBrón, Ph.D.</td>
<td>Assistant Professor</td>
<td>Health inequities, environmental justice, influence of social policies on health</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Charles L. Limoli, Ph.D.</td>
<td>Professor</td>
<td>Radiation-induced neoplastic transformation</td>
<td>Radiation Oncology</td>
</tr>
<tr>
<td>Oladele Ogunseitan, Ph.D.</td>
<td>Professor</td>
<td>Microbial diversity and ecology, environmental pollution</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Miryha Gould Runnerstrom, Ph.D.</td>
<td>Associate Professor of Teaching</td>
<td>Behavioral and environmental influences on human health and wellbeing, undergraduate public health pedagogy including climate change</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Norbert Staimer, Ph.D.</td>
<td>Project Scientist</td>
<td>Environmental chemistry, analytical chemistry</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Expertise</td>
<td>Current Home Department</td>
</tr>
<tr>
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</tr>
<tr>
<td>Alpesh Amin, M.D., M.B.A.</td>
<td>Professor and Chair</td>
<td>Medical education, curriculum development, hospital medicine, anticoagulation</td>
<td>Medicine/Medicine</td>
</tr>
<tr>
<td>Zuzana Bic, Dr.P.H., M.U.Dr. (M.D.)</td>
<td>Professor of Teaching</td>
<td>Preventative Care, lifestyle medicine, worksite wellness and health, college health, health literacy and promotion</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Bharath Chakravarthy, M.D., M.P.H.</td>
<td>Vice-Chair of Research and Academic Affairs</td>
<td>Population health, mental health, substance abuse</td>
<td>Emergency Medicine/Medicine</td>
</tr>
<tr>
<td>Yunan Chen, Ph.D.</td>
<td>Associate Professor and Vice-Chair for Undergraduate Affairs</td>
<td>Human-computer interaction, computer supported cooperative work, and health informatics</td>
<td>Informatics/Donald Bren School of Information and Computer Science</td>
</tr>
<tr>
<td>Dana Garfin, Ph.D.</td>
<td>Assistant Adjunct Professor</td>
<td>Post-disaster mental health, psychiatric epidemiology, community-based interventions, post-disaster mental health, health disparities, traumatic stress, mindfulness-based interventions</td>
<td>Sue &amp; Bill Gross School of Nursing</td>
</tr>
<tr>
<td>Michele Goodwin, J.D.</td>
<td>Chancellor’s Professor</td>
<td>Bioethics, constitutional law, family law, health law, reproductive rights, torts</td>
<td>Law</td>
</tr>
<tr>
<td>Douglas A. Granger, Ph.D.</td>
<td>Chancellor’s Professor</td>
<td>Psychoneuroendocrinology, methods related to saliva collection and analysis, and theoretical and statistical integration of salivary measures into developmental research</td>
<td>Psychological Science/Social Ecology</td>
</tr>
<tr>
<td>Michael Hoyt, Ph.D.</td>
<td>Associate Professor</td>
<td>Biobehavioral processes related to psychological adjustment and coping in the context of cancer and other chronic diseases</td>
<td>Population Health and Disease Prevention</td>
</tr>
<tr>
<td>Shahram Lotfipour, M.D., M.P.H.</td>
<td>Professor</td>
<td>Medical student education, screening and brief intervention for alcohol, older driver fitness</td>
<td>Emergency Medicine/Medicine</td>
</tr>
<tr>
<td>Andrew Noymer, Ph.D.</td>
<td>Associate Professor</td>
<td>Historical epidemiology, social epidemiology, medical demography</td>
<td>Population Health and Disease Prevention</td>
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<tr>
<td>Connie Rhee, M.D., M.Sc.</td>
<td>Assistant Professor</td>
<td>Thyroid dysfunction in CKD and high-risk CV populations, diabetic kidney disease, endocrine disorders in kidney disease, pharmacoepidemiology in kidney disease, racial disparities in CKD/ESRD, nutrition in CKD/ESRD, dialysis outcomes</td>
<td>Medicine/Medicine</td>
</tr>
<tr>
<td>Sora Park Tanjasiri, Dr.PH, Ph.D.</td>
<td>Professor</td>
<td>Cancer health disparities, cancer prevention, breast and cervical early detection, community-based participatory research</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Roxane Cohen Silver Ph.D.</td>
<td>Professor</td>
<td>Coping with traumatic life events (personal losses and collective)</td>
<td>Psychological Science/Social Ecology</td>
</tr>
<tr>
<td>Name</td>
<td>Title/Position</td>
<td>Research Interests</td>
<td>Department</td>
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<tr>
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</tr>
<tr>
<td>Elani Streja, M.D.</td>
<td>Assistant Professor in Residence</td>
<td>Epidemiology, nephrology, cerebral palsy</td>
<td>Medicine/Medicine</td>
</tr>
<tr>
<td>Bryan Sykes, Ph.D.</td>
<td>Assistant Professor</td>
<td>Demography, criminology, population health, quantitative &amp; mixed Methods, computational methods, social inequality</td>
<td>Criminology, Law and Society/Social Ecology</td>
</tr>
<tr>
<td>David Timberlake, Ph.D.</td>
<td>Associate Professor</td>
<td>Genetic epidemiology, epidemiology of tobacco, alcohol, and other substances of abuse</td>
<td>Population Health and Disease Prevention</td>
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<tr>
<td>Name</td>
<td>Title</td>
<td>Expertise</td>
<td>Current Home Department</td>
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<tr>
<td>Amin N. Alpesh, MD, MBA</td>
<td>Professor and Thomas &amp; Mary Cesario Chair</td>
<td>Medical Education, Curriculum Development, Hospital Medicine, Anticoagulation; Global Health Projects</td>
<td>Dept. of Medicine, School of Medicine</td>
</tr>
<tr>
<td>Scott Bartell, PhD</td>
<td>Professor</td>
<td>Quantitative research methods in environmental health: exposure assessment, risk assessment, and environmental epidemiology. Per and polyfluoroalkyl substances (PFAS).</td>
<td>Environmental and Occupational Health; Program in Public Health</td>
</tr>
<tr>
<td>Bharath Chakravarthy, MD, MPH</td>
<td>Professor of Clinical Emergency Medicine</td>
<td>Population Health, Mental Health, Substance Abuse</td>
<td>Emergency Medicine, School of Medicine</td>
</tr>
<tr>
<td>Wayne Wei Chung Chang, MD</td>
<td>Clinical Professor</td>
<td>Occupational and Environmental Medicine</td>
<td>Dept. of Medicine; Community &amp; Environmental Medicine</td>
</tr>
<tr>
<td>Yunan Chen, PhD</td>
<td>Associate Professor; Vice Chair for Undergraduate Affairs</td>
<td>Intersection of Human-Computer Interaction (HCI), Computer Supported Cooperative Work (CSCW) and Health Informatics.</td>
<td>Informatics, Donald Bren School of Information and Computer Sciences</td>
</tr>
<tr>
<td>Daniel L. Gillen, PhD</td>
<td>Professor and Chair, Statistics</td>
<td>Survival analysis, longitudinal data analysis, clinical trials, sequential testing, epidemiologic methods</td>
<td>Statistics, Donald Bren School of Information and Computer Sciences</td>
</tr>
<tr>
<td>Michele B. Goodwin, JD</td>
<td>Chancellor's Professor of Law</td>
<td>Bioethics, Constitutional Law, Family Law, Health Law, Reproductive Rights, Torts</td>
<td>School of Law</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Research Interests</td>
<td>Department</td>
</tr>
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<tr>
<td>Kamyar Kalantar-Zadeh, MD, MPH, PhD</td>
<td>Professor of Medicine (primary), Pediatrics (secondary), Nursing Sciences (secondary), and Public Health (secondary)</td>
<td>Nutritional epidemiology, kidney disease epidemiology, nutritional management of kidney diseases, kidney disease outcome studies, comparative effectiveness research, cardiovascular risks in kidney disease, malnutrition and wasting, inflammation and cachexia, diabetes &amp; obesity, osteodystrophy, minerals, sodium &amp; potassium disarrays, anemia &amp; iron deficiency</td>
<td>Dept. of Medicine, Division of Nephrology, Hypertension, and Kidney Transplantation, School of Medicine</td>
</tr>
<tr>
<td>Shahram Lotfipour, MD, MPH</td>
<td>Professor</td>
<td>Screening and Brief Intervention for Alcohol Treatment, Medication-Assisted Treatment of Opioid and Opioid Use Disorder</td>
<td>Emergency Medicine, School of Medicine</td>
</tr>
<tr>
<td>Ulrike Luderer, MD, MPH, PhD</td>
<td>Professor; Director, Center for Occupational and Environmental Health</td>
<td>Reproductive toxicology, occupational and environmental medicine</td>
<td>Dept. Environmental &amp; Occupational Health, Program in Public Health,</td>
</tr>
<tr>
<td>Frank L. Meyskens, MD</td>
<td>Distinguished Professor Emeritus; Founding Director Emeritus, and Senior Advisor, Chao Family Comprehensive Cancer Center</td>
<td>Melanoma (human) – benign and malignant growth – signal transduction, redox metabolism; Prevention and Early Diagnosis</td>
<td>School of Medicine</td>
</tr>
<tr>
<td>Dana B. Mukamel, PhD</td>
<td>Professor of Medicine, Public Health and Nursing; Director, iTEQC Research Program</td>
<td>Quality of care, Long-term care, Risk-adjusted outcomes, Racial disparities, Health Economics, Quality report cards</td>
<td>Dept. Medicine, Division of General Internal Medicine, School of Medicine</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Research Focus</td>
<td>Department/Institute</td>
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</tr>
<tr>
<td>Connie Rhee, MD</td>
<td>Associate Professor of Medicine; Vice-Chair of Clinical Research, Department of Medicine</td>
<td>Thyroid dysfunction in CKD and high-risk CV populations, Diabetic kidney disease, Endocrine disorders in kidney disease, Conservative management of CKD, Pharmacoepidemiology, Racial disparities in CKD/ESRD, Nutrition in CKD/ESRD, Dialysis Outcomes</td>
<td>Dept. Medicine, School of Medicine</td>
</tr>
<tr>
<td>Jenna Riis Petrou, PhD</td>
<td>Assistant Professor</td>
<td>child development; early life adversity; stress; salivary bioscience; program implementation and evaluation</td>
<td>Psychological Science, School of Social Ecology</td>
</tr>
<tr>
<td>Margaret Schneider, PhD*</td>
<td>Researcher</td>
<td>Multi-factorial models of health behavior, with a primary focus on physical activity among adolescents</td>
<td>Institute for Clinical and Translational Science; School of Social Ecology Population Health &amp; Disease Prevention, Program in Public Health</td>
</tr>
<tr>
<td>Roxane Cohen Silver, PhD</td>
<td>Distinguished Professor; Associate Director, UCI ADVANCE Program</td>
<td>Coping with traumatic life events (personal losses and collective traumas), stress, health psychology</td>
<td>Psychological Science, School of Social Ecology</td>
</tr>
<tr>
<td>Dara H. Sorkin, PhD</td>
<td>Professor</td>
<td>Close relationships, social support and conflict, behavioral lifestyle interventions around chronic disease management, program evaluation, integration of technology into health decision making</td>
<td>School of Medicine</td>
</tr>
<tr>
<td>Elani Streja, MPH, PhD</td>
<td>Assistant Professor In-Residence</td>
<td>Epidemiology, Nephrology, Lipids, Biostatistics</td>
<td>Dept. of Medicine, School of Medicine</td>
</tr>
<tr>
<td>Bryan L. Sykes, MA, PhD</td>
<td>Associate Professor</td>
<td>Demography, criminology, incarceration, health, social inequality, statistical methodology</td>
<td>Criminology, Law &amp; Society, School of Social Ecology</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Specialties</td>
<td>Department</td>
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</tr>
<tr>
<td>Nathan D. Wong, MPH, PhD</td>
<td>Professor; Director, UCI Heart Disease Prevention Program (Preventive Cardiology)</td>
<td>Epidemiology, prevention, coronary calcium, diabetes, cardiovascular diseases</td>
<td>Dept. of Medicine, School of Medicine</td>
</tr>
<tr>
<td>Jun Wu, PhD</td>
<td>Professor</td>
<td>Environmental Exposure Assessment, Environmental Epidemiology, and Environmental Health Disparity</td>
<td>Environmental and Occupational Health, Program in Public Health</td>
</tr>
</tbody>
</table>

*Non-faculty member*
Appendix E:
Research Funding
<table>
<thead>
<tr>
<th>PI Name</th>
<th>Sponsor</th>
<th>Award Title</th>
<th>Award Period</th>
<th>Award Total</th>
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<tr>
<td>Rufus Edwards</td>
<td>TRDRP (UCOP)</td>
<td>A validated second-hand smoking exposure model for Electronic Nicotine Delivery Systems (ENDS)</td>
<td>09/01/19 - 08/31/22 (NCE)</td>
<td>$479,770</td>
</tr>
<tr>
<td>Rufus Edwards</td>
<td>TRDRP (UCOP)</td>
<td>A validated second-hand smoking exposure model for Electronic Nicotine Delivery Systems (ENDS)</td>
<td>09/01/21 - 08/31/22 Supplement</td>
<td>115,495</td>
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<tr>
<td>Luohua Jiang</td>
<td>U of Colorado/NIDCR</td>
<td>Relationship of Parental Health Literacy with Change Over Time in Oral Health Outcomes Among American Indian Children (subcontract)</td>
<td>07/06/18 - 03/31/22</td>
<td>$128,385</td>
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<tr>
<td>Luohua Jiang</td>
<td>U of Colorado/NIMHDD</td>
<td>American Indian and Alaska Native Health Disparities (subcontract)</td>
<td>05/01/18 - 04/30/23</td>
<td>$350,943</td>
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<tr>
<td>Luohua Jiang</td>
<td>U of Colorado/ NIA</td>
<td>Dementia epidemiology, health service utilization and treatment costs among American Indian and Alaska Native Elders (subcontract)</td>
<td>04/01/19 - 03/31/24</td>
<td>$1,057,917</td>
</tr>
<tr>
<td>Luohua Jiang</td>
<td>U of Colorado/ NIA</td>
<td>Dementia epidemiology, health service utilization and treatment costs among American Indian and Alaska Native Elders (subcontract)</td>
<td>04/01/19 - 03/31/24 Diversity Supplement</td>
<td>$146,058</td>
</tr>
<tr>
<td>Trina Norden-Krichmar</td>
<td>Case Western Reserve University</td>
<td>Alcoholic Hepatitis Consortia: an intramural/extramural collaboration to unravel genetic determinants (Subcontract)</td>
<td>09/20/17 - 08/31/22</td>
<td>$228,000</td>
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<tr>
<td>Andrew Odegaard</td>
<td>NIH</td>
<td>Abdominal adipose tissue depots and cardiometabolic disease risk in postmenopausal women</td>
<td>06/15/17 - 04/30/22 (NCE)</td>
<td>$1,081,976</td>
</tr>
<tr>
<td>Andrew Odegaard</td>
<td>NIH</td>
<td>Effect of artificially sweetened beverages on diabetes control in adults with type 2 diabetes</td>
<td>06/17/18 - 07/31/23</td>
<td>$3,215,959</td>
</tr>
<tr>
<td>Andrew Odegaard</td>
<td>University of Arizona</td>
<td>Adipose and lean soft tissue depots, cancer risk and mortality in postmenopausal women (subcontract)</td>
<td>07/01/20 - 06/30/23</td>
<td>$71,947</td>
</tr>
<tr>
<td>Joel Milam</td>
<td>USC/NIH (sub)</td>
<td>Social health, activity behaviors, and quality of life among young adult cancer survivors</td>
<td>03/01/2021 - 02/28/2026</td>
<td>$109,928</td>
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<td>Joel Milam</td>
<td>NIH/NCI</td>
<td>Individual, cultural, and area-based factors associated with survivorship care among Asian American childhood cancer survivors</td>
<td>02/01/21 – 12/30/26</td>
<td>$245,765</td>
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<td>Joel Milam</td>
<td>TRDRP (UCOP)</td>
<td>High Impact Research Award Project-Health Behaviors of 18–39 year-old survivors of childhood cancers</td>
<td>07/01/2018 - 06/30/2022 (NCE)</td>
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<td>Joel Milam</td>
<td>NIH</td>
<td>Young Adult Cancer survivorship</td>
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<tr>
<td>Sora Tanjasiri</td>
<td>UCOP</td>
<td>Vamos! Vaping Among Multicultural Orange County</td>
<td>07/01/20</td>
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<td>Sora Tanjasiri</td>
<td>City of Santa Ana</td>
<td>Health Equity and Literacy (HEAL) Project</td>
<td>07/01/21</td>
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<td>Sora Tanjasiri</td>
<td>NIH/NCI</td>
<td>2/2 CSUF/UCI-CFCCC Cancer Health Equity Research Partnership</td>
<td>09/23/21</td>
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<td>Sora Tanjasiri</td>
<td>HHS Office of the Secretary</td>
<td>SoCal Pacific Islander and Asian American Data Equity and Health Policy Collaborative</td>
<td>09/30/21</td>
<td>09/29/24</td>
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<td>Elizabeth Thomas</td>
<td>Elisabeth Severance Prentiss Foundation</td>
<td>Saliva lithium monitoring in patients with psychiatric disorders</td>
<td>07/01/19</td>
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**Grand Total** $14,027,729
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<td>Scott Bartell</td>
<td>CDC/ATSDR U01 TS000308</td>
<td>UCI PFAS Health Study</td>
<td>09/30/19 – 09/29/24</td>
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<td>Scott Bartell</td>
<td>National Institute for Environmental Health Sciences - R01 ES030364. PI on subaward from USC to UCI 129828894(sub only)</td>
<td>Effects of DDE exposure on adipose tissue function, weight loss and metabolic improvement after bariatric surgery: A new paradigm for the study of lipophilic chemicals</td>
<td>02/01/20 – 10/30/24</td>
<td>$76,427</td>
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<td>Scott Bartell</td>
<td>Syngenta SCP-5593788</td>
<td>Use of human biomonitoring data in pesticide risk assessments: developing a Bayesian combination method and a pesticide case study; developing a framework for best practices</td>
<td>07/01/20 – 12/31/22</td>
<td>$162,600</td>
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<td>Masashi Kitazawa</td>
<td>National Institute of Health 1R01AGO66806-01</td>
<td>Cell-type-specific vulnerability of the lateral entorhinal cortex in Alzheimer’s disease</td>
<td>5/1/20-1/31/25</td>
<td>$392,084</td>
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<td>Masashi Kitazawa</td>
<td>Biopico Systems Inc prime SBIR Phase I Grant No. 1 R43 AG073040-01 Sub Award</td>
<td>A humanized organ plate paradigm for high throughput Alzheimer's disease therapeutics</td>
<td>9/1/21-7/31/22</td>
<td>$100,000</td>
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<tr>
<td>Masashi Kitazawa</td>
<td>Probiome Therapeutics Inc 1R41 AG074777 Subaward</td>
<td>Evaluation of in vivo efficacy of a novel microbial therapy to treat cognitive deficits in Alzheimer’s disease</td>
<td>9/30/21-8/31/22</td>
<td>$100,800</td>
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<td>Michael Kleinman</td>
<td>California Air Resources Board 18RD012</td>
<td>White Paper to Review the Scientific Basis for a 1hr PM2.5 Ambient Air Quality Standard</td>
<td>01/01/19 – 4/14/22</td>
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<td>Michael Kleinman</td>
<td>Huntington Medical Research Institutes/ UC Tobacco-Related Disease Research Program Sub 6075-18-01</td>
<td>Effects of cigarette smoking and vaping on myocardial infarction</td>
<td>07/01/18 06/30/22</td>
<td>$483,179</td>
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<td>Michael Kleinman</td>
<td>Huntington Medical Research Institutes/ National Heart, Lung and Blood Institute Sub 6085-19-02</td>
<td>The effect of electronic cigarettes on young vs. old normal and pathologic hearts</td>
<td>09/14/18 – 08/31/22</td>
<td>$895,520</td>
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<td>Michael Kleinman</td>
<td>Huntington Medical Research Institutes /National Institute on Aging Sub 27800-21-001</td>
<td>Cognitive challenge to reveal systemic neurophysiology biomarkers in cognitively healthy individuals with abnormal CSF amyloid/tau</td>
<td>5/15/21 - 2/28/26</td>
<td>$119,386</td>
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<td>Michael Kleinman</td>
<td>Cedars-Sinai Medical Center/Health Effects of Air Pollution Foundation Sub 0001806589</td>
<td>Ameliorating Alzheimer's disease by targeting miRNAs in the brain to normalize synthesis of extracellular matrix and ribosomal proteins</td>
<td>9/1/20 - 8/31/22</td>
<td>$200,000</td>
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<tr>
<td>Michael Kleinman</td>
<td>Huntington Medical Research Institutes/ UC Tobacco-Related Disease Research Program Sub 6075-18-01</td>
<td>Effects of Cigarette Smoking &amp; Vaping on Heart Attack</td>
<td>7/1/18 - 6/30/22</td>
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<td>Ulrike Luderer</td>
<td>NIH Drug Abuse</td>
<td>Impact of Cannabinoids Across Lifespan</td>
<td>07/01/2018 – 05/31/2022</td>
<td>$24,720</td>
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<td>Ulrike Luderer/CDC/NIOSH (T42OH008412)</td>
<td>Southern California NIOSH ERC Targeted Research Training Grant</td>
<td>Developmental gene-environment interactions and premature ovarian failure</td>
<td>07/01/2017 – 07/31/22</td>
<td>$4669,225</td>
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<td>Ulrike Luderer</td>
<td>National Institute for Environmental Health Sciences - R01ES020454</td>
<td>Interactions of Glutathione, Reactive Oxygen Species, and Lipids on Oocyte Mitochondrial Function</td>
<td>09/01/19 - 08/31/22</td>
<td>$411,547</td>
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<td>Ulrike Luderer</td>
<td>National Aeronautics and Space Administration (NASA) 80NSSC19K1620</td>
<td>Ovarian Cancer and Space Radiation</td>
<td>08/20/19 - 08/19/22</td>
<td>$403,145</td>
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<td>Ulrike Luderer</td>
<td>UC Tobacco-Related Disease Research Program (Fellowship)</td>
<td>Role of Oxidative Stress in Benzo(a)pyrene Induced Primordial Germ Cell Death</td>
<td>9/2/19-9/1/22</td>
<td>$144,947</td>
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<td>Robert Phalen Stocking Family Fund Endowment</td>
<td>Impacts of inhaled particles and gases on children's health</td>
<td>01/01/98 – present</td>
<td>$270,000</td>
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<td>Robert Phalen Phalen Family Fund</td>
<td>Air pollution research</td>
<td>01/01/11 – present</td>
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<td>David Richardson National Cancer Institute</td>
<td>Low-Dose Exposure to Ionizing Radiation in Adulthood and Subsequent Cancer</td>
<td>9/20/19-8/31/23</td>
<td>$750,184</td>
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<td>David Richardson Centers for Disease Control and Prevention</td>
<td>Trends and disparities in fatal occupational injury in North Carolina</td>
<td>9/1/21-8/31/22</td>
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<td>Investigator</td>
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<tr>
<td>David Richardson</td>
<td>University of North Carolina Sub 6RO1OH011256-04M002</td>
<td>Occupational Exposure to Ionizing Radiation: Models for Policy Making</td>
<td>9/1/21</td>
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<td>Veronica Vieira</td>
<td>NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES/ BOSTON UNIVERSITY Sub 4500003077</td>
<td>The long-term impacts of early life exposure to Superfund chemicals in humans and wildlife</td>
<td>8/1/17</td>
<td>3/31/21</td>
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<td>Veronica Vieira</td>
<td>AIR RESOURCES BOARD 20RD015</td>
<td>HIFIVE - Health Impacts of Filtration in Imperial Valley Elementary Schools.</td>
<td>5/15/21</td>
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<td>Veronica Vieira</td>
<td>NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES/ UC BERKELEY, Sub 00010811</td>
<td>Exposure to per- and polyfluoroalkyl substances (PFAS) and risk of cancer in children</td>
<td>9/3/21</td>
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<td>Jun Wu</td>
<td>National Institute of Environmental Health Sciences R01 ES030353</td>
<td>Air Pollution and Pregnancy: Complications in Complex Urban Environments: Risks, Heterogeneity, and Mechanisms</td>
<td>08/01/19</td>
<td>04/30/23</td>
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<td>Jun Wu</td>
<td>National Institute of Environmental Health Sciences 3R01ES030353-03S1</td>
<td>Environmental and Social Health Determinants of Pregnancy Outcomes Related to COVID-19 Pandemic</td>
<td>9/24/21</td>
<td>4/30/23</td>
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<tr>
<td>Jun Wu</td>
<td>Health Effects of Air Pollution Foundation/ University Of Southern California Sub 134115137</td>
<td>Impact of ambient air pollution on the risk of breast cancer and survival in Los Angeles County: The Multiethnic Cohort Study</td>
<td>7/1/20</td>
<td>4/30/22</td>
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<td>Jun Wu</td>
<td>Air Resources Board</td>
<td>High Spatiotemporal Resolution PM2.5 Speciation Exposure Modeling in California Sponsor Award Nbr: 21RD006</td>
<td>3/1/22</td>
<td>2/28/25</td>
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<td>Jun Wu</td>
<td>AIR RESOURCES BOARD</td>
<td>Examining the health impacts of short-term repeated exposure to wildfire smoke Sponsor Award Nbr: 3900-21RD003</td>
<td>2/15/22</td>
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<td>Michael Kleinman/ DOJ - Automobile Emissions Research And Technology Fun</td>
<td>Beyond the Tailpipe: Health Impacts of Non-Tailpipe Vehicle Associated Pollutants Today and Tomorrow Sponsor Award Nbr: AERTF-221620</td>
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<td>10/1/22</td>
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<td>Ulrike Luderer/ Jun Wu</td>
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DMS 345 - Item 1-339
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<tr>
<td>Bernadette Boden-Albala</td>
<td>Neurological Disorders and Stroke, National Institute of (NINDS) Subcontract</td>
<td>Determinants of Incident Stroke Cognitive Outcomes &amp; Vascular Effects on Recovery (DISCOVERY)</td>
<td>2020-2024</td>
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<td>Bernadette Boden-Albala</td>
<td>National Institute on Minority Health and Health Disparities</td>
<td>UCLA-UCI Center for Eliminating Cardio-Metabolic Disparities in Multi-Ethnic Populations (UC END-DISPARITIES)</td>
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<td>Bernadette Boden-Albala</td>
<td>OCHIN INC</td>
<td>AIM AHEAD Coordinating Center Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity: Data &amp; Research Core</td>
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<td>$369,294</td>
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<td>Tim Bruckner</td>
<td>NICHD</td>
<td>Intergenerational Persistence of Treatment Effects in Human Capital Interventions</td>
<td>09/2017 - 08/2022</td>
<td>$3,954,558</td>
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<td>Tim Bruckner</td>
<td>NICHD</td>
<td>How Do Human Capital Investments and Shocks Interact?</td>
<td>11/2018 - 10/2022</td>
<td>$1,237,120</td>
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<td>Tim Bruckner</td>
<td>NIH R01</td>
<td>Racial disparities in preterm births and fetal losses</td>
<td>07/01-2021-06/30/2025</td>
<td>$2,536,593</td>
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<td>Tim Bruckner</td>
<td>Denmark NIH</td>
<td>Structural Changes to the Psychiatric Sector and the Rise of Court-Ordered Psychiatric Treatments</td>
<td>04/2020 - 03/2023</td>
<td>$1,015,000</td>
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<td>Tim Bruckner</td>
<td>ONCIT</td>
<td>Transforming Public Health Informatics and Technology Training to Advance Diversity and Equity</td>
<td>9/1/2021-9/20/2025</td>
<td>$6,999,833</td>
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<td>Alana LeBron</td>
<td>NIMHHD</td>
<td>Community Activation to TrAnsform Local sYSTems (CATALYST)</td>
<td>1/1/2022-11/30/2023</td>
<td>$595,273</td>
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<td>Cynthia Lakon</td>
<td>American Diabetes Association (ADA)</td>
<td>Social networks and diabetes among older American Indians</td>
<td>07/2020-06/2023</td>
<td>$551,418</td>
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<td>Brittany Morey</td>
<td>NCI</td>
<td>Social Networks and Disparities in Health Behaviors and Breast Cancer Outcomes in Immigrant Women</td>
<td>2019-2024</td>
<td>$3,200,000</td>
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<td>Annie Ro</td>
<td>UM Subaward</td>
<td>UM Subcontract/Structural Racism and Adverse Birth Outcomes in the US South: A Multigenerational Perspective</td>
<td>9/27/2021-6/30/2024</td>
<td>$167,402</td>
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<td>Annie Ro</td>
<td>UCOP</td>
<td>Living in the Shadows in the time of COVID: Examining the Social, Economic, and Health impacts of COVID-19 among Undocumented Immigrants</td>
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<td>Dylan Roby</td>
<td>University of Maryland</td>
<td>Lifting All Voices: Community-based Language Access and Health Literacy Skill Building in</td>
<td>07/01/2021-06/30/2023</td>
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<td>Dylan Roby</td>
<td>California Health Benefit Exchange</td>
<td>UCLA Center for Health Policy Researcher</td>
<td>07/01/2021-06/30/2023</td>
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<td>Kristina Uban</td>
<td>NIAAA</td>
<td>Assessing Stable Characteristics of Endocrine Function Among Boys and Girls with Prenatal Alcohol Exposure as a Novel Clinical Tool</td>
<td>9/2018-6/2023</td>
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<td>Lisa Grant Ludwig</td>
<td>California Institute of Technology, Jet Propulsion Laboratory (JPL)</td>
<td>Quantifying Uncertainty and Kinematics of Earthquake Systems (QUAKES-A) Analytic Center Framework</td>
<td>Feb. 2020 - June 2022</td>
<td>$100,000</td>
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<td>Lisa Grant Ludwig</td>
<td>California Institute of Technology, Jet Propulsion Laboratory (JPL) Subaward</td>
<td>GeoGateway web interface for the QUAKEs-A project Subcontract to augment RSA (JPL/NASA) to UC Irvine - Support for GSR</td>
<td>Dec. 2021 - June 2022</td>
<td>$34,839</td>
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<tr>
<td>Michael Hoyt</td>
<td>ICTS - NIH NCATS - STUDY</td>
<td>A Biobehavioral Intervention for Young Men with Testicular Cancer: A Pilot Study submitted under 2 UL1 TR001414-05</td>
<td>July 2019 - June 2024</td>
<td>$39,000</td>
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<tr>
<td>Michael Hoyt</td>
<td>Department of Defense</td>
<td>Inflammatory Processes, Emotion Regulation, and Depression in Prostate Cancer Survivors</td>
<td>May 2020 - May 2023</td>
<td>$998,182</td>
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<tr>
<td>Michael Hoyt</td>
<td>Sub Award - Sloan Kettering Institute for Cancer Research (NIH - R01)</td>
<td>A Randomized Controlled Trial of Emotion Regulation Therapy for Cancer Caregivers: A Mechanism-Targeted Approach to Addressing Caregiver Distress</td>
<td>Sept. 2020 - May 2025</td>
<td>$34,975</td>
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<td>Michael Hoyt</td>
<td>California Cancer Research Coordinating Committee</td>
<td>Biobehavioral Intervention to Reduce Adverse Outcomes in Young Adult Latinos with Testicular Cancer</td>
<td>Oct. 2020 - Sept. 2022</td>
<td>$85,000</td>
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<td>Michael Hoyt</td>
<td>UC Irvine Chao Family Comprehensive Cancer Center (CFCCC)</td>
<td>Caregiving for Young Adults with Cancer in Latino Families: Understanding Healthcare Engagement and Family Wellbeing</td>
<td>March 2021 - Dec. 2022</td>
<td>$40,000</td>
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<tr>
<td>Michael Hoyt</td>
<td>UC Irvine Chao Family Comprehensive Cancer Center (CFCCC)</td>
<td>CANCER CENTER PILOT - 2021</td>
<td>July 2021 - Dec. 2022</td>
<td>$37,000</td>
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<td>Michael Hoyt</td>
<td>NIH NCI R21</td>
<td>Caregiving for Young Adults with Cancer in Latino Families: Understanding Healthcare Engagement and Family Wellbeing</td>
<td>Sept. 2021 - June 2024</td>
<td>$453,820</td>
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<td>Oladele Ogunseitan</td>
<td>NIH - National Center for Advancing Translational Sciences</td>
<td>Institute for Clinical and Translational Science (**Administered through the SOM and Vice Chancellor for Research)</td>
<td>July 2019</td>
<td>June 2024</td>
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<td>Oladele Ogunseitan</td>
<td>Presidential Chair Endowment Funds</td>
<td>UC Presidential Chair</td>
<td>July 2019</td>
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<td>Oladele Ogunseitan</td>
<td>Environmental Health Science - UCLA subaward</td>
<td>UCLA - Multiple Campus Award-93.143-20210432-01</td>
<td>Sept. 2021</td>
<td>Aug. 2022</td>
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<td>Oladele Ogunseitan</td>
<td>Johnny Lincoln Foundation</td>
<td>WISDOM – World Institute for Sustainable Development of Materials (**Administered through the School of Engineering)</td>
<td>Mar. 2020</td>
<td>Feb. 2025</td>
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<td>Daniel Parker</td>
<td>Bill &amp; Melinda Gates Foundation</td>
<td>Pathogen metagenomics in the Mekong: A multi-faceted approach to improve public health</td>
<td>June 2019</td>
<td>May 2023</td>
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<td>David Timberlake</td>
<td>University of California, Tobacco-Related Disease Research Program</td>
<td>Investigating the potential for non-tobacco wraps to displace cigarillos for blunt smoking</td>
<td>Nov. 2020</td>
<td>June 2022</td>
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<tr>
<td>Dominik Wodarz</td>
<td>NIH</td>
<td>Title: Complexity, Cooperation and Community in Cancer (Center Grant, Role: co-PI on Project 3) (**Admin. Physical Science, Bio, and Medicine)</td>
<td>March 2018</td>
<td>March 2023</td>
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<tr>
<td>Dominik Wodarz</td>
<td>National Science Foundation</td>
<td>Hybrid deterministic-stochastic methodology for simulating spatial evolution in large populations</td>
<td>July 2018</td>
<td>June 2022</td>
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<td>Dominik Wodarz</td>
<td>National Science Foundation</td>
<td>Convergence: RAISE: Linking the adaptive dynamics of plankton with emergent global ocean biogeochemistry (administered by School Physical Science)</td>
<td>Sept. 2018</td>
<td>July 2022</td>
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<td>Dominik Wodarz</td>
<td>NIH R01 CA271172-01</td>
<td>Effect of inflammation on JAK2 mutant evolution in the hematopoietic system: mathematical models and experiments (administered by SOM))</td>
<td>April 2022 - March 2027</td>
<td>$1,200,000</td>
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<td>Dominik Wodarz</td>
<td>National Science Foundation</td>
<td>Collaborative Research: MODULUS: Copy Number Alterations and Xenobiotic adaptation (administered by Physical Science)</td>
<td>June 2022 - May 2025</td>
<td>$416,605</td>
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<tr>
<td>Dominik Wodarz</td>
<td>National Science Foundation</td>
<td>Mutant evolution in spatially structured, hierarchical populations (**Admin. Physical Science)</td>
<td>July 2022 - June 2025</td>
<td>$390,000</td>
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<tr>
<td>Guiyun Yan</td>
<td>National Inst of Allergy and Infectious Diseases</td>
<td>Environmental Modifications in sub-Saharan Africa: Changing Epidemiology, Transmission and Pathogenesis of Plasmodium falciparum and P. vivax Malaria</td>
<td>April 2017 - March 2024</td>
<td>$9,700,000</td>
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<tr>
<td>Guiyun Yan</td>
<td>Southern Medical University</td>
<td>Impacts of Urbanization on Vector Biology and Transmission of Dengue in China</td>
<td>April 2018 - May 2023</td>
<td>$155,000</td>
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<tr>
<td>Guiyun Yan</td>
<td>John F. Fogarty International Center</td>
<td>Population Biology of African Malaria Vectors and parasites</td>
<td>April 2020 - Dec. 2024</td>
<td>$1,500,000</td>
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</tbody>
</table>

**Grand Total**                                                  **$47,916,454**
Appendix F: 
BA in Public Health Policy
B.A. in Public Health Policy

The B.A. in Public Health Policy degree program trains students in multidisciplinary approaches to public health practice and research. The degree explores both quantitative and qualitative aspects of public health at all levels of analysis. Graduates will advance, through selective employment or further education, to become the new generation of public health professionals prepared to face the emerging challenges to human health from a population perspective using cutting-edge approaches for preventing diseases.

Students who are interested in pursuing a premedical program should note that additional courses will be needed beyond the requirements of the public health degrees to fulfill requirements for medical school.

Students considering the public health degrees should carefully evaluate their academic preparation and career goals before enrolling in either the B.S. or B.A. degree program. Changing from a degree program to the other is possible, but will require completion of the required lower- and upper-division courses specified for each degree. It is also possible for a student to enroll in both the B.S. and B.A. degree programs (double major), provided the student completes all the requirements outlined under each degree.

The Department also offers two undergraduate minors; one in Public Health and a second in Global Health. Students seeking advising on either minor should visit the Public Health Student Affairs Office.

Practicum

Public Health Practicum and Culminating Experience (PUBHLTH 195W) is an 8-unit required course for students majoring in Public Health Policy or Public Health Sciences. The course allows students to gain hands-on experience at an approved organization in the field of public health. Preparation for the Practicum course requires that each student interview at one of the approved Practicum sites. There is an online catalog of approved organizations that have agreed to accept, train, and supervise Public Health students in the ongoing activities of the organization. Students must choose a placement site listed in the Practicum catalog. Unlisted sites may be considered at an approved organization through an application process. All students are required to spend 100 hours (10 hours per week) at the public health organization during the quarter in which they are enrolled in PUBHLTH 195W. Practicum is open only to upper-division Public Health students who are in good academic standing, have completed all prerequisite course work, and have submitted a graduation application. Practicum must be taken for a letter grade. PUBHLTH 195W must be completed with a minimum letter grade of C. Additional information, including Practicum enrollment procedures and prerequisites, can be found at the Public Health website.

Major Requirements

<table>
<thead>
<tr>
<th>A. Lower-Division Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBHLTH 1</td>
</tr>
<tr>
<td>PUBHLTH 2</td>
</tr>
<tr>
<td>Select three of the following:</td>
</tr>
<tr>
<td>PUBHLTH 30</td>
</tr>
<tr>
<td>PUBHLTH 60</td>
</tr>
<tr>
<td>PUBHLTH 90</td>
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<tr>
<td>PUBHLTH 90</td>
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<tr>
<td>Complete:</td>
</tr>
<tr>
<td>PUBHLTH 7A</td>
</tr>
<tr>
<td>PUBHLTH 7B</td>
</tr>
<tr>
<td>Select three of the following:</td>
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<tr>
<td>Psychology:</td>
</tr>
<tr>
<td>PSCI 9</td>
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<tr>
<td>Sociology:</td>
</tr>
<tr>
<td>SOCIOL 1</td>
</tr>
<tr>
<td>SOCIOL 2</td>
</tr>
<tr>
<td>SOCIOL 3</td>
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</table>
### Economics:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>ECON 1</td>
<td>Introduction to Economics</td>
</tr>
<tr>
<td>ECON 13</td>
<td>Global Economy</td>
</tr>
<tr>
<td>ECON 20A</td>
<td>Basic Economics I</td>
</tr>
<tr>
<td>ECON 20B</td>
<td>Basic Economics II</td>
</tr>
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</table>

### Anthropology:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHRO 2A</td>
<td>Introduction to Sociocultural Anthropology</td>
</tr>
<tr>
<td>ANTHRO 2B</td>
<td>Introduction to Biological Anthropology</td>
</tr>
<tr>
<td>ANTHRO 2C</td>
<td>Introduction to Archaeology</td>
</tr>
<tr>
<td>ANTHRO 2D</td>
<td>Introduction to Language and Culture</td>
</tr>
<tr>
<td>ANTHRO 41A</td>
<td>Global Cultures and Society</td>
</tr>
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</table>

### Political Science:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL SCI 31A</td>
<td>Introduction to Political Theory</td>
</tr>
<tr>
<td>POL SCI 51A</td>
<td>Introduction to Politics Around the World</td>
</tr>
</tbody>
</table>

### Social Ecology:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCECOL E8</td>
<td>Introduction to Environmental Analysis and Design</td>
</tr>
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### International Studies:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>INTL ST 11</td>
<td>Global Cultures and Society</td>
</tr>
<tr>
<td>INTL ST 13</td>
<td>Global Economy</td>
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### B. Upper-Division Requirements

#### Health Policy and Management:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>PUBHLTH 101</td>
<td>Introduction to Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 122</td>
<td>Health Policy</td>
</tr>
<tr>
<td>PUBHLTH 144</td>
<td>Health Behavior Theory</td>
</tr>
<tr>
<td>PUBHLTH 170</td>
<td>Introduction to Global Health</td>
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Or

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>PUBHLTH 139</td>
<td>Special Topics in Health Policy and Administration</td>
</tr>
<tr>
<td>or PUBHLTH 159</td>
<td>Special Topics in Social and Behavioral Health Science</td>
</tr>
</tbody>
</table>

Eight additional upper-division courses with at least two courses in each topic area selected from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 123A-123B-123C</td>
<td>Econometrics I and Econometrics II and Econometrics III</td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Management Science</td>
</tr>
<tr>
<td>MGMT 107</td>
<td>Introduction to Management Information Systems</td>
</tr>
<tr>
<td>MGMT 165</td>
<td>U.S. Healthcare Systems</td>
</tr>
<tr>
<td>MGMT 166</td>
<td>Business of Medicine</td>
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1. Item 1–347
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>UPPP 102</td>
<td>Urban Inequality</td>
</tr>
<tr>
<td>UPPP 103</td>
<td>Comparative Approaches to Urban Regions</td>
</tr>
<tr>
<td>UPPP 112</td>
<td>Foundations of Community Health</td>
</tr>
<tr>
<td>UPPP 166</td>
<td>Urban Politics and Policy</td>
</tr>
<tr>
<td>UPPP 169</td>
<td>Public Policy Analysis</td>
</tr>
<tr>
<td>POL SCI 171A</td>
<td>Law and Society</td>
</tr>
<tr>
<td>PUBHLTH 120–139</td>
<td>Climate Change and Disaster Management</td>
</tr>
<tr>
<td>PUBHLTH 172</td>
<td>Global Health Ethics</td>
</tr>
<tr>
<td>PUBHLTH 174</td>
<td>Geographic Information Systems for Public Health</td>
</tr>
<tr>
<td>PUBHLTH 190</td>
<td>Ethics and Responsible Conduct of Research in Public Health</td>
</tr>
<tr>
<td>SOCIOL 154</td>
<td>Medical Sociology</td>
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</tbody>
</table>

**Social and Behavioral Health Sciences:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHRO 134A</td>
<td>Medical Anthropology</td>
</tr>
<tr>
<td>ANTHRO 134C</td>
<td>Medicine, Food, and Health</td>
</tr>
<tr>
<td>ANTHRO 134F</td>
<td>Anthropology of the Body</td>
</tr>
<tr>
<td>ANTHRO 134G</td>
<td>HIV/AIDS in a Global Context</td>
</tr>
<tr>
<td>PSCI 137H</td>
<td>Human Stress</td>
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<td>PSCI 138H</td>
<td>Child Health Psychology</td>
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<tr>
<td>PSCI 183S</td>
<td>Social Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 102</td>
<td>Social Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 140–159</td>
<td>War and Public Health</td>
</tr>
<tr>
<td>PUBHLTH 195W</td>
<td>Public Health Practicum and Culminating Experience (8 units)</td>
</tr>
</tbody>
</table>

1 Upon petition, PUBHLTH 100 may also be taken to fulfill upper-division course work in specific topic areas, depending on course content.

2 Note additional prerequisites.

3 Taken for upper-division writing credit.
Appendix G:
BS in Public Health Sciences
B.S. in Public Health Sciences

The B.S. in Public Health Sciences degree program trains students in multidisciplinary approaches to public health practice and research. The degree explores both quantitative and qualitative aspects of public health at all levels of analysis. Graduates will advance, through selective employment or further education, to become the new generation of public health professionals prepared to face the emerging challenges to human health from a population perspective using cutting-edge approaches for preventing diseases.

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Major Requirements

<table>
<thead>
<tr>
<th>A. Lower-Division Requirements</th>
<th>Principles of Public Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBHLTH 1</td>
<td>Case Studies in Public Health Practice</td>
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<td>CHEM 1A-1B-1C-1LC-1LD</td>
<td>General Chemistry</td>
</tr>
<tr>
<td></td>
<td>and General Chemistry</td>
</tr>
<tr>
<td></td>
<td>and General Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 51A-51B-51C-51LB-51LC</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td></td>
<td>and Organic Chemistry</td>
</tr>
<tr>
<td></td>
<td>and Organic Chemistry Laboratory</td>
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<tr>
<td>BIO SCI 93</td>
<td>From DNA to Organisms</td>
</tr>
<tr>
<td>BIO SCI 94</td>
<td>From Organisms to Ecosystems</td>
</tr>
<tr>
<td>BIO SCI 97</td>
<td>Genetics</td>
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<tr>
<td>BIO SCI 98</td>
<td>Biochemistry</td>
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<td>BIO SCI 99</td>
<td>Molecular Biology</td>
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<td>MATH 2A-2B</td>
<td>Single-Variable Calculus</td>
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<tr>
<td></td>
<td>and Single-Variable Calculus</td>
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<tr>
<td>or</td>
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<tr>
<td>MATH 5A-5B</td>
<td>Calculus for Life Sciences</td>
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<tr>
<td></td>
<td>and Calculus for Life Sciences</td>
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<tr>
<td><strong>Psychology:</strong></td>
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<tr>
<td>PSCI 9</td>
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</tr>
<tr>
<td><strong>Sociology:</strong></td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>SOCIOL 1</td>
<td>Globalization and Transnational Sociology</td>
</tr>
<tr>
<td>SOCIOL 2</td>
<td>Social Problems</td>
</tr>
<tr>
<td>SOCIOL 3</td>
<td></td>
</tr>
<tr>
<td><strong>Economics:</strong></td>
<td>Introduction to Economics</td>
</tr>
<tr>
<td>ECON 1</td>
<td>Global Economy</td>
</tr>
<tr>
<td>ECON 13</td>
<td>Basic Economics I</td>
</tr>
<tr>
<td>ECON 20A</td>
<td>Basic Economics II</td>
</tr>
<tr>
<td>ECON 20B</td>
<td></td>
</tr>
<tr>
<td><strong>Anthropology:</strong></td>
<td>Introduction to Sociocultural Anthropology</td>
</tr>
<tr>
<td>ANTHRO 2A</td>
<td>Introduction to Biological Anthropology</td>
</tr>
<tr>
<td>ANTHRO 2B</td>
<td>Introduction to Anthropology</td>
</tr>
<tr>
<td>ANTHRO 2C</td>
<td>Introduction to Language and Culture</td>
</tr>
<tr>
<td>ANTHRO 41A</td>
<td>Global Cultures and Society</td>
</tr>
</tbody>
</table>

DMS 356 - Item 1 - 350
### Political Science:
- **POL SCI 31A**: Introduction to Political Theory
- **POL SCI 51A**: Introduction to Politics Around the World

### Social Ecology:
- **SOCECOL E8**: Introduction to Environmental Analysis and Design

### International Studies:
- **INTL ST 11**: Global Cultures and Society
- **INTL ST 13**: Global Economy

### B. Upper-Division Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>PUBHLTH 101</td>
<td>Introduction to Epidemiology</td>
</tr>
</tbody>
</table>

Select two of the following:
- **BIO SCI D103**: Cell Biology
- **BIO SCI D104**: Developmental Biology
- **BIO SCI E109**: Human Physiology
- **BIO SCI N110**: Neurobiology and Behavior

Five additional upper-division courses with at least one course chosen from each of the three topic areas:

#### Epidemiology, Genetics, and Health Informatics:
- **BIO SCI D137**: Eukaryotic and Human Genetics
- **BIO SCI D148**: Development and Disease
- **BIO SCI E106**: Processes in Ecology and Evolution
- **BIO SCI M123**: Introduction to Computational Biology
- **BIO SCI M137**: Microbial Genetics
- **COMPSCI 183**: Introduction to Computational Biology
- **PSCI 183S**: Social Epidemiology

#### Environmental and Global Health Sciences:
- **ANTHRO 125B**: Ecological Anthropology
- **ANTHRO 128B**: Race, Gender, and Science
- **ANTHRO 134A**: Medical Anthropology
- **ANTHRO 134C**: Medicine, Food, and Health
- **ANTHRO 134F**: Anthropology of the Body
- **ANTHRO 134G**: HIV/AIDS in a Global Context
- **BIO SCI D124**: Biology of Integrative Medicine
- **BIO SCI E179**: Limnology and Freshwater Biology
- **BIO SCI E179L**: Field Freshwater Ecology
- **BIO SCI E189**: Environmental Ethics
- **CHEM 125**: Advanced Organic Chemistry
- **CHC/LAT 176**: Race, Gender, and Science
- **PUBHLTH 126**: Public Health Law: Fundamentals in Action
- **PUBHLTH 127**: Public Health Programs for the Corporate World
- **PUBHLTH 160–169**: Geographic Information Systems for Public Health
- **PUBHLTH 193**: Ethics and Responsible Conduct of Research in Public Health
- **SOCECOL E127**: Nuclear Environments

#### Infectious and Chronic Diseases:
- **BIO SCI D111**: Developmental and Cell Biology Laboratory
- **BIO SCI E112L**: Physiology Laboratory
- **BIO SCI E124**: Infectious Disease Dynamics
- **BIO SCI E136**: The Physiology of Human Nutrition
- **BIO SCI M114**: Advanced Biochemistry
- **BIO SCI M114L**: Biochemistry Laboratory
- **BIO SCI M116**: Advanced Molecular Biology
- **BIO SCI M116L**: Molecular Biology Laboratory
- **BIO SCI M118L**: Experimental Microbiology Laboratory
- **BIO SCI M121**: Immunology with Hematology
- **BIO SCI M121L**: Advanced Immunology Laboratory
- **BIO SCI M122**: General Microbiology
- **BIO SCI M125**: Molecular Biology of Cancer
- **BIO SCI M143**: Human Parasitology
- **PHRMSCI 170A**: Molecular Pharmacology
- **PHRMSCI 170B**: Molecular Pharmacology
- **PUBHLTH 150**: Public Health and Wellness
- **PUBHLTH 180–189**: Public Health Practicum and Culminating Experience (8 units)

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1. Upon petition, **PUBHLTH 100** may also be taken to fulfill upper-division course work in specific topic areas, depending on course content.
2. Note additional prerequisites.
3. Taken for upper-division writing credit.
Appendix H:
Master’s of Public Health
**Master of Public Health (M.P.H.)**

The distinctive mission of the UCI M.P.H. program is to create a motivated cadre of public health professionals who are prepared to implement effective strategies for reducing the burden of disease and disability in culturally diverse communities, and who are primed to draw from their broad training in the global dimensions of public health principles to lead and work collaboratively on precise assessments of health-risk factors and on the management of evidence-based prevention strategies.

In addition to meeting all the training requirements in the core competency subjects recommended by the Association of Schools and Programs in Public Health (ASPPH), students enrolled in the UCI M.P.H. program will have the opportunity for in-depth pursuit of one of four emphasis areas: Biostatistics, Environmental Health, Epidemiology, or Sociocultural Diversity and Health. The M.P.H. for the Environmental, Epidemiology, and Sociocultural Diversity and Health emphases is a 64-unit program. The M.P.H. in Biostatistics is a 63-unit program. A full-time student must enroll in at least 12 units per quarter. Part-time enrollment is also allowed upon approval from the department and UCI Graduate Division. To maintain residency, part-time students must enroll in four to eight units per quarter. All students are required to complete 240 hours of fieldwork at an approved public health practicum site after advancing to candidacy with UCI Graduate Division. The Program is fully accredited by the Council on Education for Public Health.

Further information may be obtained from the Public Health website, by calling 949-824-7095, or by sending an email to phgo@uci.edu.

**Admission**

The M.P.H. program accepts students for the fall quarter only. Students are encouraged to begin the application process early to facilitate the timely submission of the application. The deadline for receipt of all application materials for the M.P.H. program is December 15. There are no specific course prerequisites needed to enroll, and the program is open to students with bachelor’s degrees in a variety of disciplines. Individuals from diverse cultural, geographic, and socioeconomic backgrounds are encouraged to apply.

To be eligible to apply for the M.P.H. program, applicants must meet certain minimum academic requirements. Applicants must hold a bachelor’s degree from an accredited academic institution, have earned a minimum grade point average of 3.0 (B average) in undergraduate course work, and possess strong verbal and quantitative skills as reflected by Graduate Record Examination (GRE) General Test scores. Applicants may also submit standardized test scores from the MCAT, GMAT, or LSAT in lieu of the GRE. If the applicant has, from a UC-equivalent university, a Ph.D. in a health-related field, a medical degree, or is currently enrolled in medical school, a test score must be submitted, but the test score’s date does not need to be within the validity period. Evaluations of applicant files for admission to the M.P.H. program will consist of an assessment of transcripts of previous academic work, standardized graduate admission test scores, statement of purpose, letters of recommendation, and other relevant qualifications. Applicants must choose one of the four available emphases at the time of application.

Applicants must submit both the UCI Application for Graduate Admission and the School of Public Health Application Service (SOPHAS) application in order to be considered for admission. For more information on admissions, visit the Public Health website or contact phgo@uci.edu.

**Requirements**

**M.P.H. with Emphases in Environmental Health, Epidemiology, or Sociocultural Diversity and Health**

The M.P.H. with emphases in Environmental Health, Epidemiology, or Sociocultural Diversity and Health, is a 64-unit degree program consisting of 16 courses taken over five to six quarters. Ten courses must be taken by all students. In addition, students take three courses in their emphasis and three elective courses. All courses required for the M.P.H. must be taken for a letter grade and if a minimum grade of a B is not achieved, they must be re-taken.

**Required Courses.** All students begin the program with the introductory course Foundations of Public Health (PUBHLTH 200). The six core competency courses are Probability and Statistics in Public Health (PUBHLTH 207A), Analysis of Public Health Data Using Statistical Software (PUBHLTH 207B), Introduction to Environmental Health Science (PUBHLTH 264), Principles of Epidemiology (PUBHLTH 206A), Health Policy and Management (PUBHLTH 222), and Health Behavior Theory (PUBHLTH 244). Students must also complete at least two quarters (2 units each quarter) of the PUBHLTH 291 series, and the capstone course Graduate Practicum and Culminating Experience in Public Health (PUBHLTH 295) (eight units).

**Emphasis Courses.** Upon applying, students choose an emphasis for their M.P.H. degree. Three emphasis courses (four units each, all within the same emphasis) are required.

For students enrolled full-time, the normative time for completion of the M.P.H. degree is six quarters, and the maximum time permitted is nine quarters. For students enrolled part-time, the normative time is nine quarters, and the maximum is 15 quarters. Upon special petition, students admitted with advanced standing due to prior graduate-level training may receive credit for up to one-fifth of the total units required toward the M.P.H. degree. Students must be able to demonstrate competency associated with those courses. Such credits are not applicable to the graduate practicum and graduate seminar.
Environmental Health Emphasis

Select three from the following:

- PUBHLTH 241 Environmental Policy and Global Sustainability
- PUBHLTH 260 Human Exposure Modeling
- PUBHLTH 265 Advanced Environmental Health Science
- PUBHLTH 269 Air Pollution, Climate, and Health
- PUBHLTH 275 Environmental Modeling and Risk Management
- PUBHLTH 277A Target Organ Toxicology I
- PUBHLTH 277B Target Organ Toxicology II
- PUBHLTH 278 Industrial Toxicology
- PUBHLTH 279 Special Topics in Environmental & Occupational Health
- PUBHLTH 283 Geographic Information Systems for Public Health
- PUBHLTH 286 Advanced Geographic Information Systems and Spatial Epidemiology

Epidemiology Emphasis

- PUBHLTH 206B Intermediate Epidemiology
- PUBHLTH 206C Advanced Epidemiologic Methods
- PUBHLTH 213 Epidemiology in Global Health

Sociocultural Diversity and Health Emphasis

- PUBHLTH 245 Health Promotion Planning
- PUBHLTH 246 Social Research Methods
- PUBHLTH 247 Program Evaluation

Elective Courses. Three elective courses (four units each) are required. Students select electives in light of their educational and career goals.

Biostatistics Emphasis

The M.P.H. with an emphasis in Biostatistics, is a 63-unit degree program consisting of seventeen courses taken over five to six quarters. Fourteen core competency courses must be taken by all students. In addition, students choose three elective courses. All courses required for the M.P.H. with an emphasis in Biostatistics must be taken for a letter grade. Any core competency course in which a minimum grade of B is not achieved must be re-taken.

Required Courses

A. Complete the following:

- PUBHLTH 200 Foundations of Public Health
- PUBHLTH 264 Introduction to Environmental Health Science
- PUBHLTH 206A Principles of Epidemiology
- PUBHLTH 222 Health Policy and Management
- PUBHLTH 244 Health Behavior Theory

- STAT 201 Statistical Methods for Data Analysis I
- STAT 202 Statistical Methods for Data Analysis II
- STAT 203 Statistical Methods for Data Analysis III

- STAT 295 Special Topics in Statistics (two quarters)
- STAT 280 Seminar in Statistics (at least two quarters - .5 units each quarter)

A course from the PUBHLTH 291 series (2 units)

- PUBHLTH 295 Graduate Practicum and Culminating Experience in Public Health
  (8 units)

B. Complete three elective courses (4 units each). 1

Students select electives in light of their educational and career goals.

Students in all M.P.H. Emphas

Comprehensive Examination - All M.P.H. students are required to pass the comprehensive exam in order to advance to candidacy. The comprehensive exam is the "Certified in Public Health" (CPH) examination which covers the core areas of knowledge offered in CEPH-accredited schools and programs, as well as cross-cutting areas relevant to contemporary public health. Students who complete all of their core courses are required to take the CPH examination at the beginning of the fall quarter of their second year. Students who do not complete all of their core courses during their first year will be allowed an alternative testing date. In addition, by special petition, students may be approved to take the CPH examination during the spring quarter of their first year. Students must pass the CPH examination before they can be advanced to candidacy for the M.P.H. degree.

Practicum and Culminating Experience. Students are required to complete a supervised internship of 240 hours while registered in the Graduate Practicum and Culminating Experience in Public Health (PUBHLTH 295). The practicum experience follows the completion of all core competency courses, the comprehensive exam, and advancement to candidacy. A compendium of approved practicum sites is available online to enrolled M.P.H. students. The student’s work at the practicum site culminates in a comprehensive written report, with a presentation at the departmental poster seminar at the end of the academic year.

DMS 360 - Item 1-354
Appendix I: CEPH MPH Competencies
### MPH FOUNDATIONAL COMPETENCIES

<table>
<thead>
<tr>
<th>Evidence-based Approaches to Public Health</th>
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<tbody>
<tr>
<td><strong>1.</strong> Apply epidemiological methods to the breadth of settings and situations in public health practice</td>
</tr>
<tr>
<td><strong>2.</strong> Select quantitative and qualitative data collection methods appropriate for a given public health context</td>
</tr>
<tr>
<td><strong>3.</strong> Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate</td>
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<tr>
<td><strong>4.</strong> Interpret results of data analysis for public health research, policy or practice</td>
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<tr>
<th>Public Health &amp; Health Care Systems</th>
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<tr>
<td><strong>5.</strong> Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings</td>
</tr>
<tr>
<td><strong>6.</strong> Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels</td>
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<tr>
<th>Planning &amp; Management to Promote Health</th>
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<tr>
<td><strong>7.</strong> Assess population needs, assets and capacities that affect communities’ health</td>
</tr>
<tr>
<td><strong>8.</strong> Apply awareness of cultural values and practices to the design or implementation of public health policies or programs</td>
</tr>
<tr>
<td><strong>9.</strong> Design a population-based policy, program, project or intervention</td>
</tr>
<tr>
<td>MPH FOUNDATIONAL COMPETENCIES</td>
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<td>--------------------------------</td>
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</tbody>
</table>
| 10. Explain basic principles and tools of budget and resource management | Must address the management part of budget & resource management, not only the development of a budget. The didactic preparation and assessment should focus on what happens AFTER funding or the project is in place. Writing a supplemental description to a budget is often insufficient unless there are other parameters around the task or assignment related to managing budgets and resources (e.g., staffing, space, multiple programs).  
*Lack of evidence of instruction is common reason for non-compliant finding* |
| 11. Select methods to evaluate public health programs | “Select” = choose among methods. Students should be able to consider a public health program and choose the appropriate evaluation method for the program. Types of evaluations may include formative evaluation (feasibility, appropriateness, acceptability), process/implementation evaluation (have activities been implemented as intended), outcome/effectiveness evaluation (effect in the target population), and impact evaluation (success in achieving ultimate program goals). Students do not have to actually evaluate, but must be able to identify the correct approach. |

**Policy in Public Health**

| 12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence | Broader than analyzing a specific policy. Students must be able to explain how policies (on a local, state, or national level) are created, such as how the policy may move from one legislative committee to another, the iterations a policy goes through, and incorporating feedback to garner enough legislative support for the final version. Students should consider how research or evaluation evidence and ethics influence the process. |
| 13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes | Students should recognize the importance of community involvement and buy-in as instrumental to promoting community change and improvement and should think about how to bring relevant stakeholders together.  
*Lack of evidence of instruction is common reason for non-compliant finding* |
| 14. Advocate for political, social or economic policies and programs that will improve health in diverse populations | Students must understand how to advocate for a particular issue. For example, how do you influence policy? How do you develop legislative testimony? Students must produce a product that would be part of an advocacy effort (e.g., legislative briefing paper or fact sheet, op-ed for a targeted publication or audience).  
*Lack of evidence of instruction is common reason for non-compliant finding* |
| 15. Evaluate policies for their impact on public health and health equity | Assessment should focus on the evaluation of policies rather than the development of policies. Students should consider how groups are affected by policies, including both intended and unintended consequences with a focus on the impacts on equity. |

**Leadership**

| 16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making | Students must apply these principles by developing their own strategies or approaches to a given scenario, such as responding to a case study or scenario. It is insufficient to simply describe principles in an essay or exam, observe these skills in others, or have students self-reflect on their leadership style.  
*Lack of evidence of instruction is common reason for non-compliant finding* |
<table>
<thead>
<tr>
<th>MPH FOUNDATIONAL COMPETENCIES</th>
<th>ADDITIONAL DETAIL OF EXPECTATIONS</th>
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<tbody>
<tr>
<td>17. Apply negotiation and mediation skills to address organizational or community challenges</td>
<td>Students need to know some ways to negotiate/mediate when another’s goals are different from their own and there is a need to come to a common conclusion. Assessment must involve more than persuasive communication.</td>
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<tr>
<td></td>
<td>*Lack of evidence of instruction is common reason for non-compliant finding</td>
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</tbody>
</table>

**Communication**

| 18. Select communication strategies for different audiences and sectors | "Select" = determine how to communicate with different groups by considering the needs and usual practices of the target audience. Students should be able to discern between different media, consider levels of health literacy, etc. This competency is often conflated with #19, but it is different. |

| 19. Communicate audience-appropriate public health content, both in writing and through oral presentation | Students should communicate using words and images that are effective, accessible, and understandable for each audience. Students should consider the venues or methods of delivery (e.g., social media, press release, oral presentation, journal article) that best fit the circumstances. |
| | An audience of peers/fellow students or an academic audience is not sufficient. |
| | One assessment may be sufficient if it has written and oral components, or multiple assessments are needed. |

| 20. Describe the importance of cultural competence in communicating public health content | Different from #8 – the focus is on communicating public health content and why cultural competence is an important consideration when crafting public health communications. Students should consider the importance of ensuring that different groups can easily relate to and apply public health information. |

**Interprofessional Practice**

| 21. Perform effectively on interprofessional teams | Must assess how students apply the skills inherent in interprofessional work. The product should not only reflect the outcome (did they come up with a good plan?) but also the process (what did the others bring that they didn’t? how did the public health professional contribute unique knowledge and skills? what barriers or challenges were there? what synergies? etc.). Students should be familiar with concepts such as minimizing professional jargon, respecting the roles and backgrounds of other professionals, and finding common ground. |
| | Must actually interact with individuals outside of public health disciplines; however, direct, real-time observation is not required. Not acceptable to assess in typical internship by faculty. |
| | *Lack of evidence of instruction is common reason for non-compliant finding |

**Systems Thinking**

| 22. Apply systems thinking tools to a public health issue | Evidence of competency demonstration must be non-narrative. Describing how systems thinking might apply is not sufficient; students must show that they can actually apply systems thinking tools by constructing something like a concept map, causal loop diagram, etc. |
Appendix J:
MS in Environmental Health Sciences
M.S. in Environmental Health Sciences

The Division of Occupational and Environmental Medicine in the Department of Medicine provides graduate training in environmental health sciences and offers the M.S. and Ph.D. degrees in Environmental Health Sciences. The Environmental Health Sciences program is also an official graduate program of the Program in Public Health. The Ph.D. program offers tracks in Environmental Toxicology and in Exposure Sciences and Environmental Epidemiology. The program in Environmental Health Sciences provides students with the knowledge and skills necessary and appropriate to teach and/or conduct basic and applied research programs in inhalation/pulmonary toxicology, neurotoxicology, reproductive and developmental toxicology, chemical pathology, toxicokinetics, radiation toxicology, exposure sciences, environmental epidemiology, and risk assessment.

Environmental Toxicology involves the scientific study of the entry, distribution, biotransformation, and mechanism of the action of chemical agents that are harmful to the body. The graduate program interprets environmental toxicology as the study of the effects and mechanisms of action of hazardous chemicals in food, air, water, and soil in the home, the workplace, and the community. It considers experimentally and theoretically such diverse research problems as:

- new scientific approaches to toxicological evaluation of environmental chemicals such as air and water pollutants, food additives, industrial wastes, and agricultural adjuvants at the molecular, cellular, and organism levels
- mechanisms of action in chemical toxicity
- the molecular pathology of tissue injury in acute and chronic toxicity

Exposure Sciences involves the study of human exposures to environmental contaminants in different media such as air, water, and food and via multiple routes including inhalation, ingestion, and dermal absorption. Environmental Epidemiology examines the effects of exposure to environmental pollutants and other factors on health outcomes. Research in the Exposure Sciences and Environmental Epidemiology Track includes:

- new approaches to the evaluation of human exposures to environmental chemicals, including exposure modeling and biomonitoring
- modeling individual level exposures to environmental pollutants and examining associations of these exposures with health and disease outcomes
- exposure to physical and psychosocial work environment hazards and health outcomes

Students entering the program have varied backgrounds, including chemistry, biology, and physiology. The curriculum is based on a foundation of basic and health sciences with applications of scientific principles to environmental exposures and their potential health effects. Formal course work is enriched by a strong commitment to student-professor interaction throughout the program. An important and integral part of the learning process is an early and intensive involvement of the student in ongoing original research projects in environmental health sciences, especially inhalation/pulmonary toxicology, reproductive and developmental toxicology, biochemical toxicology, chemical pathology, neurotoxicology, exposure sciences, environmental epidemiology, and risk assessment.

Admission

In addition to meeting the general admission requirements set by the Graduate Division, applicants must be admitted by an Admissions Committee composed of faculty members of the graduate program. Candidates will be selected on the basis of a balanced evaluation of the following criteria, with no one factor having more influence: (1) prior scholastic performance, including a consideration of grades, course load, nature of courses taken, and college attended; (2) recommendations by professors and others; (3) scores for the general Graduate Record Examination test (GRE); (4) an interview by members of the Admissions Committee and other faculty members, when feasible; and (5) experience in undergraduate and/or post-baccalaureate research.

Undergraduate preparation of applicants should include one year of biology (one quarter of molecular biology or biochemistry is strongly recommended) one year of mathematics (calculus and/or statistics), and one year of chemistry. Outstanding applicants who lack one or two of these prerequisites may be given an opportunity to take the required course(s) either before admission or during the first year in the graduate program; in such circumstances, none of these required undergraduate courses may be used to satisfy the program elective or core course requirements. Upper-division or graduate science courses may be considered as substitutes for the above prerequisites by the Admissions Committee.

Requirements

All courses must be passed with an average grade of B or better.

A. Complete the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>PUBHLTH 206A</td>
<td>Principles of Epidemiology</td>
</tr>
<tr>
<td>or EPIDEM 200A</td>
<td>Principles of Epidemiology</td>
</tr>
<tr>
<td>EPIDEM 204A</td>
<td>Biostatistics I: Introduction to Statistical Methods</td>
</tr>
<tr>
<td>or PUBHLTH 207A</td>
<td>Probability and Statistics in Public Health</td>
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</table>
B. Select two of the following:

- EHS 202 Principles of Environmental Toxicology
- EHS 206A Target Organ Toxicology I
- EHS 206B Target Organ Toxicology II

C. Complete the following:

- EHS 264 Introduction to Environmental Health Science
- EHS 298 Seminar in Environmental Health Sciences 1
- EHS 299 Research Problems 2
- EHS 290 Independent Study in Environmental Toxicology 3

Eight units from the approved elective pool.

D. Complete one of the following plans:

Plan I:
Under the direction of a faculty advisor, prepare a thesis that is acceptable to the thesis committee

Plan II:
1. Under the supervision of a faculty member, prepare a scholarly paper based on individual study in an area of toxicology
2. Pass the written comprehensive examination.

1 All graduate students in the program will be required to take EHS 298 every academic quarter they are enrolled in the graduate program.
2 Applies to Plan I.
3 Applies to Plan II.

Opportunities for individual training and independent research experience exist in inhalation and pulmonary toxicology, atmospheric chemistry and aerosol science, neurochemistry and neurotoxicology, reproductive and developmental toxicology, toxicology of naturally occurring compounds, exposure modeling, risk assessment, chemical pathology, environmental microbiology, and environmental chemistry. Research grants and contracts are available to support qualified doctoral students as research assistants.
Appendix K:
Ph.D. in Environmental Health Sciences
Ph.D. in Environmental Health Sciences

The Division of Occupational and Environmental Medicine in the Department of Medicine provides graduate training in environmental health sciences and offers the M.S. and Ph.D. degrees in Environmental Health Sciences. The Environmental Health Sciences program is also an official graduate program of the Program in Public Health. The Ph.D. program offers tracks in Environmental Toxicology and in Exposure Sciences and Environmental Epidemiology. The program in Environmental Health Sciences provides students with the knowledge and skills necessary and appropriate to teach and/or conduct basic and applied research programs in inhalation/pulmonary toxicology, neurotoxicology, reproductive and developmental toxicology, chemical pathology, toxicokinetics, radiation toxicology, exposure sciences, environmental epidemiology, and risk assessment.

Environmental Toxicology involves the scientific study of the entry, distribution, biotransformation, and mechanism of the action of chemical agents that are harmful to the body. The graduate program interprets environmental toxicology as the study of the effects and mechanisms of action of hazardous chemicals in food, air, water, and soil in the home, the workplace, and the community. It considers experimentally and theoretically such diverse research problems as:

- new scientific approaches to toxicological evaluation of environmental chemicals such as air and water pollutants, food additives, industrial wastes, and agricultural adjuvants at the molecular, cellular, and organism levels
- mechanisms of action in chemical toxicity
- the molecular pathology of tissue injury in acute and chronic toxicity

Exposure Sciences involves the study of human exposures to environmental contaminants in different media such as air, water, and food and via multiple routes including inhalation, ingestion, and dermal absorption. Environmental Epidemiology examines the effects of exposure to environmental pollutants and other factors on health outcomes. Research in the Exposure Sciences and Environmental Epidemiology Track includes:

- new approaches to the evaluation of human exposures to environmental chemicals, including exposure modeling and biomonitoring
- modeling individual level exposures to environmental pollutants and examining associations of these exposures with health and disease outcomes
- exposure to physical and psychosocial work environment hazards and health outcomes

Students entering the program have varied backgrounds, including chemistry, biology, and physiology. The curriculum is based on a foundation of basic and health sciences with applications of scientific principles to environmental exposures and their potential health effects. Formal course work is enriched by a strong commitment to student-professor interaction throughout the program. An important and integral part of the learning process is an early and intensive involvement of the student in ongoing original research projects in environmental health sciences, especially inhalation/pulmonary toxicology, reproductive and developmental toxicology, biochemical toxicology, chemical pathology, neurotoxicology, exposure sciences, environmental epidemiology, and risk assessment.

Admission

In addition to meeting the general admission requirements set by the Graduate Division, applicants must be admitted by an Admissions Committee composed of faculty members of the graduate program. Candidates will be selected on the basis of a balanced evaluation of the following criteria, with no one factor having more influence:

1. prior scholastic performance, including a consideration of grades, course load, nature of courses taken, and college attended;
2. recommendations by professors and others;
3. scores for the general Graduate Record Examination test (GRE);
4. an interview by members of the Admissions Committee and other faculty members, when feasible;
5. experience in undergraduate and/or post-baccalaureate research.

Undergraduate preparation of applicants should include one year of biology (one quarter of molecular biology or biochemistry is strongly recommended) one year of mathematics (calculus and/or statistics), and one year of chemistry. Outstanding applicants who lack one or two of these prerequisites may be given an opportunity to take the required course(s) either before admission or during the first year in the graduate program; in such circumstances, none of these required undergraduate courses may be used to satisfy the program elective or core course requirements. Upper-division or graduate science courses may be considered as substitutes for the above prerequisites by the Admissions Committee.
# Requirements

All courses must be passed with an average grade of B or better.

## A. Complete the following:

### Program-wide Core Curriculum

#### A. Select one of the following:

- PUBHLTH 206A  
  Principles of Epidemiology
- or EPIDEM 200A  
  Principles of Epidemiology

#### B. Select two of the following:

- EHS 202  
  Principles of Environmental Toxicology
- EHS 206A  
  Target Organ Toxicology I
- EHS 206B  
  Target Organ Toxicology II

#### C. Complete the following:

- EHS 264  
  Introduction to Environmental Health Science
- EHS 298  
  Seminar in Environmental Health Sciences
- EHS 299  
  Research Problems

Select one track and complete track-specific requirements:

1. Environmental Toxicology Track

#### D. Select one of the following:

- PUBHLTH 207A  
  Probability and Statistics in Public Health
- or EPIDEM 204A  
  Biostatistics I: Introduction to Statistical Methods

#### E. Select one of the following (the one not taken to fulfill program-wide core course requirement):

- EHS 202  
  Principles of Environmental Toxicology
- EHS 206A  
  Target Organ Toxicology I
- EHS 206B  
  Target Organ Toxicology II

#### F. Complete:

- EHS 201  
  Case Studies in Environmental Toxicology

#### G. Complete 16 units from the approved elective pool.

#### 2. Exposure Sciences and Environmental Epidemiology Track:

#### H. Complete:

- PUBHLTH 283  
  Geographic Information Systems for Public Health
- PUBHLTH 207A- 207B  
  Probability and Statistics in Public Health and Analysis of Public Health Data Using Statistical Software
- EPIDEM 205  
  Environmental Epidemiology

#### I. Select one of the following:

- PUBHLTH 279  
  Special Topics in Environmental & Occupational Health
- EHS 275  
  Environmental Modeling and Risk Management

#### J. Complete 8 units from the approved elective pool.

Approved elective pool for both tracks:

- EHS 203  
  Psychosocial Occupational Epidemiology
- EHS 204  
  Neurotoxicology
- EHS 212  
  Inhalation Toxicology
- EHS 220  
  Industrial Toxicology
- EHS 269  
  Air Pollution, Climate, and Health
- EHS 270  
  Human Exposure to Environmental Contaminants
- EHS 294  
  Occupational Health Psychology
- EPIDEM 244  
  Toxic Chemicals in Environment
- ANATOMY 203A  
  Human Microscopic Anatomy
- ANATOMY 203B  
  Human Microscopic Anatomy
- DEV BIO 231B  
  Cell Biology
- MOL BIO 203  
  Nucleic Acid Structure and Function
- MOL BIO 204  
  Protein Structure and Function
- PHYSIO 206A  
  Introduction to Medical Physiology
- PHYSIO 206B  
  Introduction to Medical Physiology
- PUBHLTH 265  
  Advanced Environmental Health Science

#### K. Fulfill the following:

- Comprehensive Exam
- Qualifying Exam
- Teaching Requirement
- Research Dissertation

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1. All graduate students in the program will be required to take EHS 298 every academic quarter they are enrolled in the graduate program.

2. Enroll during research rotations and dissertation research.

3. Track-specific core courses for one track may be taken as electives for other track.

The normative time for advancement to candidacy is three years. The normative time for completion of the Ph.D. is five years, and the maximum time permitted is seven years.
Appendix L:
MS in Epidemiology
M.S. in Epidemiology

The M.S. in Epidemiology is thesis-based, and students are expected to finish in two years. The first year is largely devoted to required course work and, with guidance from faculty, developing an area of interest within which the M.S. thesis research will be conducted. The second year is chiefly devoted to completing the Master’s thesis. The final step is an oral presentation, open to the public, of the thesis research. The M.S. in Epidemiology is an academic degree, and graduates typically go on to further education or careers in research.

The Department of Epidemiology also offers a course of study and academic research leading to a Master's of Science (M.S.) degree in epidemiology.

Purpose: Our M.S. degree program offers a sound foundation in epidemiologic methods, biostatistics, and allows flexibility in selecting elective courses to meet the needs and interests of each student. To earn the MS degree, students must complete the required coursework and demonstrate competence in the form of a research based thesis project.

Time to degree: Our M.S. program is two academic years (6 quarters) of full-time study.

Workload: A minimum of 72 course credits over two years (6 quarters). In addition to required courses, students take elective courses to provide breadth and depth to their academic training.

Admission criteria: Applicants must meet the basic requirements of the UCI Graduate Division. While the epidemiology department has no additional requirements, admission into our program is competitive.

Funding: M.S. students are usually self-funded.

Application process and deadline: The application is filed electronically via the UCI Graduate Division website. Applications for the M.S. program must be complete by Dec. 8 to start in the following fall quarter.

Career paths: Our M.S. graduates have gone on to positions in government, academia and private industry. Some have gone on to medical school or a Ph.D. program.

Courses

EPIDEM 199. Undergraduate Research in Epidemiology. 2-4 Units.
Provides disciplinary research participation. Original or existing research options provide undergraduates the opportunity for faculty/mentor interactions including access to appropriate facilities. Medical Epidemiology research areas: Cancer, Genetic/Molecular, Environmental, Occupational, Biostatistics, and Infectious Disease.
Repeatability: Unlimited as topics vary.
Restriction: Upper-division students only.

EPIDEM 200A. Principles of Epidemiology. 4 Units.
Fundamental principles of epidemiology, biostatistics, and epidemiological research. Topics include research methods of measuring health problems in populations, disease control and prevention in populations, how epidemiology contributes to knowledge of disease etiology, and biostatistical analysis and interpretation of epidemiologic data.
Same as PUBHLTH 206A.
Restriction: Graduate students only.

EPIDEM 200B. Intermediate Epidemiology. 4 Units.
Learn to design and conduct epidemiologic studies using common designs. Determine why bias and measurement error arise in observational studies, and how they influence effect estimates. Perform and interpret epidemiologic data analyses using statistical software.
Prerequisite: PUBHLTH 206A, PUBHLTH 206A with a grade of B or better
Same as PUBHLTH 206B.
Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Epidemiology Majors only.

EPIDEM 200C. Advanced Epidemiologic Methods. 4 Units.
Advanced topics in the design and statistical analysis of epidemiologic studies. Topics include simulation methods, counter-matching and multiphase study designs, missing data, and Bayesian analysis. Published simulation studies are discussed and replicated using the R software package.
Prerequisite: EPIDEM 200A and EPIDEM 200B, EPIDEM 200A with a grade of B or better.
Same as PUBHLTH 206C.

EPIDEM 201. Cancer Epidemiology. 4 Units.
Concentrates on understanding how epidemiology plays a role in the search for cancer etiology, prevention, control, and treatment; gives an overview of cancer research with an appreciation of the multidisciplinary nature of the field.
Prerequisite: EPIDEM 203 or PUBHLTH 203 or PUBH 206.
Restriction: Graduate students only.
EPIDEM 202. Genetic Epidemiology. 4 Units.
Concentrates on the role of genetic factors in the etiology of disease in human populations with an objective of disease control and prevention and the role of interactions of genetic factors and environmental exposures in the occurrence of disease.
Prerequisite: PUBHLTH 203 or EPIDEM 203 or PUBH 206
Restriction: Graduate students only.

EPIDEM 204A. Biostatistics I: Introduction to Statistical Methods. 4 Units.
Designed to help students develop an appreciation for statistician's view of the research process, emphasizing biomedical research. Instills an understanding of how statistical models are used to yield insights about data that form evidence-based understanding of the world around us.
Same as PUBHLTH 204.
Restriction: Graduate students only.

EPIDEM 204B. Biostatistics II: Intermediate Statistical Methods. 4 Units.
Intended for graduate students in epidemiology, public health, and clinical research fields. Covers common regression-modeling techniques frequently used in biologic and medical applications.
Prerequisite: EPIDEM 204. EPIDEM 204 with a grade of B or better
Repeatability: May be taken for credit two times.
Restriction: Graduate students only.

EPIDEM 204C. Biostatistics III: Advanced Statistical Methods. 4 Units.
Intended for graduate students in epidemiology, public health, and related fields. Introduces statistical methods for analyzing survival and longitudinal/clumped data, and techniques to resolve missing data.
Prerequisite: EPIDEM 204B, EPIDEM 204B with a grade of B or better
Repeatability: May be taken for credit two times.
Restriction: Graduate students only.

EPIDEM 205. Environmental Epidemiology. 4 Units.
Concentrates on epidemiological approaches to the assessment of community environmental hazards; issues involved in environmental exposure estimation; interdisciplinary approaches to environmental epidemiology, including the use of biomarkers of exposures and susceptibility; epidemiological studies within the context of risk assessment.
Prerequisite: EPIDEM 200 and EPIDEM 204
Restriction: Graduate students only.

EPIDEM 212. Methods for Design and Implementation of Epidemiologic Research. 2 Units.
Intended for students in epidemiology, public health, and related fields, and covers topics in subject recruitment, data collection, quality assessment and control, and sample-size estimation.
Corequisite: PUBHLTH 206B
Prerequisite: EPIDEM 200A and EPIDEM 204A. EPIDEM 200A with a grade of B or better. EPIDEM 204A with a grade of B or better Repeatability: May be taken for credit two times.
Restriction: Graduate students only.

EPIDEM 215. Introduction to Statistical Genetics. 4 Units.
Provides students with knowledge of the basic principles, concepts, and methods used in statistical genetic research. Topics include principles of population genetics, and statistical methods for family- and population-based studies.
Prerequisite: Two quarters of upper-division or graduate training in statistical methods.
Same as STATS 257.

EPIDEM 232. Chronic Disease Epidemiology & Prevention. 4 Units.
Epidemiological aspects of chronic human diseases. Topics include methodologies for quantifying aspects of prevalent chronic diseases including risk factors, identification of susceptible groups, societal burdens, promising future research; and the intervention, prevention, and control of diseases in populations.
Restriction: Graduate students only.

EPIDEM 244. Toxic Chemicals in Environment. 4 Units.
Industrial ecology of toxicants and their impacts on environmental quality and human health. Explores theoretical basis of toxicity thresholds and regulatory issues. Uses classic and contemporary research articles to understand the legacy of traditional toxicants, and to identify emerging threats.
Restriction: Graduate students only.

EPIDEM 264. Introduction to Environmental Health Science. 4 Units.
Convergence of agents (chemical, physical, biological, or psychosocial) in environment can emerge as diseases influenced by social, political, and economic factors, allowing them to become rooted in society. How these agents from various spheres come together and impact human health.
Same as EHS 264, PUBHLTH 264.
Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only. Environ Health Sci and Policy Majors only.

EPIDEM 265. Advanced Environmental Health Science. 4 Units.
Explores the complex relationships among exposure processes and adverse health effects of environmental toxins focusing on specific chemicals, sources, transport media, exposure pathways, and human behaviors. Techniques of environmental sampling for exposure assessment are discussed.
Same as PUBHLTH 265.
Restriction: Graduate students only.

EPIDEM 269. Air Pollution, Climate, and Health. 4 Units.
Emission of air pollutants into the atmosphere, physical and meteorological processes that affect transport, and influence on global warming. Concepts of how and where people are most exposed, and how exposures and health effects differ in developed and developing regions.
Same as EHS 269, PUBHLTH 269.

EPIDEM 270. Human Exposure to Environmental Contaminants. 4 Units.
Introduces founders of conceptual thought that environmental contaminants can impact health. Theory and principles of exposure assessment, the continuum from emissions of a contaminant into the environment to evidence of health effects in a population.
Same as EHS 270, PUBHLTH 270.

EPIDEM 275. Special Topics in Epidemiology. 1-4 Units.
Presents various topics and latest research in the broad field of epidemiology.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

EPIDEM 280. Epidemiology Research Journal Club. 1 Unit.
Research journal club is a group discussion of recent publications in epidemiology and related fields. Students rotate as lead discussants, guided by faculty. All attendees are expected to be familiar with the papers at the start of class.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

EPIDEM 282. Epidemiology Department Seminar. 1 Unit.
A forum for the presentation of recent research to epidemiology students, faculty, and other interested parties. The atmosphere is informal, yet rigorous. Speakers range from graduate students through distinguished visitors from other institutions.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

EPIDEM 290. Introduction to Biostatistics and Epidemiology for Medical Fellows. 4 Units.
Prepares medical fellows and other physicians for rotations in research programs. Understanding of basic biostatistics and study design, and interdependencies between the two. Application of principles in evaluation of medical literature for guidance on patient care and public health policy.
Prerequisite: Medical degree.

EPIDEM 296. M.S. Thesis Research and Writing. 1-12 Units.
Individual research and study necessary for a graduate student to prepare and complete the thesis required for the Master of Science (M.S.) degree. Prerequisite: Advancement to candidacy.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

EPIDEM 297. PhD Degree Dissertation Research & Writing. 1-12 Units.
Individual research and study necessary for a graduate student to prepare and complete the dissertation required for the Doctor of Philosophy (Ph.D.) degree.
Prerequisite: Advancement to candidacy.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

EPIDEM 298. Directed Study in Epidemiology. 2-4 Units.
Directed study with Epidemiology faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

EPIDEM 299. Independent Study in Epidemiology. 2-8 Units.
Independent research with Epidemiology faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 399. University Supervised Teaching. 2-4 Units.**

Limited to students with active Teaching Assistant (T.A.) appointments.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.
Appendix M:
Ph.D. in Epidemiology
Ph.D. in Epidemiology

The Ph.D. program is intended to train well-qualified students to be independent contributors to epidemiology or related fields. Students are expected to finish in four to six years, and maximum time permitted is seven years. The first year is largely devoted to required course work and developing research interests, with the guidance of the faculty. There is a comprehensive exam at the end of the first year, to ensure the first-year content has been mastered. In the second and third years, students are expected to participate in faculty research, including manuscript preparation and presentation of results in public forums.

The Ph.D. student is strongly encouraged to apply for fellowships and grants, as well as assist with teaching. Toward the end of the third year, the student is expected to defend a thesis proposal to the faculty. The remaining time with the program is largely devoted to completing the thesis. The formal defense of the thesis is a public event. Graduates typically go on to post-doctoral positions, faculty positions, or positions in government or industry.

Applications to graduate study in the Department of Epidemiology at the University of California, Irvine are through the web site of the University of California, Irvine Graduate Division website.

Courses

EPIDEM 199. Undergraduate Research in Epidemiology. 2-4 Units.
Provides disciplinary research participation. Original or existing research options provide undergraduates the opportunity for faculty/mentor interactions including access to appropriate facilities. Medical Epidemiology research areas: Cancer, Genetic/Molecular, Environmental, Occupational, Biostatistics, and Infectious Disease.
Repeatability: Unlimited as topics vary.
Restriction: Upper-division students only.

EPIDEM 200A. Principles of Epidemiology. 4 Units.
Fundamental principles of epidemiology, biostatistics, and epidemiological research. Topics include research methods of measuring health problems in populations, disease control and prevention in populations, how epidemiology contributes to knowledge of disease etiology, and biostatistical analysis and interpretation of epidemiologic data.
Same as PUBHLTH 206A.
Restriction: Graduate students only.

EPIDEM 200B. Intermediate Epidemiology. 4 Units.
Learn to design and conduct epidemiologic studies using common designs. Determine why bias and measurement error arise in observational studies, and how they influence effect estimates. Perform and interpret epidemiologic data analyses using statistical software.
Prerequisite: PUBHLTH 206A, PUBHLTH 206A with a grade of B or better
Same as PUBHLTH 206B.
Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Epidemiology Majors only.

EPIDEM 200C. Advanced Epidemiologic Methods. 4 Units.
Advanced topics in the design and statistical analysis of epidemiologic studies. Topics include simulation methods, counter-matching and multiphase study designs, missing data, and Bayesian analysis. Published simulation studies are discussed and replicated using the R software package.
Prerequisite: EPIDEM 200A and EPIDEM 200B, EPIDEM 200A with a grade of B or better, EPIDEM 200B with a grade of B or better
Same as PUBHLTH 206C.

EPIDEM 201. Cancer Epidemiology. 4 Units.
Concentrates on understanding how epidemiology plays a role in the search for cancer etiology, prevention, control, and treatment; gives an overview of cancer research with an appreciation of the multidisciplinary nature of the field.
Prerequisite: EPIDEM 203 or PUBHLTH 203 or PUBH 206
Restriction: Graduate students only.

EPIDEM 202. Genetic Epidemiology. 4 Units.
Concentrates on the role of genetic factors in the etiology of disease in human populations with an objective of disease control and prevention and the role of interactions of genetic factors and environmental exposures in the occurrence of disease.
Prerequisite: PUBHLTH 203 or EPIDEM 203 or PUBH 206
Restriction: Graduate students only.

EPIDEM 204A. Biostatistics I: Introduction to Statistical Methods. 4 Units.
Designed to help students develop an appreciation for statistician’s view of the research process, emphasizing biomedical research. Instills an understanding of how statistical models are used to yield insights about data that form evidence-based understanding of the world around us.
Same as PUBHLTH 204.
Restriction: Graduate students only.

EPIDEM 204B. Biostatistics II: Intermediate Statistical Methods. 4 Units.
Intended for graduate students in epidemiology, public health, and clinical research fields. Covers common regression-modeling techniques frequently used in biologic and medical applications.
Prerequisite: EPIDEM 204. EPIDEM 204 with a grade of B or better
Repeatability: May be taken for credit 2 times.
Restriction: Graduate students only.

**EPIDEM 204C. Biostatistics III: Advanced Statistical Methods. 4 Units.**
Intended for graduate students in epidemiology, public health, and related fields. Introduces statistical methods for analyzing survival and longitudinal/clustered data, and techniques to resolve missing data.
Prerequisite: EPIDEM 204B, EPIDEM 204B with a grade of B or better
Repeatability: May be taken for credit 2 times.
Restriction: Graduate students only.

**EPIDEM 205. Environmental Epidemiology. 4 Units.**
Concentrates on epidemiological approaches to the assessment of community environmental hazards; issues involved in environmental exposure estimation; interdisciplinary approaches to environmental epidemiology, including the use of biomarkers of exposures and susceptibility; epidemiological studies within the context of risk assessment.
Prerequisite: EPIDEM 200 and EPIDEM 204
Restriction: Graduate students only.

**EPIDEM 212. Methods for Design and Implementation of Epidemiologic Research. 2 Units.**
Intended for students in epidemiology, public health, and related fields, and covers topics in subject recruitment, data collection, quality assessment and control, and sample-size estimation.
Corequisite: PUBHLTH 206B
Prerequisite: EPIDEM 200A and EPIDEM 204A, EPIDEM 200A with a grade of B or better. EPIDEM 204A with a grade of B or better
Repeatability: May be taken for credit 2 times.
Restriction: Graduate students only.

**EPIDEM 215. Introduction to Statistical Genetics. 4 Units.**
Provides students with knowledge of the basic principles, concepts, and methods used in statistical genetic research. Topics include principles of population genetics, and statistical methods for family- and population-based studies.
Prerequisite: Two quarters of upper-division or graduate training in statistical methods.
Same as STATS 257.

**EPIDEM 232. Chronic Disease Epidemiology & Prevention. 4 Units.**
Epidemiological aspects of chronic human diseases. Topics include methodologies for quantifying aspects of prevalent chronic diseases including risk factors, identification of susceptible groups, societal burdens, promising future research; and the intervention, prevention, and control of diseases in populations.
Restriction: Graduate students only.

**EPIDEM 244. Toxic Chemicals in Environment. 4 Units.**
Industrial ecology of toxicants and their impacts on environmental quality and human health. Explores theoretical basis of toxicity thresholds and regulatory issues. Uses classic and contemporary research articles to understand the legacy of traditional toxicants, and to identify emerging threats.
Restriction: Graduate students only.

**EPIDEM 264. Introduction to Environmental Health Science. 4 Units.**
Convergence of agents (chemical, physical, biological, or psychosocial) in environment can emerge as diseases influenced by social, political, and economic factors, allowing them to become rooted in society. How these agents from various spheres come together and impact human health.
Same as EHS 264, PUBHLTH 264.
Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only. Environ Health Sci and Policy Majors only.

**EPIDEM 265. Advanced Environmental Health Science. 4 Units.**
Explores the complex relationships among exposure processes and adverse health effects of environmental toxins focusing on specific chemicals, sources, transport media, exposure pathways, and human behaviors. Techniques of environmental sampling for exposure assessment are discussed.
Same as PUBHLTH 265.
Restriction: Graduate students only.

**EPIDEM 269. Air Pollution, Climate, and Health. 4 Units.**
Emission of air pollutants into the atmosphere, physical and meteorological processes that affect transport, and influence on global warming. Concepts of how and where people are most exposed, and how exposures and health effects differ in developed and developing regions.
Same as EHS 269, PUBHLTH 269.

**EPIDEM 270. Human Exposure to Environmental Contaminants. 4 Units.**
Introduces founders of conceptual thought that environmental contaminants can impact health. Theory and principles of exposure assessment, the continuum from emissions of a contaminant into the environment to evidence of health effects in a population.
Same as EHS 270, PUBHLTH 270.

**EPIDEM 275. Special Topics in Epidemiology. 1-4 Units.**
Presents various topics and latest research in the broad field of epidemiology.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

**EPIDEM 280. Epidemiology Research Journal Club. 1 Unit.**
Research journal club is a group discussion of recent publications in epidemiology and related fields. Students rotate as lead discussants, guided by faculty. All attendees are expected to be familiar with the papers at the start of class.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 282. Epidemiology Department Seminar. 1 Unit.**
A forum for the presentation of recent research to epidemiology students, faculty, and other interested parties. The atmosphere is informal, yet rigorous. Speakers range from graduate students through distinguished visitors from other institutions.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 290. Introduction to Biostatistics and Epidemiology for Medical Fellows. 4 Units.**
Prepares medical fellows and other physicians for rotations in research programs. Understanding of basic biostatistics and study design, and interdependencies between the two. Application of principles in evaluation of medical literature for guidance on patient care and public health policy.
Prerequisite: Medical degree.

**EPIDEM 296. M.S. Thesis Research and Writing. 1-12 Units.**
Individual research and study necessary for a graduate student to prepare and complete the thesis required for the Master of Science (M.S.) degree.
Prerequisite: Advancement to candidacy.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 297. PhD Degree Dissertation Research & Writing. 1-12 Units.**
Individual research and study necessary for a graduate student to prepare and complete the dissertation required for the Doctor of Philosophy (Ph.D.) degree.
Prerequisite: Advancement to candidacy.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 298. Directed Study in Epidemiology. 2-4 Units.**
Directed study with Epidemiology faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 299. Independent Study in Epidemiology. 2-8 Units.**
Independent research with Epidemiology faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**EPIDEM 299. University Supervised Teaching. 2-4 Units.**
Limited to students with active Teaching Assistant (T.A.) appointments.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
Appendix N:
MS in Public Health
M.S. in Public Health

The distinctive mission of the Master of Science in Public Health is to prepare the next generation of researchers for global health and disease population around the world in order to advance global health research and reduce the burden of disease, especially in the world’s most vulnerable and risk associated populations. Graduates of the M.S. program will be prepared to contribute to the improvement of global health and the solution of disease prevention.

The M.S. in Public Health prepares graduates to pursue careers in policy analysis, monitoring and evaluation of public health programs, and academic and programmatic research. They will engage and develop global health research at national and international government agencies, NGOs, the private sector and academic institutions.

Students who wish to pursue fields outside of education can transfer from the Ph.D. in Public Health to the M.S. in Public Health upon mastery of the required courses in the preparatory and concentration modules.

The specific learning objectives of the Concentration in Disease Prevention are:

● Demonstrate knowledge of the major theoretical underpinnings of strategies for disease prevention.

● Explain the relationship between theory and research methods focused on understanding the association of risk, behavior, and vulnerability with respect to disease pathways.

● Analyze interrelationships among the determinants of illness and maladaptive health behaviors using theories of health behavior.

● Formulate research hypotheses in the intersection of health risk factors, health behavior, and health promotion and policies toward disease prevention.

● Compose research proposals and conduct original research resulting in discoveries that contribute to improved understanding of the role of behavior and health promotion strategies in mitigating the vulnerability to health risk factors in specific populations, with the goals of applying the knowledge to disease prevention.

The specific learning objectives of the Concentration in Global Health are for graduates of the degree to:

● Demonstrate knowledge of the major theoretical underpinnings of advances in global health research.

● Explain the relationship between theory and research methods focused on understanding the association of risk, vulnerability, and outcome in global health.

● Compare and contrast the health status of different populations with respect to their burden of disease.

● Formulate research hypotheses in the intersection of risk factors, vulnerable populations, and burden of disease.

● Compose research proposals and conduct original research resulting in discoveries that contribute to improved understanding of risk factors and variations in disease burden in a population, and strategies to alleviate the burden at the global level.

All M.S. students are required to complete 64 quarter-units according to the following modules:

**Preparatory Module**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBHLTH 200</td>
<td>Foundations of Public Health</td>
</tr>
<tr>
<td>PUBHLTH 206B</td>
<td>Intermediate Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 207A</td>
<td>Probability and Statistics in Public Health</td>
</tr>
<tr>
<td>PUBHLTH 207B</td>
<td>Analysis of Public Health Data Using Statistical Software</td>
</tr>
<tr>
<td>PUBHLTH 283</td>
<td>Geographic Information Systems for Public Health</td>
</tr>
<tr>
<td>PUBHLTH 287</td>
<td>Qualitative Research Methods in Public Health</td>
</tr>
<tr>
<td>PUBHLTH 292</td>
<td>Ethics and Responsible Conduct of Research in Public Health</td>
</tr>
<tr>
<td>PUBHLTH 294</td>
<td>Research Communication in Public Health</td>
</tr>
<tr>
<td>PUBHLTH 297</td>
<td>Research Design and Proposal Writing</td>
</tr>
<tr>
<td>PUBHLTH 298</td>
<td>Directed Studies in Public Health</td>
</tr>
</tbody>
</table>

**Concentration Module: Disease Prevention**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBHLTH 208</td>
<td>Advances in Social Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 244</td>
<td>Health Behavior Theory</td>
</tr>
<tr>
<td>PUBHLTH 245</td>
<td>Health Promotion Planning</td>
</tr>
<tr>
<td>PUBHLTH 246</td>
<td>Social Research Methods</td>
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</tbody>
</table>

**Concentration Module: Global Health**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBHLTH 213</td>
<td>Epidemiology in Global Health</td>
</tr>
<tr>
<td>PUBHLTH 280</td>
<td>Global Burden of Disease</td>
</tr>
<tr>
<td>PUBHLTH 286</td>
<td>Advanced Geographic Information Systems and Spatial Epidemiology</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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</tr>
<tr>
<td>PUBHLTH 289</td>
<td>Special Topics in Global Health and Disease Prevention</td>
</tr>
</tbody>
</table>

**Elective Module: Risk Factors and Vulnerable Populations**

Select four courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BATS 210A</td>
<td>Introduction to Clinical Epidemiology</td>
</tr>
<tr>
<td>BATS 253</td>
<td>Disparities in Health and Health Care</td>
</tr>
<tr>
<td>CHC/LAT 210A</td>
<td>Cultural and Historical Precedents for Latinos and Medical Care</td>
</tr>
<tr>
<td>CHC/LAT 210B</td>
<td>Cultural and Historical Precedents for Latinos and Medical Care</td>
</tr>
<tr>
<td>CHC/LAT 211A</td>
<td>Latinos/Latinas and Medical Care: Contemporary Issues</td>
</tr>
<tr>
<td>CHC/LAT 211B</td>
<td>Latinos/Latinas and Medical Care: Contemporary Issues</td>
</tr>
<tr>
<td>CRM/LAW C219</td>
<td>Hate Crime</td>
</tr>
<tr>
<td>EHS 203</td>
<td>Psychosocial Occupational Epidemiology</td>
</tr>
<tr>
<td>EHS 294</td>
<td>Occupational Health Psychology</td>
</tr>
<tr>
<td>EPIDEM 201</td>
<td>Cancer Epidemiology</td>
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<td>EPIDEM 202</td>
<td>Genetic Epidemiology</td>
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<tr>
<td>EPIDEM 205</td>
<td>Environmental Epidemiology</td>
</tr>
<tr>
<td>EPIDEM 215</td>
<td>Introduction to Statistical Genetics</td>
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<tr>
<td>EPIDEM 232</td>
<td>Chronic Disease Epidemiology &amp; Prevention</td>
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<tr>
<td>EPIDEM 244</td>
<td>Toxic Chemicals in Environment</td>
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<tr>
<td>EARTHSS 200</td>
<td>Global Physical Climatology</td>
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<tr>
<td>MOL BIO 205</td>
<td>Molecular Virology</td>
</tr>
<tr>
<td>MOL BIO 215</td>
<td>Integrative Immunology</td>
</tr>
<tr>
<td>MOL BIO 218</td>
<td>Clinical Cancer</td>
</tr>
<tr>
<td>PSCI P258</td>
<td>Health Psychology</td>
</tr>
<tr>
<td>PSCI P273</td>
<td>Biobehavioral Aspects of Health and Illness</td>
</tr>
<tr>
<td>PUBHLTH 208</td>
<td>Advances in Social Epidemiology 2</td>
</tr>
<tr>
<td>PUBHLTH 209</td>
<td>Methods of Demographic Analysis</td>
</tr>
<tr>
<td>PUBHLTH 213</td>
<td>Epidemiology in Global Health 1</td>
</tr>
<tr>
<td>PUBHLTH 206C</td>
<td>Advanced Epidemiologic Methods</td>
</tr>
<tr>
<td>PUBHLTH 214</td>
<td>Surveillance Systems</td>
</tr>
<tr>
<td>PUBHLTH 222</td>
<td>Health Policy and Management</td>
</tr>
<tr>
<td>PUBHLTH 223</td>
<td>Risk Communication</td>
</tr>
<tr>
<td>PUBHLTH 241</td>
<td>Environmental Policy and Global Sustainability</td>
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<tr>
<td>PUBHLTH 242</td>
<td>Theories of Health Communication</td>
</tr>
<tr>
<td>PUBHLTH 244</td>
<td>Health Behavior Theory 2</td>
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<tr>
<td>PUBHLTH 245</td>
<td>Health Promotion Planning 2</td>
</tr>
<tr>
<td>PUBHLTH 246</td>
<td>Social Research Methods 2</td>
</tr>
<tr>
<td>PUBHLTH 247</td>
<td>Program Evaluation</td>
</tr>
<tr>
<td>PUBHLTH 248</td>
<td>Fundamentals of Maternal and Child Health - Programs, Problems, and Policy</td>
</tr>
<tr>
<td>PUBHLTH 250</td>
<td>Health Status and Care Disparities</td>
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<tr>
<td>PUBHLTH 259</td>
<td>Special Topics in Social and Behavioral Health Sciences</td>
</tr>
<tr>
<td>PUBHLTH 260</td>
<td>Human Exposure Modeling</td>
</tr>
<tr>
<td>PUBHLTH 264</td>
<td>Introduction to Environmental Health Science</td>
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<tr>
<td>PUBHLTH 269</td>
<td>Air Pollution, Climate, and Health</td>
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<tr>
<td>PUBHLTH 270</td>
<td>Human Exposure to Environmental Contaminants</td>
</tr>
<tr>
<td>PUBHLTH 277A</td>
<td>Target Organ Toxicology I</td>
</tr>
<tr>
<td>PUBHLTH 277B</td>
<td>Target Organ Toxicology II</td>
</tr>
<tr>
<td>PUBHLTH 279</td>
<td>Special Topics in Environmental &amp; Occupational Health</td>
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<tr>
<td>PUBHLTH 280</td>
<td>Global Burden of Disease 1</td>
</tr>
<tr>
<td>PUBHLTH 281</td>
<td>Infectious Disease Epidemiology</td>
</tr>
<tr>
<td>PUBHLTH 286</td>
<td>Advanced Geographic Information Systems and Spatial Epidemiology 1</td>
</tr>
<tr>
<td>PUBHLTH 289</td>
<td>Special Topics in Global Health and Disease Prevention 1</td>
</tr>
<tr>
<td>PUBHLTH 290</td>
<td>Special Topics in Public Health ((Global Health Law and Policy, Obesity Epidemiology, Theory Driven Data Analysis))</td>
</tr>
</tbody>
</table>
SOCIOL 230A  Race and Ethnicity
SOCIOL 239  Special Topics: Social Inequality
SOCIOL 269  Special Topics: Social Demography
SOCIOL 289  Special Topics

Research Module

1. Establish a dissertation committee of faculty members.
2. Submit a research proposal and advance to Ph.D. candidacy by defending the proposal.
3. At least three quarters of PUBHLTH 296 under the supervision of the Chair of the dissertation committee.

Plan I. Thesis Option

M.S. students will engage in thesis research with their faculty advisor, prepare and submit their thesis, to a thesis committee. Students must submit thesis committee members and thesis topic to their faculty mentor for approval, before advancement to candidacy will be approved. The thesis should reflect an original research investigation and it must be approved by a thesis committee of at least three full-time faculty members, all of which must be public health faculty. The final examination is an oral presentation of the thesis to the committee.

Courses

PUBHLTH 200. Foundations of Public Health. 4 Units.

Presents the overarching framework, principles, and core responsibilities of public health research and practice from a multidisciplinary perspective. Provides necessary foundation for further studies toward advanced cross-cutting approaches essential for public health practice.

Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBHLTH 204. Biostatistics I: Introduction to Statistical Methods. 4 Units.

Designed to help students develop an appreciation for statistician’s view of the research process, emphasizing biomedical research. Instills an understanding of how statistical models are used to yield insights about data that form evidence-based understanding of the world around us.

Same as EPIDEM 204A.

Restriction: Graduate students only.

PUBHLTH 206A. Principles of Epidemiology. 4 Units.

Fundamental principles of epidemiology, biostatistics, and epidemiological research. Topics include research methods of measuring health problems in populations, disease control and prevention in populations, how epidemiology contributes to knowledge of disease etiology, and biostatistical analysis and interpretation of epidemiologic data.

Same as EPIDEM 200A.

Restriction: Graduate students only.

PUBHLTH 206B. Intermediate Epidemiology. 4 Units.

Learn to design and conduct epidemiologic studies using common designs. Determine why bias and measurement error arise in observational studies, and how they influence effect estimates. Perform and interpret epidemiologic data analyses using statistical software.

Prerequisite: PUBHLTH 206A. PUBHLTH 206A with a grade of B or better

Same as EPIDEM 200B.

Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Epidemiology Majors only.

PUBHLTH 206C. Advanced Epidemiologic Methods. 4 Units.

Advanced topics in the design and statistical analysis of epidemiologic studies. Topics include simulation methods, counter-matching and multiphase study designs, missing data, and Bayesian analysis. Published simulation studies are discussed and replicated using the R software package.

Prerequisite: EPIDEM 200A and EPIDEM 200B. EPIDEM 200A with a grade of B or better. EPIDEM 200B with a grade of B or better

Same as EPIDEM 200C.

PUBHLTH 207A. Probability and Statistics in Public Health. 4 Units.

An introduction to probability and statistical methods, using examples in public health. Topics include descriptive statistics, laws of probability, discrete and continuous probability distributions, estimation, confidence intervals, hypothesis testing, and power calculations for one- and two-sample comparisons.

Prerequisite: PUBHLTH 206A. PUBHLTH 206A with a grade of B or better

Restriction: Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBHLTH 207B. Analysis of Public Health Data Using Statistical Software. 4 Units.

Overview of common statistical methods in public health, how to implement them in R. Topics include linear regression, ANOVA, the Kruskal-Wallis test, logistic regression, missing data and censoring, Kaplan-Meier survival curves, log-rank tests, and Cox regression.
Prerequisite: PUBHLTH 207A. PUBHLTH 207A with a grade of B or better
Restriction: Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

**PUBHLTH 208. Advances in Social Epidemiology. 4 Units.**
Advances understanding of social distribution and social determinants of disease through multiple risk factor models and mechanisms that emphasize developmental and socio-environmental risk factors on mental and physical health across the life span.
Restriction: Graduate students only.

**PUBHLTH 209. Methods of Demographic Analysis. 4 Units.**
Introduces basic demographic methods used in social science and public health research. Topics include sources and limitations of demographic data; components of population growth; measures of nuptiality, fertility, mortality, and population mobility projection methods; and demographic models.
Same as SOCIOL 226A.
Restriction: Graduate students only.

**PUBHLTH 213. Epidemiology in Global Health. 4 Units.**
Examines major topics in epidemiology and global health. Research topics within these two disciplines are focused on resource-poor communities, with an application to the global world.
Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only.

**PUBHLTH 214. Surveillance Systems. 4 Units.**
Surveillance as a fundamental element of the practice of public health is examined in terms of the application and evaluation of monitoring systems. Topics include surveillance of infectious and chronic diseases, environmental constituents, and other indicators of population health.
Prerequisite: PUBH 206
Restriction: Graduate students only.

**PUBHLTH 219. Special Topics in Biostatistics, Epidemiology, and Health Informatics. 4 Units.**
Current research in biostatistics, epidemiology, and health informatics. Topics vary from quarter to quarter.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

**PUBHLTH 222. Health Policy and Management. 4 Units.**
Multidisciplinary inquiry into theory and practice concerned with delivery, quantity, costs of health care for individuals and populations. Explores managerial and policy concerns regarding structure, process, outcomes of health services including the costs, financing, organization, outcomes, and accessibility of care.
Same as UPPP 243.
Restriction: Master of Public Health Degree students have first consideration for enrollment. Master of Public Policy Degree students have first consideration for enrollment. Graduate students only. Public Health Majors have first consideration for enrollment. Urban and Regional Planning Majors have first consideration for enrollment.

**PUBHLTH 223. Risk Communication. 4 Units.**
Examines theory and research related to the communication of scientific information in risk communication contexts, risk perceptions, and behavior as related to decision-making under risk.
Restriction: Graduate students only.

**PUBHLTH 229. Special Topics in Health Policy and Management. 4 Units.**
Current research in health policy and management. Topics vary from quarter to quarter.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

**PUBHLTH 241. Environmental Policy and Global Sustainability. 4 Units.**
Organized around four transcendent questions: does the world value sustainability, what challenges must be met to move toward it, what are the roots of inequality, and is capitalism compatible with sustainability.
Restriction: Graduate students only.

**PUBHLTH 242. Theories of Health Communication. 4 Units.**
Explores the concepts, constructs, and theories of communication in health and risk contexts. Examines interpersonal, family, organizational, and mediated communicative processes about health care and conditions from a global perspective.
Restriction: Graduate students only.

**PUBHLTH 244. Health Behavior Theory. 4 Units.**
Introduces the field of Health Behavior and segues into major theoretical perspectives. Focus on health behavior change from the vantage point of
individual health behavior and theoretical abstraction. Explores how to relate theory to behavior-change intervention programs.

Restriction: Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

**PUBHLTH 245. Health Promotion Planning. 4 Units.**

Introduces strategic planning integral to intervention planning in public health practice and research, emphasizing the fundamental domains of social and behavioral health science and practices. Students develop an intervention plan for a specific health problem, health behavior, and target population.

Restriction: Graduate students only.

**PUBHLTH 246. Social Research Methods. 4 Units.**

An interactive graduate seminar covering topics related to the research process and study design. It begins with conceptualizing research questions, hypotheses, and then turns to topics in measurement and concludes with experimental, quasi-experimental, and observational study designs.

Restriction: Graduate students only.

**PUBHLTH 247. Program Evaluation. 4 Units.**

Introduces methods, tools, and procedures for systematic investigation of the effectiveness of programs in health and social services for disease intervention, prevention, and health promotion. Includes development of program evaluation plans, logic models, contextual frameworks, study designs, and data analyses.

Restriction: Graduate students only.

**PUBHLTH 248. Fundamentals of Maternal and Child Health - Programs, Problems, and Policy. 4 Units.**

Overview of issues facing women, children, and families from a public health perspective. Discusses the role of socio-economic, political, biological, environmental factors on population health. Studies historical foundations and current factors impacting Maternal Child Health programs and legislation in the US.

Restriction: Graduate students only.

**PUBHLTH 250. Health Status and Care Disparities. 4 Units.**

Expert health care providers present viewpoints and interdisciplinary strategies for addressing sociocultural, economic, gender, age, and other disparities in population health status and care provision.

Restriction: Graduate students only.

**PUBHLTH 259. Special Topics in Social and Behavioral Health Sciences. 4 Units.**

Current research in Social and Behavioral Health Sciences. Topics vary from quarter to quarter.

Repeatability: Unlimited as topics vary.

Restriction: Graduate students only.

**PUBHLTH 260. Human Exposure Modeling. 4 Units.**

Explores the basic principles and methods in estimating human exposure to environmental pollutants. Topics include source emissions, spatial/temporal aspects of human exposures, air pollution exposure modeling, time-activity patterns, micro-environmental exposure assessment, the uncertainty/variability analysis.

Restriction: Graduate students only.

**PUBHLTH 264. Introduction to Environmental Health Science. 4 Units.**

Convergence of agents (chemical, physical, biological, or psychosocial) in environment can emerge as diseases influenced by social, political, and economic factors, allowing them to become rooted in society. How these agents from various spheres come together and impact human health.

Same as EPIDEM 264, EHS 264.

Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only. Environ Health Sci and Policy Majors only.

**PUBHLTH 265. Advanced Environmental Health Science. 4 Units.**

Explores the complex relationships among exposure processes and adverse health effects of environmental toxins focusing on specific chemicals, sources, transport media, exposure pathways, and human behaviors. Techniques of environmental sampling for exposure assessment are discussed.

Same as EPIDEM 265.

Restriction: Graduate students only.

**PUBHLTH 269. Air Pollution, Climate, and Health. 4 Units.**

Emission of air pollutants into the atmosphere, physical and meteorological processes that affect transport, and influence on global warming. Concepts of how and where people are most exposed, and how exposures and health effects differ in developed and developing regions.

Same as EPIDEM 269, EHS 269.

**PUBHLTH 270. Human Exposure to Environmental Contaminants. 4 Units.**

Introduces founders of conceptual thought that environmental contaminants can impact health. Theory and principles of exposure assessment, the continuum from emissions of a contaminant into the environment to evidence of health effects in a population.
Same as EPIDEM 270, EHS 270.

PUBHLTH 275. Environmental Modeling and Risk Management. 4 Units.

Surveys the general principles, basic mathematical methods, and practices of environmental modeling and human health risk assessment. Topics include advection-dispersion models, risk management, and risk perception. Students conduct an original risk assessment as a final group project.
Prerequisite: MATH 2A and STATS 7
Same as EHS 275.
Restriction: Graduate students only.
Concurrent with PUBHLTH 175.

PUBHLTH 277A. Target Organ Toxicology I. 4 Units.

Mechanistic analysis of responses occurring in various organ systems of experimental animals and humans exposed to environmental and occupational chemicals and radiation. Review distinctive cellular and tissue structure and physiological function of the various organ systems.
Same as EHS 206A.
Restriction: Graduate students only.

PUBHLTH 277B. Target Organ Toxicology II. 4 Units.

Mechanistic analysis of responses occurring in various organ systems of experimental animals and humans exposed to environmental and occupational chemicals and radiation. Review of distinctive cellular and tissue structure and physiological function of the various organ systems.
Prerequisite: PUBHLTH 277A or EHS 206A
Same as EHS 206B.
Restriction: Graduate students only.

PUBHLTH 278. Industrial Toxicology. 4 Units.

Analysis of responsibilities toxicologists have in industry, including product safety, generating material safety, data sheets, animal testing, ecotoxicological testing, risk/hazard communication, and assisting industrial hygienists and occupational physicians; emphasis on interdisciplinary nature of industrial toxicology and communication skills.
Prerequisite: PUBHLTH 277B or EHS 206B
Same as EHS 220.

PUBHLTH 279. Special Topics in Environmental & Occupational Health. 4 Units.

Current research in environmental and occupational health. Topics vary from quarter to quarter.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

PUBHLTH 280. Global Burden of Disease. 4 Units.

Introduces composite measures of disease burden, including Disability Adjusted Life Years and their use in prioritizing disease burden at local, regional, and global levels. Focuses on WHO's landmark assessments and introduces DISMOD software for specific analyses.
Restriction: Graduate students only.

PUBHLTH 281. Infectious Disease Epidemiology. 4 Units.

Geographical distribution of infectious diseases and the health and disease risk in diverse human populations. Introduces basic methods for infectious disease epidemiology and case studies of important diseases. Includes surveillance, outbreak investigation, emerging pathogens, traditional and molecular epidemiology.
Restriction: Graduate students only.

PUBHLTH 283. Geographic Information Systems for Public Health. 4 Units.

Provides a broad introduction to the use of Geographic Information Systems software to carry out projects for visualizing and analyzing spatial data to address significant issues of health care and policy-planning.
Prerequisite: PUBH 206
Restriction: Graduate students only.
Concurrent with PUBHLTH 190.

PUBHLTH 284. Graduate Field Studies. 2-12 Units.

Field studies with Public Health faculty.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be taken for credit for 12 units.
Restriction: Graduate students only.
PUBHLTH 286. Advanced Geographic Information Systems and Spatial Epidemiology. 4 Units.
Students expand their current knowledge of the ArcGIS software to develop advanced geographic-related research questions, learn how to apply spatial epidemiologic methods to public health data, and integrate their skills in a GIS project of their design.
Prerequisite: PUBHLTH 283
Restriction: Graduate students only.

PUBHLTH 287. Qualitative Research Methods in Public Health. 4 Units.
General introduction to qualitative research methods for investigating public health questions at various scales from community level to global populations. Emphasizes systematic approaches to the collection, analysis, interpretation of qualitative data.
Restriction: Graduate students only.

PUBHLTH 288. Research Proposal Writing in Global Health. 4 Units.
Overview of financial support for research in global health and disease prevention. Collaborative agreements, guidelines for proposal writing, team building, budgeting, peer-review process, and transitioning from proposal to research project implementation.
Restriction: Graduate students only.

PUBHLTH 289. Special Topics in Global Health and Disease Prevention. 4 Units.
Current research in global health and disease prevention. Topics vary from quarter to quarter.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

PUBHLTH 290. Special Topics in Public Health. 4 Units.
Studies in selected areas of public health. Topics addressed vary each quarter.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

PUBHLTH 291A. Seminar: Advances and Challenges in Public Health. 2 Units.
Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
Concurrent with PUBHLTH 191A.

PUBHLTH 291B. Seminar: Advances and Challenges in Public Health. 2 Units.
Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
Concurrent with PUBHLTH 191B.

PUBHLTH 291C. Seminar: Advances and Challenges in Public Health. 2 Units.
Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
Concurrent with PUBHLTH 191C.

PUBHLTH 292. Ethics and Responsible Conduct of Research in Public Health. 4 Units.
Issues of scientific integrity and satisfies the requirements for training in public health ethics. Includes guidelines for responsible conduct of research, federal and international codes, administrative review and approval, conflict of interest, and privacy and safety of research participants.
Restriction: Graduate students only.
Concurrent with PUBHLTH 193.

DMS 387 - Item 1-381
Introduces rationale and imperative for clinical translational science and various approaches being developed to speed-up discoveries and their transformation into health care practices. Compares and contrasts current impediments to clinical research with the potential and transformative power of translational science.

Restriction: Graduate students only.

PUBHLTH 294. Research Communication in Public Health. 4 Units.

Strategies for effective writing and oral presentation of research characteristics and results to various audiences. Includes exercises in writing for the public, for scholarly journals, and at conferences.

Restriction: Graduate students only.

PUBHLTH 295. Graduate Practicum and Culminating Experience in Public Health. 8 Units.

Provides opportunities for hands-on experience for graduate students at agencies or organizations engaged in public health practice. Students are matched with placement sites based on academic preparation and students' career goals. The practicum report is integrated into the culminating experience.

Prerequisite: PUBHLTH 200 and PUBHLTH 244 and PUBHLTH 222 and PUBHLTH 264 and PUBHLTH 207A. PUBHLTH 200 with a grade of B or better. PUBHLTH 244 with a grade of B or better. PUBHLTH 222 with a grade of B or better. PUBHLTH 264 with a grade of B or better.

Grading Option: Satisfactory/unsatisfactory only.

Restriction: Graduate students only. Public Health Majors only.

PUBHLTH 296. Doctoral Dissertation Research and Writing. 1-12 Units.

Dissertation research with Public Health faculty.

Prerequisite: Advancement to candidacy.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be taken for credit for 12 units.

Restriction: Graduate students only. Public Health Majors only.

PUBHLTH 297. Research Design and Proposal Writing. 4 Units.

Evaluate strengths of research findings based on methods used by researchers to develop research proposals. Components such as collaborative agreements, guidelines for proposal writing, budgeting, peer-review process, and transitioning from proposal to research project implementation are addressed.

Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBHLTH 298. Directed Studies in Public Health. 2-8 Units.

Directed study with Public Health faculty.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

PUBHLTH 299. Independent Study in Public Health. 2-8 Units.

Independent research with Public Health faculty.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

PUBHLTH 399. University Teaching. 2-4 Units.

Limited to teaching assistants.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.
Appendix O:
Ph.D. in Public Health
Ph.D in Public Health

The distinctive mission of the Ph.D. in Public Health is to train graduate students to conduct original research on the determinants of health status of populations, and the translation of such knowledge to improve strategies for preventing disease and disability. Graduates of the Ph.D. program will be prepared for independent and collaborative research careers, and to teach at advanced levels of instruction. Students enrolled in the Ph.D. in Public Health must concentrate in either Global Health or Disease Prevention.

Concentration in Global Health

The focus of the Ph.D. research concentration in Global Health is to train excellence in research through engagement in hypothesis-driven projects to investigate the global context of disease burden and the improvement of population health status. The program will attract candidates who seek to analyze problems at the intersection of risk, vulnerability, and disease. Activities may include investigation of strategies to make research results that have already produced benefits in one country or region effective in underprivileged regions. The program trains students in integrative expertise essential for global health research with hypotheses in the nexus of content (risk analysis), context (vulnerability assessments), and process (translation of knowledge to reduce the burden of disease).

The specific learning objectives of the Concentration in Global Health are for graduates of the degree to:

- Demonstrate knowledge of the major theoretical underpinnings of advances in global health research.
- Explain the relationship between theory and research methods focused on understanding the association of risk, vulnerability, and outcome in global health.
- Compare and contrast the health status of different populations with respect to their burden of disease.
- Formulate research hypotheses in the intersection of risk factors, vulnerable populations, and burden of disease.
- Compose research proposals and conduct original research resulting in discoveries that contribute to improved understanding of risk factors and variations in disease burden in a population, and strategies to alleviate the burden at the global level.

Concentration in Disease Prevention

The focus of the Ph.D. concentration in Disease Prevention is to train excellence in research to discover insights into how human behavior, social constraints, and other contextual factors influence strategies to prevent disease in populations that are vulnerable to risk factors. The program emphasizes the ecological model of disease prevention, with research hypotheses emerging through multi-layered analysis of determinants of health status, including individual, interpersonal, organizational, community, and overarching policy. Students generate the hypotheses for their research in the nexus of risk factors, health behavior, and vulnerable populations.

The specific learning objectives of the Concentration in Disease Prevention are:

- Demonstrate knowledge of the major theoretical underpinnings of strategies for disease prevention.
- Explain the relationship between theory and research methods focused on understanding the association of risk, behavior, and vulnerability with respect to disease pathways.
- Analyze interrelationships among the determinants of illness and maladaptive health behaviors using theories of health behavior.
- Formulate research hypotheses in the intersection of health risk factors, health behavior, and health promotion and policies toward disease prevention.
- Compose research proposals and conduct original research resulting in discoveries that contribute to improved understanding of the role of behavior and health promotion strategies in mitigating the vulnerability to health risk factors in specific populations, with the goals of applying the knowledge to disease prevention.

Admission

Students enroll in the Ph.D. in Public Health in the fall quarter of each year. Applicants are encouraged to start the application process early by consulting with faculty members whose research activities align with the applicant’s interests and academic background. The deadline for receipt of all application materials is December 1. Applicants must choose one of the two available concentrations at the time of application. Master’s level degrees in health-related disciplines are the preferred preparation for admission to the Ph.D. in Public Health. Applicants to the Ph.D. in Public Health who come with undergraduate degrees from other related majors might be required to take supplementary courses in addition to the preparatory module of the Ph.D. program.

All applicants must have an overall grade point average of B (3.0 on a 4.0 scale) or better and take the Graduate Record Examination (GRE) general test. Applicants must meet the general admission requirements of the UCI Graduate Division and submit both the Application for Graduate Admission and the School of Public Health Application Service (SOPHAS) application in order to be considered for admission.

Each Ph.D. student must serve as a teaching assistant for at least two quarters during the graduate program. If English is not the student’s first language, the student must pass a campus-approved oral English proficiency exam prior to serving as a teaching assistant.

For more information on admissions, visit the Public Health website or contact phgo@uci.edu.

Requirements

A main feature of the Ph.D. in Public Health is the situation of dissertation research in an ecological framework that considers multi-level analysis of public health questions. We integrate this feature in the two concentrations, each with knowledge modules and creative activity that must be satisfied in partial fulfillment of the degree requirements. All Ph.D. students are required to complete a minimum of 84 quarter-units according to the following modules:

- DMS 390 - Item 1-384
Preparatory Module

PUBHLTH 200 Foundations of Public Health
PUBHLTH 206B Intermediate Epidemiology
PUBHLTH 207A Probability and Statistics in Public Health PUBHLTH 207B Analysis of Public Health Data Using Statistical Software

Concentration Module: Disease Prevention

PUBHLTH 208 Advances in Social Epidemiology
PUBHLTH 244 Health Behavior Theory
PUBHLTH 245 Health Promotion Planning
PUBHLTH 246 Social Research Methods

Concentration Module: Global Health

PUBHLTH 213 Epidemiology in Global Health
PUBHLTH 280 Global Burden of Disease
PUBHLTH 286 Advanced Geographic Information Systems and Spatial Epidemiology PUBHLTH 289 Special Topics in Global Health and Disease Prevention Elective Module: Risk Factors and Vulnerable Populations

Select four courses from the following:

BATS 210A Introduction to Clinical Epidemiology
BATS 253 Disparities in Health and Health Care
CHC/LAT 210A Cultural and Historical Precedents for Latinos and Medical Care CHC/LAT 210B Cultural and Historical Precedents for Latinos and Medical Care CHC/LAT 211A Latinos/Latinas and Medical Care: Contemporary Issues CHC/LAT 211B Latinos/Latinas and Medical Care: Contemporary Issues CRM/LAW C219 Hate Crime
EHS 203 Psychosocial Occupational Epidemiology EHS 294 Occupational Health Psychology
EPIDEM 201 Cancer Epidemiology
EPIDEM 202 Genetic Epidemiology
EPIDEM 205 Environmental Epidemiology
EPIDEM 215 Introduction to Statistical Genetics
EPIDEM 232 Chronic Disease Epidemiology & Prevention EPIDEM 244 Toxic Chemicals in Environment
EARTHSS 200 Global Physical Climatology
MOL BIO 205 Molecular Virology
MOL BIO 215 Integrative Immunology
MOL BIO 218 Clinical Cancer
PSCI P258 Health Psychology
PSCI P273 Biobehavioral Aspects of Health and Illness PUBHLTH 208 Advances in Social Epidemiology 2
PUBHLTH 209 Methods of Demographic Analysis
PUBHLTH 213 Epidemiology in Global Health 1
PUBHLTH 206C Advanced Epidemiologic Methods
PUBHLTH 214 Surveillance Systems
PUBHLTH 222 Health Policy and Management
PUBHLTH 223 Risk Communication
PUBHLTH 241 Environmental Policy and Global Sustainability PUBHLTH 242 Theories of Health Communication
PUBHLTH 244 Health Behavior Theory 2
PUBHLTH 245 Health Promotion Planning 2
PUBHLTH 246 Social Research Methods 2
PUBHLTH 247 Program Evaluation
PUBHLTH 248 Fundamentals of Maternal and Child Health - Programs, Problems, and Policy
PUBHLTH 250 Health Status and Care Disparities
PUBHLTH 259 Special Topics in Social and Behavioral Health Sciences PUBHLTH 260 Human Exposure Modeling
PUBHLTH 264 Introduction to Environmental Health Science PUBHLTH 269 Air Pollution, Climate, and Health
PUBHLTH 270 Human Exposure to Environmental Contaminants PUBHLTH 271A Target Organ Toxicology I
PUBHLTH 277B Target Organ Toxicology II
The qualifying examination consists of two parts. The first part is submission of a written research proposal to a Candidacy Committee of five faculty members consisting of four members with formal appointments in Public Health, and an external member. The second part is a public presentation and oral defense of the student's dissertation research proposal before the same committee. Advancement to doctoral candidacy is contingent on passing both parts of the qualifying examination, as judged by the Candidacy Committee. The dissertation proposal must be at a level of quality such that its execution will advance knowledge and have the potential to yield original peer-reviewed publications.

Advancement to doctoral candidacy is contingent on passing the qualifying examination. We expect students to sit for the qualifying examination by the beginning of their third year in the program. Ph.D. completion requires submission of an acceptable dissertation and oral defense. The normative time to degree is six years, and the maximum time permitted is eight years.

Courses

PUBHLTH 200. Foundations of Public Health. 4 Units.

Presents the overarching framework, principles, and core responsibilities of public health research and practice from a multidisciplinary perspective. Provides necessary foundation for further studies toward advanced cross-cutting approaches essential for public health practice.

Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBHLTH 204. Biostatistics I: Introduction to Statistical Methods. 4 Units.

Designed to help students develop an appreciation for statistician's view of the research process, emphasizing biomedical research. Instills an understanding of how statistical models are used to yield insights about data that form evidence-based understanding of the world around us.

Same as EPIDEM 204A.

Restriction: Graduate students only.

PUBHLTH 206A. Principles of Epidemiology. 4 Units.

Fundamental principles of epidemiology, biostatistics, and epidemiological research. Topics include research methods of measuring health problems in populations, disease control and prevention in populations, how epidemiology contributes to knowledge of disease etiology, and biostatistical analysis and interpretation of epidemiologic data.

Same as EPIDEM 200A.

Restriction: Graduate students only.

PUBHLTH 206B. Intermediate Epidemiology. 4 Units.

Learn to design and conduct epidemiologic studies using common designs. Determine why bias and measurement error arise in observational studies, and how they influence effect estimates. Perform and interpret epidemiologic data analyses using statistical software.

Prerequisite: PUBHLTH 206A. PUBHLTH 206A with a grade of B or better

Same as EPIDEM 200B.

Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Epidemiology Majors only.

PUBHLTH 206C. Advanced Epidemiologic Methods. 4 Units.

Advanced topics in the design and statistical analysis of epidemiologic studies. Topics include simulation methods, counter-matching and multiphase study designs, missing data, and Bayesian analysis. Published simulation studies are discussed and replicated using the R software package.

Prerequisite: EPIDEM 200A and EPIDEM 200B. EPIDEM 200A with a grade of B or better. EPIDEM 200B with a grade of B or
**PUBHLTH 207A. Probability and Statistics in Public Health. 4 Units.**

An introduction to probability and statistical methods, using examples in public health. Topics include descriptive statistics, laws of probability, discrete and continuous probability distributions, estimation, confidence intervals, hypothesis testing, and power calculations for one- and two-sample comparisons.

Prerequisite: PUBHLTH 206A. PUBHLTH 206A with a grade of B or better

Restriction: Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

**PUBHLTH 207B. Analysis of Public Health Data Using Statistical Software. 4 Units.**

Overview of common statistical methods in public health and how to implement them in R. Topics include linear regression, ANOVA, the Kruskal-Wallis test, logistic regression, missing data and censoring, Kaplan-Meier survival curves, log-rank tests, and Cox regression.

Prerequisite: PUBHLTH 207A. PUBHLTH 207A with a grade of B or better

Restriction: Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

**PUBHLTH 208. Advances in Social Epidemiology. 4 Units.**

Advances understanding of social distribution and social determinants of disease through multiple risk factor models and mechanisms that emphasize developmental and socio-environmental risk factors on mental and physical health across the life span.

Restriction: Graduate students only.

**PUBHLTH 209. Methods of Demographic Analysis. 4 Units.**

Introduces basic demographic methods used in social science and public health research. Topics include sources and limitations of demographic data; components of population growth; measures of nuptiality, fertility, mortality, and population mobility projection methods; and demographic models.

Same as SOCIOL 226A.

Restriction: Graduate students only.

**PUBHLTH 213. Epidemiology in Global Health. 4 Units.**

Examines major topics in epidemiology and global health. Research topics within these two disciplines are focused on resource-poor communities, with an application to the global world.

Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only.

**PUBHLTH 214. Surveillance Systems. 4 Units.**

Surveillance as a fundamental element of the practice of public health is examined in terms of the application and evaluation of monitoring systems. Topics include surveillance of infectious and chronic diseases, environmental constituents, and other indicators of population health.

Prerequisite: PUBH 206

Restriction: Graduate students only.

**PUBHLTH 219. Special Topics in Biostatistics, Epidemiology, and Health Informatics. 4 Units.**

Current research in biostatistics, epidemiology, and health informatics. Topics vary from quarter to quarter.

Repeatability: Unlimited as topics vary.

Restriction: Graduate students only.

**PUBHLTH 222. Health Policy and Management. 4 Units.**

Multidisciplinary inquiry into theory and practice concerned with delivery, quantity, costs of health care for individuals and populations. Explores managerial and policy concerns regarding structure, process, outcomes of health services including the costs, financing, organization, outcomes, and accessibility of care.

Same as UPPP 243.

Restriction: Master of Public Health Degree students have first consideration for enrollment. Master of Public Policy Degree students have first consideration for enrollment. Graduate students only. Public Health Majors have first consideration for enrollment. Urban and Regional Planning Majors have first consideration for enrollment.

**PUBHLTH 223. Risk Communication. 4 Units.**

Examines theory and research related to the communication of scientific information in risk communication contexts, risk perceptions, and behavior as related to decision-making under risk.

Restriction: Graduate students only.

**PUBHLTH 239. Special Topics in Health Policy and Management. 4 Units.**

Current research in health policy and management. Topics vary from quarter to quarter.

Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

PUBLTH 241. Environmental Policy and Global Sustainability. 4 Units.
Organized around four transcendent questions: does the world value sustainability, what challenges must be met to move toward it, what are the roots of inequality, and is capitalism compatible with sustainability.
Restriction: Graduate students only.

PUBLTH 242. Theories of Health Communication. 4 Units.
Explores the concepts, constructs, and theories of communication in health and risk contexts. Examines interpersonal, family, organizational, and mediated communicative processes about health care and conditions from a global perspective.
Restriction: Graduate students only.

PUBLTH 244. Health Behavior Theory. 4 Units.
Introduces the field of Health Behavior and segues into major theoretical perspectives. Focus on health behavior change from the vantage point of individual health behavior and theoretical abstraction. Explores how to relate theory to behavior-change intervention programs.
Restriction: Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBLTH 245. Health Promotion Planning. 4 Units.
Introduces strategic planning integral to intervention planning in public health practice and research, emphasizing the fundamental domains of social and behavioral health science and practices. Students develop an intervention plan for a specific health problem, health behavior, and target population.
Restriction: Graduate students only.

PUBLTH 246. Social Research Methods. 4 Units.
An interactive graduate seminar covering topics related to the research process and study design. Begins with conceptualizing research questions, hypotheses, and then turns to topics in measurement and concludes with experimental, quasi-experimental, and observational study designs.
Restriction: Graduate students only.

PUBLTH 247. Program Evaluation. 4 Units.
Introduces methods, tools, and procedures for systematic investigation of the effectiveness of programs in health and social services for disease intervention, prevention, and health promotion. Includes development of program evaluation plans, logic models, contextual frameworks, study designs, and data analyses.
Restriction: Graduate students only.

PUBLTH 248. Fundamentals of Maternal and Child Health - Programs, Problems, and Policy. 4 Units.
Overview of issues facing women, children, and families from a public health perspective. Discusses role of socio-economic, political, biological, environmental factors on population health. Studies historical foundations and current factors impacting Maternal Child Health programs and legislation in the US.
Restriction: Graduate students only.

PUBLTH 250. Health Status and Care Disparities. 4 Units.
Expert health care providers present viewpoints and interdisciplinary strategies for addressing sociocultural, economic, gender, age, and other disparities in population health status and care provision.
Restriction: Graduate students only.

PUBLTH 259. Special Topics in Social and Behavioral Health Sciences. 4 Units.
Current research in Social and Behavioral Health Sciences. Topics vary from quarter to quarter.
Repeatability: Unlimited as topics vary.
Restriction: Graduate students only.

PUBLTH 260. Human Exposure Modeling. 4 Units.
Explores the basic principles and methods in estimating human exposure to environmental pollutants. Topics include source emissions, spatial/temporal aspects of human exposures, air pollution exposure modeling, time-activity patterns, micro-environmental exposure assessment, the uncertainty/variability analysis.
Restriction: Graduate students only.

PUBLTH 264. Introduction to Environmental Health Science. 4 Units.
Convergence of agents (chemical, physical, biological, or psychosocial) in environment can emerge as diseases influenced by social, political, and economic factors, allowing them to become rooted in society. How these agents from various spheres come together and impact human health.

Same as EPIDEM 264, EHS 264.
Restriction: Graduate students only. Environmental Health Sciences Majors only. Epidemiology Majors only. Public Health Majors only. Environmental Health Science Majors only. Epidemiology Majors only. Public Health Majors only. Environ Health Science and Policy Majors only.

**PUBHLTH 265. Advanced Environmental Health Science. 4 Units.**

Explores the complex relationships among exposure processes and adverse health effects of environmental toxins focusing on specific chemicals, sources, transport media, exposure pathways, and human behaviors. Techniques of environmental sampling for exposure assessment are discussed.

Same as EPIDEM 265.

Restriction: Graduate students only.

**PUBHLTH 269. Air Pollution, Climate, and Health. 4 Units.**

Emission of air pollutants into the atmosphere, physical and meteorological processes that affect transport, and influence on global warming. Concepts of how and where people are most exposed, and how exposures and health effects differ in developed and developing regions.

Same as EPIDEM 269, EHS 269.

**PUBHLTH 270. Human Exposure to Environmental Contaminants. 4 Units.**

Introduces founders of conceptual thought that environmental contaminants can impact health. Theory and principles of exposure assessment, the continuum from emissions of a contaminant into the environment to evidence of health effects in a population.

Same as EPIDEM 270, EHS 270.

**PUBHLTH 275. Environmental Modeling and Risk Management. 4 Units.**

Surveys the general principles, basic mathematical methods, and practices of environmental modeling and human health risk assessment. Topics include advection-dispersion models, risk management, and risk perception. Students conduct an original risk assessment as a final group project.

Prerequisite: MATH 2A and STATS 7

Same as EHS 275.

Restriction: Graduate students only.

Concurrent with PUBHLTH 175.

**PUBHLTH 277A. Target Organ Toxicology I. 4 Units.**

Mechanistic analysis of responses occurring in various organ systems of experimental animals and humans exposed to environmental and occupational chemicals and radiation. Review distinctive cellular and tissue structure and physiological function of the various organ systems.

Same as EHS 206A.

Restriction: Graduate students only.

**PUBHLTH 277B. Target Organ Toxicology II. 4 Units.**

Mechanistic analysis of responses occurring in various organ systems of experimental animals and humans exposed to environmental and occupational chemicals and radiation. Review of distinctive cellular and tissue structure and physiological function of the various organ systems.

Prerequisite: PUBHLTH 277A or EHS 206A

Same as EHS 206B.

Restriction: Graduate students only.

**PUBHLTH 278. Industrial Toxicology. 4 Units.**

Analysis of responsibilities toxicologists have in industry, including product safety, generating material safety, data sheets, animal testing, ecotoxicological testing, risk/hazard communication, and assisting industrial hygienists and occupational physicians; emphasis on interdisciplinary nature of industrial toxicology and communication skills.

Prerequisite: PUBHLTH 277B or EHS 206B

Same as EHS 220.

**PUBHLTH 279. Special Topics in Environmental & Occupational Health. 4 Units.**

Current research in environmental and occupational health. Topics vary from quarter to quarter.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

**PUBHLTH 280. Global Burden of Disease. 4 Units.**

Introduces composite measures of disease burden, including Disability Adjusted Life Years and their use in prioritizing disease burden at local, regional, and global levels. Focuses on WHO’s landmark assessments and introduces DISMOD software for specific analyses.

Restriction: Graduate students only.

**PUBHLTH 281. Infectious Disease Epidemiology. 4 Units.**
Geographical distribution of infectious diseases and the health and disease risk in diverse human populations. Introduces basic methods for infectious disease epidemiology and case studies of important diseases. Includes surveillance, outbreak investigation, emerging pathogens, traditional and molecular epidemiology.

Restriction: Graduate students only.

**PUBHLTH 283. Geographic Information Systems for Public Health. 4 Units.**

Provides a broad introduction to the use of Geographic Information Systems software to carry out projects for visualizing and analyzing spatial data to address significant issues of health care and policy-planning.

Prerequisite: PUBH 206

Restriction: Graduate students only.

Concurrent with PUBHLTH 190.

**PUBHLTH 284. Graduate Field Studies. 2-12 Units.**

Field studies with Public Health faculty.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be taken for credit for 12 units.

Restriction: Graduate students only.

**PUBHLTH 286. Advanced Geographic Information Systems and Spatial Epidemiology. 4 Units.**

Students expand their current knowledge of the ArcGIS software to develop advanced geographic-related research questions, learn how to apply spatial epidemiologic methods to public health data, and integrate their skills in a GIS project of their design.

Prerequisite: PUBHLTH 283

Restriction: Graduate students only.

**PUBHLTH 287. Qualitative Research Methods in Public Health. 4 Units.**

General introduction to qualitative research methods for investigating public health questions at various scales from community level to global populations. Emphasizes systematic approaches to the collection, analysis, interpretation of qualitative data.

Restriction: Graduate students only.

**PUBHLTH 288. Research Proposal Writing in Global Health. 4 Units.**

Overview of financial support for research in global health and disease prevention. Collaborative agreements, guidelines for proposal writing, team building, budgeting, peer-review process, and transitioning from proposal to research project implementation.

Restriction: Graduate students only.

**PUBHLTH 289. Special Topics in Global Health and Disease Prevention. 4 Units.**

Current research in global health and disease prevention. Topics vary from quarter to quarter.

Repeatability: Unlimited as topics vary.

Restriction: Graduate students only.

**PUBHLTH 290. Special Topics in Public Health. 4 Units.**

Studies in selected areas of public health. Topics addressed vary each quarter.

Repeatability: Unlimited as topics vary.

Restriction: Graduate students only.

**PUBHLTH 291A. Seminar: Advances and Challenges in Public Health. 2 Units.**

Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.

Grading Option: Satisfactory/unsatisfactory only.

Repeatability: May be repeated for credit unlimited times.

Restriction: Graduate students only.

Concurrent with PUBHLTH 191A.

**PUBHLTH 291B. Seminar: Advances and Challenges in Public Health. 2 Units.**

Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.

Grading Option: Satisfactory/unsatisfactory only.
PUBHLTH 291C. Seminar: Advances and Challenges in Public Health. 2 Units.
Forum for exploring recent advances and challenges in all disciplines of public health research and practice. Features case studies exemplifying the integration of core competencies with cross-cutting interdisciplinary themes of public health.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
Concurrent with PUBHLTH 191B.

PUBHLTH 292. Ethics and Responsible Conduct of Research in Public Health. 4 Units.
Issues of scientific integrity and satisfies the requirements for training in public health ethics. Includes guidelines for responsible conduct of research, federal and international codes, administrative review and approval, conflict of interest, and privacy and safety of research participants.
Restriction: Graduate students only.
Concurrent with PUBHLTH 193.

PUBHLTH 293. Foundations of Clinical and Translational Science. 4 Units.
Introduces rationale and imperative for clinical translational science and various approaches being developed to speed-up discoveries and their transformation into health care practices. Compares and contrasts current impediments to clinical research with the potential and transformative power of translational science.
Restriction: Graduate students only.

PUBHLTH 294. Research Communication in Public Health. 4 Units.
Strategies for effective writing and oral presentation of research characteristics and results to various audiences. Includes exercises in writing for the public, for scholarly journals, and at conferences.
Restriction: Graduate students only.

PUBHLTH 295. Graduate Practicum and Culminating Experience in Public Health. 8 Units.
Provides opportunities for hands-on experience for graduate students at agencies or organizations engaged in public health practice. Students are matched with placement sites based on academic preparation and students' career goals. The practicum report is integrated into the culminating experience.
Prerequisite: PUBHLTH 200 and PUBHLTH 244 and PUBHLTH 222 and PUBHLTH 264 and PUBHLTH 207A. PUBHLTH 200 with a grade of B or better. PUBHLTH 244 with a grade of B or better. PUBHLTH 222 with a grade of B or better. PUBHLTH 264 with a grade of B or better. PUBHLTH 207A with a grade of B or better
Grading Option: Satisfactory/unsatisfactory only.
Restriction: Graduate students only. Public Health Majors only.

PUBHLTH 296. Doctoral Dissertation Research and Writing. 1-12 Units.
Dissertation research with Public Health faculty.
Prerequisite: Advancement to candidacy.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be taken for credit for 12 units.
Restriction: Graduate students only. Public Health Majors only.

PUBHLTH 297. Research Design and Proposal Writing. 4 Units.
Evaluate strengths of research findings based on methods used by researchers to develop research proposals. Components such as collaborative agreements, guidelines for proposal writing, budgeting, peer-review process, and transitioning from proposal to research project implementation are addressed.
Restriction: College of Health Sciences students only. Program in Public Health students only. Master of Public Health Degree students only. Graduate students only. Public Health Majors only.

PUBHLTH 298. Directed Studies in Public Health. 2-8 Units.
Directed study with Public Health faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.
PUBHLTH 299. Independent Study in Public Health. 2-8 Units.
Independent research with Public Health faculty.
Repeatability: May be repeated for credit unlimited times.
Restriction: Graduate students only.

PUBHLTH 399. University Teaching. 2-4 Units.
Limited to teaching assistants.
Grading Option: Satisfactory/unsatisfactory only.
Repeatability: May be repeated for credit unlimited times.
Appendix P:
Diversity and Inclusion Plan
Diversity and Inclusion Plan
2022-2027

Overview

The mission of the UCI School of Population and Public Health is to educate future public health leaders, produce research that reduces the burdens of disease and disability, and ultimately reduce the burden of disease and disability in culturally diverse communities in Southern California and around the world. Diversity in myriad forms is central to these goals and drives the development and implementation of solutions designed to tackle some of our most pressing public health problems. These problems shift in scope and severity across populations and locations and, at their core, are problems born of inequities and structural exclusion. Innovative and effective strategies are needed to tackle our worst and most intractable health problems, from entrenched health disparities to effects of environmental degradation. While we seek equal health across populations, we understand that our solutions to achieving equality must be based in equity.

The compositional diversity of our students, faculty, and staff requires effective methods for fostering inclusion of people with diverse experiences, points of view, and approaches to public health. Leadership must come from diverse backgrounds and experiences, just as faculty and students alike must reflect and respond to diverse communities, locally and globally.

Building Upon the Strengths of Our Students & Institutionalizing Diversity Initiatives

Since our inception, the Program in Public Health has been home to a diverse undergraduate learning community that embodies the complex intersectionality mentioned above. UCI’s racial and economic diversity has long been lauded, and the racial and ethnic breakdown of the students majoring in Public Health is similar to that of UCI’s undergraduate population\(^1\), with some key exceptions. In Fall 2019, we had more students who identified as Asian (46.6% in PPH vs. 36.1% at UCI) or Hispanic/Latina/o/x (30.6% PPH vs. 25.7% UCI) and fewer students who identified as White (10.7% PPH vs. 13.3% UCI) and much fewer international students (2.7% PPH vs. 17% UCI).\(^{1}\) Our percentage of low-

\(^1\) overall UCI numbers come from universityofcalifornia.edu/infocenter/fall-enrollment-glance

Figure 1.
income students was slightly higher (41.1% PPH vs. 30.6% UCI), but we have many more first-generation college students (57.1% PPH vs. 46.7% UCI); 64.8% of public health students reported being either first-generation, low-income, or both (This group is referred to as FGLI).

As reported in Figure 1, data provided by the Division of Institutional Research reveals that, based on AY 2019-20 Three-Term-Average Enrollments, 37.6% of Public Health’s undergraduate student body is composed of underrepresented minority students. This percentage, 37.6%, is a higher percentage than all but three of the fourteen schools on campus (School of Social Ecology (52.5%), School of Education (43.3%), and School of Humanities (38.9%).

Chancellor Gillman stated that UCI “prioritizes acting as an engine of upward socio-economic mobility,”2 and we are proud of the Program’s role in helping our students realize their dreams while they help to promote and improve the health and wellness of their communities and beyond. As scholars and students of social change, we recognize that it takes much more effort to jump multiple socio-economic strata than remain in wealthy stasis.

Addressing well-documented structural inequalities in educational attainment and all that it affords requires that we systematically attend to the disparities in preparation for college and continue to focus on enhancing the School’s structural competency to educate and support FGLI students. We are doing just this in multiple ways. First, we intentionally work with students individually through Student Affairs. Our student affairs team is trained to address challenges experienced by first generation and low-income students who may be balancing work and academic loads. Student Services provides time management counseling, stress relief techniques, and other strategies for success. Our students have benefitted from the University’s programs for first-generation and low-income students. In addition, we encourage interested students to work with faculty on research related to diversity, inclusion, and health equity. The Director and Founding Dean’s office has established numerous scholarships to support this critical research at the undergraduate and graduate levels.

The School will embrace opportunities to further support our underrepresented, first generation and low income (FGLI) undergraduate students. The Program in Public Health has successfully partnered with the Division of Teaching Excellence and Innovation to deliver a workshop to enhance faculty members’ understanding of our diverse student body and to learn about best practices for educating FGLI students that takes a holistic approach to inclusion; revolves around student participation in presentations, themed discussions, and peer mentoring; and includes a seminar focused on professional development and graduate school preparation. The goal is to expand and institutionalize these initiatives in the future, through presentation to the entire faculty in Fall 2022 in order to promote integration into our program for Fall 2023. We will work with our Diverse Educational Community and Doctoral Experience (DECADE) advisor and graduate student representatives to discuss adaptation of this program for graduate students.

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2 first-generation students make up more than half of UCI’s class of 2019. (2019, June 4). UCI news https://news.uci.edu/2019/06/04/first-generation-students-make-up-more-than-half-of-ucis-class-of-2019/
As the size of our graduate programs has increased, so too has the diversity of the graduate student body. Of the approximately 80 current graduate students in the Master’s of Public Health (MPH) and Public Health doctorate programs (PhD), 32.3% identify as Hispanic/Latina/o/x, 30.9% as Asian or Asian American, 19.7% as White, 4.2% as Black, and 5.6% as two or more races/ethnicities. As reported in Figure 2, data provided by the Division of Institutional Research reveals that, based on AY 2019-20 three-term-average enrollments, 32.1% of public health’s graduate student body is composed of underrepresented minority students. This percentage (32.1%) is a higher percentage than all but three other schools (School of Social Ecology, School of Nursing, and School of Humanities). These statistics point to Public Health’s success in establishing a pipeline to graduate degrees for diverse graduate students.

Despite our many successes we still have work to do, such as in increasing the numbers of FGLI students in our graduate programs. For instance, in order to support incoming MPH students who identify as underrepresented minorities, the program offers the Public Health Diversity Fellowship and the Public Health First Generation Fellowship; we offered 12 of the former and 10 of the latter to the fall 2020 incoming MPH cohort. As we grow the receipt of donor funds, we will expand the number of fellowships to keep pace with our planned increases in future MPH student cohorts.

For doctoral students, we will continue to maximize opportunities to support their successes. For instance, we sponsor qualified incoming PhD students in their discipline for the DECADE and Competitive Edge Summer Research Program. Participants conduct faculty- mentored research and participate in workshops that prepare them to successfully transition to graduate school. Associate Professor Timberlake, former DECADE Mentor for the Program in Public Health, works with the UCI Graduate Division to promote active mentoring and programmatic activities for our underrepresented minority graduate students. We also pursue funding opportunities to support these students. In both 2018 and 2020, two incoming doctoral students received the Eugene Cota-Robles Fellowship, the most prestigious diversity award offered at UCI, designed to place students on a fast track towards faculty teaching positions within the UC system.

The Program in Public Health is aware of and attentive to inequities in the faculty and in leadership positions. In 2021, of the 48 core faculty members, ~68.8% identify as White, ~26% as Asian or Asian-Americans, and one faculty member each identifies as Hispanic/Latina/o/x and African or African American. We continue to make a concerted effort in every recruitment to generate a diverse pool of applicants. Our efforts have benefitted from UCI’s Inclusive Excellence Faculty Hire Program, which has enabled us to recruit additional faculty in two of the four departments and, in the process, continue to...
diversify our ranks. We have made positive strides forward and are aware that more work needs to be done to fulfill our commitment in diversifying our faculty and School of Population and Public Health Diversity, Equity, and Inclusion Plan.

There are three overarching and interconnected goals for the School’s five-year Diversity and Inclusion Plan. The first goal is to increase the number of first-generation, low-income, and other underrepresented minority students who succeed into graduate programs. The second goal is to promote inclusion, diversity, and equity in curricula. The third goal is to increase the diversity of our faculty through faculty recruitment and retention initiatives, in part by continuing to successfully rely on campus-wide initiatives like the Black Thriving Initiative’s Faculty Cluster Hiring Program and the Inclusive Excellence Supplement Program. The remainder of this narrative describes the School’s plans to meet each of our three major goals.

<table>
<thead>
<tr>
<th>Goal #1</th>
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<tr>
<td>Increase support for first-generation and low-income students to increase rates of retention, graduation, and matriculation in graduate programs.</td>
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One of UCI’s priorities is to be an engine of upward socio-economic mobility, and one of the challenges both the University and the Program in Public Health face is lower retention and graduation rates for our first-generation, low-income, and other underrepresented minority undergraduate students. They are also not advancing to the MPH and other graduate programs (e.g., MS, PhD) in proportional numbers. We recognize that it is not enough to enroll a diversity of students in our graduate school programs; we aim to support first-generation and disadvantaged minority students to succeed in their programs and graduate. Thus, we have developed a five-year plan for increasing the rates of graduate programs first-generation, low-income, and other underrepresented minority students.

**Year 1 Strategies**

- Conduct a needs and climate assessment among all students to: 1) identify factors that facilitate and challenge their success in undergraduate, master’s, and PhD graduate programs; and 2) understand their own visions for strategies to support FGLI and other underrepresented minority students.
  - *Short-term benchmarks:* Development of needs and climate assessment advisory groups that include students, faculty, and staff who will guide the needs and climate assessment process.
  - *Long-term benchmarks:* Responsiveness to student feedback and the development of student-recommended programs and initiatives.
- Increase the number of grants, scholarships, fellowships, and paid research opportunities available to FGLI and other underrepresented minority students in both

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1. Most recent data from UCOP shows that 80.3% of FG students at UCI graduate in five years, while 86% of non-FG students do.
2. FG students in the Program in Public Health data have a similar rate, though this data point is difficult to determine because of complexities with large numbers of students transferring into the major.
undergraduate and graduate programs.

- **Short-term benchmarks**: Amount of fellowship support offered (total and per capita), number of FGLI undergraduates offered fellowships, and number of FGLI and self-identified underrepresented minority students matriculating in graduate programs with FGLI-specific support. We have earmarked scholarships at the undergraduate and graduate level for Spring 2022.
- **Long-term benchmarks**: Retention rates, time to degree, graduation rate, student satisfaction assessments, and first job placement.

- Increase the number of incoming PhD students who identify as FGLI and other underrepresented minority students who participate in Competitive Edge.
  - **Short-term benchmarks**: Number of incoming PhD students who identify as FGLI or other underrepresented minority students who participate in Competitive Edge.
  - **Long-term benchmarks**: Retention rates, time to degree, graduation rate, student satisfaction assessments, and first job placement.

- Institutionalize and expand the empowering students for success in public health (ESSPH) program. Along with traditionally defined FGLI students, this program will include other marginalized students, including those who work full-time jobs or participate in distance education. We will also place experienced FGLI students in mentoring, administration, and teaching assistance positions to further develop their leadership skills.
  - **Short-term benchmarks**: Number of students participating in the program, evaluations of the program by participating students, and peer review of the program by academic director, equity advisor, and department chairs.
  - **Long-term benchmarks**: Time to degree, retention rates, and graduate program matriculation rates for FGLI students.

**Year 2 Strategies**

- Develop resource guides for navigating public health undergraduate education, graduate school preparation, and job seeking with special attention to FGLI and other underrepresented minority students. These guides will be written in collaboration with students in a way that empowers students to create programs that encourage them to invest in their future and the future of our School.
  - **Short-term benchmarks**: Creation of joint student-staff group that creates the guides, creation of guides, and the creation and implementation of student satisfaction surveys.
  - **Long-term benchmarks**: Number of downloads/referrals to guides and trends revealed in student satisfaction surveys.

- Expand our job placement resources and professional workshops and provide opportunities to meet recruiters on campus. MPH programs with robust job placement programs are attractive to everyone, but particularly to FGLI and other underrepresented students concerned about the financial burden of graduate studies. We have hired an administrative Director for the MPH program who is an public...
health professional with extensive public health government experience. This position will be responsible for developing job-related workshops, coordinating with public health employment recruiters, and enhancing the professionalism-related components of the degree experience with an emphasis on diversity in the public health workforce.

- **Short-term benchmarks:** Development of job placement data collection system, tracking numbers of recruiters brought to campus, and the development and implementation of student satisfaction surveys.
- **Long-term benchmarks:** Job placement data, trends revealed in alumni satisfaction surveys.

**Year 3-5 Strategies**

- Conduct follow-up needs and climate assessment among graduate students regarding factors that facilitate and challenge their success in the master’s and PhD graduate programs; address whether they have engaged with and are satisfied with Year 1 and Year 2 strategies; and understand their vision for strategies to support FGLI and other underrepresented minority students.
  - **Short-term benchmarks:** Maintain advisory group of graduate students, faculty, and staff who will guide the needs and climate assessment process;
  - **Long-term benchmarks:** Responsiveness to student feedback, development of student-recommended programs and initiatives.

- Implement key changes identified in follow-up needs and climate assessments to promote inclusion, diversity, and equity with a focus on FGLI and other underrepresented undergraduate and graduate Public Health students.

**Goal #2**

**Promote inclusion, diversity, and equity in curricula**

We will work to develop a culture of accountability on issues of inclusion diversity, and equity in curricula that invites individual and collective responsibility to increase academic success and support for underrepresented students and students with different levels of academic preparation.

Our approach to encourage review of courses by faculty to include antiracist instruction and anti-bias curriculum will be led by faculty with support by the Dean’s office, Equity Advisor and the UCI Office of Inclusive Excellence. The initial efforts will be to provide faculty with a suite of step-by-step approaches to making classrooms and course materials more culturally inclusive, such as the APHA Equity, Diversity, Inclusion Action Toolkit for Organizations. Faculty members will be responsible for revisions to their materials as they feel are appropriate given the topic and content of the course. We anticipate these materials and training to be available starting in Fall 2022 or Winter 2023. Given that efforts toward diversity and inclusion are considered in merit and promotion
cases, we expect faculty to make efforts to address these issues in their classroom teaching and mentoring. We understand that enacting diversity, equity and inclusion in our classrooms will require training of the faculty and that some lead time will be needed for the faculty to revise their materials and pedagogical approaches appropriately. However, the Program in Public Health is committed to an inclusive curriculum, an inclusive research atmosphere, and an inclusive faculty.

Year 1 Strategies

Students

- Increase student engagement by helping students relate to the social and physical contexts in which health and health inequities are produced, reproduced, and on occasion disrupted and addressed. This will be achieved through expansion of the FGLI student engagement program discussed in Goal 1.
  - **Short-term benchmark:** Expansion of the FGLI student engagement and participation of students representatives in Faculty Council.
  - **Long-term benchmarks:** Multi-year benchmarks developed using perspectives from the needs and climate assessment.

Faculty & Staff

- Begin a continuous reflection on the ways in which students, faculty, and staff are marginalized, identifying norms that should be questioned and abandoned/recalibrated, and addressing inequities.
  - **Short-term benchmarks:** Inclusion of questions into current student surveys and end-of-year reports from diversity committees.
  - **Long-term benchmarks:** Annual repetition of surveys, trainings, and reports in response to and gauged by climate assessments and ad hoc needs.
- Train and incentivize faculty to strengthen curricular practices by encouraging the faculty to integrate language that draws from a national consensus of common vocabulary using their best professional judgement.
  - **Short-term benchmarks:** Step by step approaches to making classrooms and course materials more culturally inclusive, such as the APHA Equity, Diversity, Inclusion Action Toolkit for Organizations.
  - **Long-term benchmarks:** Revision of language used in school websites and promotional materials based on needs and climate assessments.
- Leverage the College of Health Science’s Health Equity and Diversity Certificate Program to promote curricular advancements in inclusive excellence. This certificate program will lay the foundation for identifying and addressing bias or discrimination in higher-education settings, the value of utilizing inclusive language in syllabi, diverse instructional strategies, and enriching curriculum to create opportunities for different perspectives and beliefs.
  - **Short-term benchmarks:** Promoting the certificate each year to faculty, staff and students to promote participation and completion.
  - **Long-term benchmarks:** Institutionalization of workshops, revisions of
workshops, assessment of effectiveness through climate and needs assessments.

- Increase the integration of local knowledge, contextually specific public health issues, and interventions into the curriculum by the creation of a community lectureship program that invites community leaders to give guest lectures and sharing their recommendations in the *We are Public Health* newsletter. We aim to reflect an equity approach that honors the expertise and time of community leaders who contribute to the curriculum outside of their work-related commitments. We will provide community leaders with an honorarium for their guest lectures as an expression of our gratitude for their expertise, time, and contribution to training the next generation of public health researchers and practitioners.
  - *Short-term benchmarks:* Number of guest lectures (e.g., in the Graduate Public Health Seminar (PH291), panels, and workshops with community leaders.
  - *Long-term benchmarks:* Institutionalization of workshops, assessment of effectiveness through climate and needs assessments and surveys of community partners.

- Increase awareness of the spectrum of community engagement in research and teaching and on historical and contemporary power dynamics between higher-education institutions and local communities. Provide faculty with best practices for community-based participatory research.
  - *Short-term benchmarks:* Provision of materials to faculty to incorporate into their practices.
  - *Long-term benchmarks:* Assessment of effectiveness through climate and needs assessments.

- Conduct training of staff assisting with processing grant proposals and grants in the nuances of sub-contracts with community-based organizations and initiatives.
  - *Short-term benchmarks:* Provision of workshops and training materials, self-reported changes in practices and relationships.
  - *Long-term benchmarks:* self-reported changes in practices and relationships.

- Conduct annual town hall meetings hosted by public health leadership to discuss the historical and contemporary relationships between community- and faith-based organizations and initiatives, governmental organizations, and strategies for strengthening these relationships with the school.
  - *Short-term benchmarks:* Conducting town hall meetings.
  - *Long-term benchmarks:* assessment of effectiveness through climate and needs assessments.

**Year 2 Strategies**

**Students**

- Develop opportunities to train students in translational science in public health and health equity. We will focus on policy change and advocacy related to improving the social determinants of health and health equity. We will also connect students with opportunities to engage in translational science activities (e.g., UC Davis Program,
UC-DC Program) and invite students to participate in UCI Public Health Policy Advocacy Day with California policymakers.

- **Short-term benchmarks:** Invite all students to attend and engage with advocacy and policy experts as part of the Graduate Seminar Course.
- **Long-term benchmarks:** Develop workshops, modules, seminars, and possibly lecture classes, assessment of effectiveness through climate and needs assessments.

**Year 3-5 Strategies**

**Students**
- Enhance frequency around workshops to support training around effective communication and advocacy (policy reports).
- Conduct media training with students and enhance opportunities for advocacy at both state and national level.

<table>
<thead>
<tr>
<th>Goal #3</th>
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<tr>
<td><strong>To increase the diversity of our faculty through targeted recruitment and comprehensive retention plans.</strong></td>
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Central to the goal of improving diversity, equity, and inclusion for graduate students and in the curriculum is the recruitment and retention of diverse faculty. Students of diverse backgrounds succeed at much higher rates when they have trained with faculty of similar backgrounds. (Benitez, James, Joshua, Peretti, & Vick, 2017). Within the context of retention, particular attention is needed to ensure that faculty from first-generation low-income and other underrepresented backgrounds have the opportunity to be resilient and thrive in their research, teaching, service, and creative activities. This will also require acknowledging and creating space for the often-invisible labor that faculty from FGLI and underrepresented backgrounds provide. Finally, valuing and rewarding translational science activities related to the social determinants of health and health equity is connected to retaining underrepresented faculty whose work may be particularly strong in this area.

**Year 1 Strategies**

- Identify and recruit scholars of diverse backgrounds for open positions. For each faculty search, the Equity Advisor will provide training on equity in hiring practices and an equity review of the hiring process will be conducted. The School has benefitted from past inclusive excellence hires, and will continue to utilize central hiring programs like the Inclusive Excellence Supplement Program and the Black Thriving Initiative’s Faculty Cluster Hiring program to recruit diverse faculty.
  - **Short-term benchmarks:** Diverse pools for open positions, engagement of Equity Advisor in recruitment and review process.
  - **Long-term benchmarks:** Increased diversity of core faculty in all departments.
- Discuss the creation of several of the MPH sub-foci that would be attractive to faculty
candidates who identify as FGLI or other underrepresented identities or statuses: community health, health disparities, the influence of social and physical contexts on the social determinants of health and health disparities, structural inequities in health, community-level or multilevel interventions, and translational science for the social determinants of health and health equity.

- **Short-term benchmarks**: Roadmaps for sub-foci curriculum and programs, identifications of potential faculty and funding sources.
- **Long-term benchmarks**: Institutionalization of sub-foci into undergraduate and graduate programs, hiring of diverse faculty to teach and manage sub-foci.

**Year 2 Strategies**

- Starting in Year 2, the Equity Advisor will provide faculty and staff with materials on recognizing and addressing implicit and explicit bias in each stage of faculty merit and promotion reviews. This is important because eliminating bias contributes to the retention of faculty from diverse backgrounds. The Equity Advisor will lead an equity assessment if concerns emerge regarding bias or discrimination in faculty merit or promotion reviews.
  - **Short-term benchmarks**: Provision of materials
  - **Long-term benchmarks**: Assessment of effectiveness through climate and needs assessments.

- Create faculty support and opportunities for engagement for faculty from underrepresented groups, for example, for minority faculty whose social and cultural capital are different from groups traditionally overrepresented in academia.
  - **Short-term benchmarks**: Creation of support opportunities.
  - **Long-term benchmarks**: Assessment of effectiveness through climate and needs assessments.

**Works Cited**

Appendix Q:
2020 Practicum Sites
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<thead>
<tr>
<th>Practicum Sites 2020-2021</th>
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<tbody>
<tr>
<td>Alzheimer's Orange County</td>
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<tr>
<td>Abound Food Care (fiscally sponsored by OneOC)</td>
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<tr>
<td>Alzheimer’s Orange County</td>
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<tr>
<td>America On Track (Brighter Futures for Children of Prisoners)</td>
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<tr>
<td>America On Track (Tobacco &amp; Vape Use Prevention: On Track for a Tobacco-Free Orange County)</td>
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<tr>
<td>American Academy of Pediatrics - Orange County Chapter</td>
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<tr>
<td>APAIT, a division of Special Service for Groups</td>
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<tr>
<td>Arthritis Foundation</td>
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<td>Arthritis Foundation - Pacific Southwest Region</td>
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<td>Asian Pacific Islander Forward Movement (Special Service for Groups)</td>
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<td>Asians for Miracle Marrow Matches (A3M)</td>
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<td>ASIANS FOR MIRACLE MARROW MATCHES: A3M</td>
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<td>Child Abuse Services Team (CAST)</td>
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<td>Children’s Hospital Los Angeles - Injury Prevention Program</td>
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<td>Children’s Hospital Los Angeles (Pediatric Injury Prevention Scholars)</td>
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<td>Children’s Hospital Los Angeles, California-LEND Program</td>
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<td>ChinaCal Heartwatch</td>
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<td>Clinic in the Park: AN AAP-OC CHAPTER PROJECT</td>
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<td>Community Action Partnership OC (Workforce Development)</td>
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<td>Community Action Partnership of Orange County (CAPOC) - Planning Department</td>
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<td>Connected Care</td>
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<td>County of Orange Health Care Agency, Office of the Director/Health Policy Research</td>
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<td>Dr Lifestyle Clinic</td>
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<td>Drake Institute of Behavioral Medicine</td>
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<td>Epicentro</td>
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<td>Families Forward</td>
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DMS 411 - Item 1-405
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<th>Name</th>
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<td>FRESH Basic Needs Hub</td>
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<td>Gavin Herbert Eye Institute - National Keratoconus Foundation</td>
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<td>Gavin Herbert Eye Institute, National Keratoconus Foundation</td>
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<td>Harold Simmons Center for Kidney Disease Research and Epidemiology</td>
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<td>Healthy Smiles for Kids of Orange County (Healthy Smiles)</td>
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<td>Hoag- Performance Improvement Program, Process Improvement Training</td>
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<td>Hoag Academy</td>
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<td>Hospitals of Hope</td>
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<td>Human Options</td>
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<td>Institute of Plant Based Medicine (IOPBM)</td>
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<td>Jamboree Housing Corporation</td>
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<td>Jamboree Housing Corporation (Jamboree)</td>
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<td>Karate For All / Centra Pediatric Therapy (KFA)</td>
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<td>Kenya Medical Research Institute - Centre for Global Health Research</td>
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<td>Kidworks - Health and Nutrition Programs</td>
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<td>Latino Health Access</td>
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<td>Lettuce Gather</td>
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<td>Living Wholelistic</td>
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<td>Living Wholelistic, LLC</td>
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<td>Madison Park Neighborhood Association - GREEN PROGRAMS</td>
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<td>Married to Health, LLC.</td>
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<td>Miracles for Kids</td>
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<td>Mission Hospital, St. Joseph Heritage Healthcare-Community Benefit</td>
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<td>Projects</td>
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<td>National Council on Alcoholism and Drug Dependence, Orange County</td>
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<td>NRC Research Institute</td>
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<td>Orange County Asian &amp; Pacific Islander Community Alliance (OCAPICA)</td>
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<td>Orange County Coastkeeper</td>
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<td>Orange County Health Care Agency, Epidemiology &amp; Assessment Program</td>
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<td>Orange County Mosquito and Vector Control District, Department of</td>
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<td>Scientific Technical Services</td>
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<td>Orange County Vital Aging Program, Hoag Hospital Presbyterian</td>
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<td>Orange County Zoo</td>
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<td>Partners 4 Wellness (Formerly NCADD-OC: National Council on Alcoholism and Drug Dependence OC)</td>
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<td>Partners 4 Wellness (Formerly NCADD-OC: National Council on Alcoholism and Drug Dependence OC)</td>
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<td>Pilot Qualitative Study - Work &amp; Health</td>
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<td>PrescribeWellness</td>
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<td>Project Hope Alliance</td>
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<td>Providence St. Joseph Health - Southern CA Regional Office</td>
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<tr>
<td>Providence St. Jude Medical Center, Community Health Investment Program</td>
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<td>Radiant Health Centers (formerly AIDS Services Foundation OC)</td>
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<td>Regents Point (be.regents point)</td>
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<td>Saddleback College - Adapted Kinesiology Program</td>
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<td>Santa Clara County Public Health Department, HIV/AIDS Prevention &amp; Control</td>
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<td>Shanti Orange County</td>
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<td>Social Epidemiology and Research in Community Health (Search) Lab</td>
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<tr>
<td>South County Kidney and Endocrine Center (SCKE-Odyssey Student Internship)</td>
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<td>St. Joseph Health System_ Community Health Department</td>
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<td>St. Jude Medical Center (Wellness Center &amp; Move More Eat Healthy)</td>
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<td>Stone Creek Extended Day Center - Creekers Club</td>
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<td>Summer UCDC Internship Program</td>
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<td>Tabrizi Family Chiropractic</td>
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<td>The LGBT Center of Orange County</td>
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<td>UC Center Sacramento (UCCS) Academic Internship Program - Division of Undergraduate Education</td>
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<td>UC Irvine Health Infectious Diseases/Epidemiology (IDE)</td>
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<td>UCDC Internship Program - Division of Undergraduate Education</td>
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<td>UCI Campus Academic Human Resources – Wellness &amp; Engagement</td>
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<td>UCI Campus Human Resources-Wellness &amp; Engagement</td>
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<td>Organization</td>
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<tr>
<td>UCI Center for Student Wellness &amp; Health Promotion</td>
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<td>UCI Chao Family Comprehensive Cancer Center</td>
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<td>UCI Department of Urology</td>
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<td>UCI Eyemobile for Children</td>
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<td>UCI Facilities Management Sustainability Team - Zero Waste Campus Management</td>
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<td>UCI Health - Patient Experience</td>
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<td>UCI Herbarium (formerly UCI Arboretum)</td>
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<td>UCI Program in Public Health</td>
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<td>UCI Program in Public Health - UCI COVID-19 Chatline</td>
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<td>UCI Sports Medicine - Carlos A. Prietto MD Sports Medicine Center</td>
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<td>UCI Weight Management Program</td>
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<td>University of California, Irvine- Program in Nursing Science</td>
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<tr>
<td>University of Irvine, Department of Obstetrics and Gynecology, Division of Family Planning</td>
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<td>Veterans Legal Institute</td>
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<td>Vietnamese American Cancer Foundation</td>
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<td>Wu Environmental Exposure and Health Lab</td>
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Appendix R: Select PPH Faculty Service to the Campus
UCI Public Health Faculty: Selected Service to the Campus

Bartell, Scott, PhD
• Committee on Rules and Jurisdiction (2017-2018, Chair 2018-2019, Chair 2019-2020)

Bic, Zuzana, MUDr (MD), DrPH
• Academic Program Review Board (2015-2016)

Bondy, Stephen C., PhD
• Reserve CAP, member (2018-2019)
• Committee on Privilege and Tenure (2015-2016)

Bruckner, Tim-Allen, PhD
• Council on Educational Policy (2020-2021, 2021-2022)
• Divisional Senate Assembly (2015-2016)

Edwards, Karen, PhD
• Council on Equity and Inclusion (2021-2022)
• Decade Mentor (2016-2019)
• COHS Irvine Division State Assembly (2020)

Edwards, Rufus, PhD
• Divisional Senate Assembly (2020-2021, 2021-2022)

Grant Ludwig, Lisa, PhD
• Committee on Committees (2019-2020, 2020-2021, 2021-2022)
• Divisional Senate Assembly (2018-2019)

Hopfer, Suellen, PhD
• Council on Equity and Inclusion (Substitute 2020-2021, ended 3/21/2021)
Hoyt, Michael, PhD
- Divisional Senate Assembly (2019-2020, 2020-2021)
- COHS Executive Committee (Members-at-Large)
- COHS Irvine Division State Assembly (2019, 2020)
- UROP Faculty Board Member (2021, 2022)

Jiang, Luohua, M.D., PhD
- COHS Library (2016-2019)

Kitazawa, Masashi, PhD
- Divisional Senate Assembly (2017-2018, 2018-2019)

Lakon, Cynthia, PhD
- Council on Teaching, Learning and Student Experience (2015-2016, 2016-2017)

Lu, Yunxia, PhD
- Divisional Senate Assembly (2020-2021, 2021-2022)
- COHS Continuing Medical Education (CME) (2017-2020)

Noymer, Andrew, PhD
- COHS Rules, Jurisdiction & Organization (RJO) (2017-2020)

Odegaard, Andrew, PhD
- Council on Research, Computing and Libraries (2021-2022)
- COHS Library (2017-2020)
- COHS Graduate Programs (2016-2019)

Phalen, Robert, PhD
- Affiliated Health Committee (2019-2022)

Ro, Annie, PhD

Timberlake, David, PhD
- Council on Teaching, Learning and Student Experience (2016-2017)
Vieira, Veronica, DSc
- COHS Research (2016-2019)
- COHS Irvine Division State Assembly (2018)

Wodarz, Dominik, PhD

Wu, Jun, PhD
  - Subcommittee on Courses and Continuing, Part-Time, and Summer Session
- Divisional Senate Assembly (2018-2019, 2019-2020)
- COHS Executive Committee (Members-at-Large)
- COHS Irvine Division State Assembly (2019, 2020)

Yan, Guiyun, PhD
- Academic Integrity Review Board (2020-2021, 2021-2022)
Appendix S:
Organizational Chart
DEPARTMENT ADMINISTRATORS HAVE A DOTTED REPORTING LINE TO THE DIRECTOR OF ADMINISTRATION & STRATEGIC PLANNING.
ANY POSITION IN DASH WILL BE A FUTURE REQUESTED TITLE POSITION IN THE SCHOOL.
Appendix T:
Faculty Governance Bylaws
In adopting these bylaws, the faculty members of the UC Irvine Program/School of Population and Public Health affirm our commitment to democratic principles, fairness, inclusive excellence, and the highest ethical standards in all our operations.

Section I. General Provisions

A. Functions and Authority

The academic governance of the Program/School of Population and Public Health, hereafter referred to as “SPPH”, is vested in its Faculty, except as limited by the Code of the Academic Senate and the Standing Orders and Policies adopted by the Board of Regents. As a Program/School unit of the Susan and Henry Samueli College of Health Sciences (CoHS), SPPH is authorized by the Manual of the Irvine Division Appendix I Chapter VIII (CoHS Bylaws) to maintain its own set of bylaws outlining its autonomous governance, including the structure and function of its committees, and the duties and responsibilities of its faculty and officers.

As per Bylaw 55 of the University of California Senate, each academic department within SPPH shall determine its own form of administrative organization.

B. Membership

Membership in the Faculty of SPPH is defined by Irvine Division Bylaws 10, 27, 40, and the CoHS Bylaws. All Academic Senate members with salaried appointments in SPPH are members and eligible to vote on all matters under consideration by the Faculty of SPPH.

Non-senate faculty including adjunct faculty, visiting faculty, and affiliated faculty (including those who teach part-time and those who have an enduring relationship with SPPH), as well as non-senate clinical faculty and faculty appointed jointly to SPPH without salary, may participate in faculty meetings and have the right to be heard, but may not vote or hold office.

C. Officers

Faculty Officers will be elected by means of a secret electronic ballot distributed to the voting faculty of SPPH. Elections will be held before close of the Spring quarter preceding the end of an officer’s term. All elected terms will begin and end on the official first day of the fall academic quarter. In the event that an elected officer is unable to complete their term, a special election to fill the vacancy will be held within 60 days of notification of such event. In such an instance, the term duration of the elected replacement will be the remaining term of the originally elected officer.

C.1 Faculty Chair

The Faculty Chair shall serve as SPPH representative to the Representative Assembly of the Irvine Division and as Chair of the SPPH Faculty Council for a two-year term following. The Faculty Chair shall serve as the SPPH representative to other faculty assemblies consisting of other academic units with shared interests. The Faculty Chair will preside or designate another Faculty Officer to preside over SPPH Faculty Meetings.
C.2 Faculty Vice Chair

The Faculty Vice Chair shall be elected by the SPPH Senate Faculty for a two-year term by electronic secret ballot. The Faculty Vice Chair is a member of the SPPH Faculty Council and automatically assumes the role of Faculty Chair following completion of the term as Faculty Vice Chair.

C.3 CoHS Senate Faculty Assembly Representatives

Functions, membership, appointment, term length, and operations of the CoHS Senate Faculty Assembly are specified in the CoHS Bylaws. Regular election and filling of vacancies for the SPPH representatives to the CoHS Senate Faculty Assembly shall be conducted by secret electronic ballot, after an open call for nominations. A slate of candidates shall be provided to faculty at least 7 days before the end of the voting period.

C.4 CoHS Executive Committee Representatives

Functions, membership, appointment, term length, and operations of the CoHS Executive Committee are specified in the CoHS Bylaws, which call for two representative members from each Program/School/Unit. The Faculty Chair and Chair-Elect shall serve as the two representatives from SPPH. Any additional number of representatives granted to SPPH will be selected by secret electronic ballot, after an open call for nominations. A slate of candidates shall be provided to faculty at least 7 days before the end of the voting period.

D. Faculty Meetings

D.1 Each SPPH Department shall develop and maintain departmental bylaws, and will be responsible for organizing and holding regular faculty meetings for the conduct of departmental business, in accordance with departmental procedures and leadership.

D.2 A meeting of the SPPH Faculty shall be held at least once per academic year with a minimum of one week's notice prior to each meeting. In addition, the Faculty shall meet at such times as it may determine, or at the call of the Chair of the SPPH Faculty Council or the Director/Dean of SPPH.

D.3 A SPPH Faculty meeting shall be called for discussion of any proposal to add or remove an academic department/unit from SPPH, or any other major structural change to SPPH, at least two weeks prior to faculty vote on such proposals.

D.4 Simple majority of the Senate Faculty shall constitute a quorum of the Faculty.

Section II. Committees

A. Standing Committees

Standing Committees of the Faculty are provided for in these Bylaws. Members of the standing committees, unless otherwise noted, are appointed for two-year terms by the Faculty Chair following consultation with the Director/Dean and Department Chairs. Appointments are to be made not later than the last day of the Spring quarter for service in the following academic year; whenever possible appointments should be staggered to provide for continuity. All committee memberships will be limited to a two consecutive year term. However, faculty can repeat service to any committee provided service is spaced by a two-year reprieve. Faculty with an administrative title (e.g., Dept Chair, Associate Dean) will not be members on any standing committee.
A.1 Faculty Council

a. Charge: Meets a minimum of once each quarter and:
   i. Considers matters of general concern to the faculty and acts for the faculty with respect to matters delegated to it by the faculty in the bylaws or by subsequent action.
   ii. Reviews and makes recommendations concerning the allocation of educational and budgetary resources, academic priorities, and the planning and budgetary process within SPPH.
   iii. Receives reports from the standing committees of the faculty and recommends action when appropriate.
   iv. Appoints ad hoc faculty committees to develop recommendations regarding specific issues.
   v. Provides recommendations to the Director/Dean of SPPH required by the principle of shared governance adopted for the University of California Regents.
   vi. Reviews and provides advice on equity and inclusion issues related to academic personnel.

b. Membership:
   i. Faculty Chair
   ii. Faculty Vice Chair
   iii. One at-large member from each SPPH department
   iv. One student selected by the student body to represent each of the SPPH program/school-wide undergraduate and graduate degree programs (one-year term)
   v. The Director/Dean of SPPH, or a designee of the SPPH Director/Dean, is an ex officio, non-voting member

c. Quorum: consists of any four voting members

A.2 Educational Policy and Curriculum Committee

a. Charge: Meets a minimum of once each quarter and:
   i. Monitors and evaluates SPPH undergraduate and professional degree programs (hereafter, “SPPH degree programs”).
   ii. Recommends policy, criteria and procedures for SPPH degree programs.
   iii. Recommends academic prerequisites for entry to SPPH degree programs.
   iv. Monitors and makes recommendations regarding curriculum and admission to SPPH degree programs.
   v. Approves or disapproves proposed new courses or modifications to existing courses.
   vi. Monitors the quality of academic instruction and makes recommendations accordingly.
   vii. Assists in the selection of temporary teaching lecturers.
   viii. Recommends changes in educational policy, changes in the structure of SPPH degree programs and in the content of core courses for ratification by SPPH faculty and approval by the appropriate Divisional Academic Senate committees.

b. Membership:
   i. One faculty representative from each SPPH department.
   ii. The Director/Dean of SPPH or a designee of the SPPH Director/Dean, and the Associate Deans for Academic Affairs, and the Director of the Master’s of Public Health Program, are ex officio, non-voting members.

c. The Committee will select a Committee Chair from the Committee’s voting membership annually.

d. Quorum: consists of any three voting members
A.3 Student Affairs Committee

a. Charge:
   i. Reviews all academic program/school-wide programs admissions that represent exceptions to general policy
   ii. Establishes policy, criteria, and procedures by which students are recommended for available honors, scholarships and awards
   iii. Reviews the diversity and inclusiveness of all program/school-wide academic programs, including admissions and recruitment procedures, and makes recommendations accordingly.
   iv. Recommends allocation of all scholarship funds
   v. Recommends policy and procedures by which students are placed on probation and/or are dismissed

b. Membership:
   i. One faculty representative from each SPPH department
   ii. The Director/Dean of SPPH or a designee of the SPPH Director/Dean, the Associate Dean for Academic Affairs, and Director of the Master’s of Public Health Program, are ex officio, non-voting members.

c. The Committee will select a Committee Chair from the Committee’s voting membership annually.

d. Quorum: consists of any three voting members

A.4 Committee on Research, Facilities, and Library Resources

a. Charge:
   i. Assists SPPH in developing and reviewing SPPH policies and procedures related to faculty and student research
   ii. Provides advisement and support to the establishment and implementation of SPPH research goals
   iii. Fosters opportunities for interdisciplinary and interprogrammatic research
   iv. Coordinates distribution of all CORCL funds received for faculty use
   v. Promotes opportunities for success in research productivity, publishing, and funding acquisition
   vi. Advises on fair and strategic use of research space and facilities within SPPH

b. Membership:
   i. One faculty representative from each SPPH department
   ii. One research series faculty representative
   iii. The Faculty Vice Chair
   iv. The Director/Dean of SPPH or a designee of the SPPH Director/Dean, and the Associate Dean of Research is an ex officio, non-voting member

c. The Faculty Vice Chair will serve as the Chair of the Research Committee

d. Quorum: consists of any four voting members
B. Ad Hoc Committees

SPPH ad hoc committees can be formed and commissioned by the Director/Dean of SPPH or the SPPH Faculty Council. An ad hoc committee shall consist of as many members as may be appropriate, plus a chair. All members and the chair shall serve only as long as the committee is constituted, and will report findings and/or recommendations to the Faculty Council.

Section III. Amendment of the Bylaws

The bylaws of the SPPH may be amended with the approval of at least two-thirds of the voting faculty members of SPPH as so specified in Section I.B. Motions to amend the bylaws must be made at least thirty days before the vote is taken. In the interim, the Faculty Chair shall send a copy of the motion, together with a summary of the arguments for and against the motion, to all Academic Senate Members of SPPH. Voting on bylaw revisions shall be conducted by secret electronic ballot, with results made available to Senate Faculty members of SPPH.
Appendix U: Departmental Workload Policies
University of California, Irvine  
Department of Epidemiology and Biostatistics  
Teaching Workload Policy

This policy is the sole policy that governs the teaching workloads for Faculty with primary appointments in the Department of Epidemiology and Biostatistics (DEB) in the Program of Public Health and future projected School of Population and Public Health (SPPH) at UC Irvine. For Faculty with split appointments, this policy covers the portion of their teaching workload for the Program of Public Health and future projected SPPH at UC Irvine commensurate with their split appointment.

The remainder of this document describes our expectations for teaching in relation to research and service in DEB.

1. **On average, each faculty member is expected to teach two formal courses every year** unless granted course releases through roles in the Academic Senate that include this expectation or teaching releases as part of recruitment of new Faculty or teaching load reduction due to an extraordinarily productive research program or very large courses in consideration of the extra contact time required. The Chair of the DEB assigns teaching to the faculty in the department including coverage of the school-wide courses that are negotiated with Chairs of the other departments.

2. All full-time faculty in the Professor series in the Department of Epidemiology and Biostatistics are expected to teach and serve as an instructor of record for at least one formal course each year.

3. A formal course is one listed in the schedule of classes for degrees in the Program of Public Health and future projected SPPH at UC Irvine, in which there are officially scheduled classroom, laboratory, and/or field experiences led by a faculty member, or online interactions through an official scheduled course.

4. **Ad Hoc Seminars** do not count as formal courses.

5. Independent and directed studies do not count as formal courses. However, at the discretion of the Departmental Chair, those who consistently offer many independent and directed studies to students may be granted teaching workload reduction by at most one formal course each year.

6. Courses taught in the summer for which faculty receive remuneration do not count towards teaching workloads.

7. New faculty members may receive reduced teaching workloads for specified periods of time, as defined by their appointment letter, to allow them to establish or relocate their research programs and are subject to approval each year by the Departmental Chair.

8. An extraordinarily productive research program should qualify for reduction in teaching workload for a specified period of time, at the discretion of the Departmental Chair, depending on the degree of scholarly productivity, the number and scope of grant applications submitted and awarded, and the number of students successfully mentored. An accelerated merit or accelerated promotion based on research accomplishments is strong evidence of extraordinary productivity. All faculty, however, are expected to teach and serve as an instructor of record for at least one formal course each year.
9. Each faculty member need not meet his or her exact teaching workload in each year but should meet the teaching workload on average during each merit period.

10. Clinical service will permit a proportional reduction in the teaching workload.

11. Normal participation in departmental, college, and university committees is expected of faculty to remain in good standing and meet Merit and Promotion benchmarks, and will not result in teaching workload reductions unless through roles in the Academic Senate that include this expectation (e.g. CAP, Senate Chair, Standing Committee Chair, Departmental Chair, Faculty Chair, etc). Service outside the university and other outside activities will not be considered as a basis for teaching workload reduction.

12. Each faculty member is expected to maintain a robust active research program as demonstrated by successfully meeting benchmarks in their Merit and Promotion actions.

13. For faculty with less than 100% appointments in the DEB, the teaching workload will be proportional to the percentage appointment.

14. Faculty who take sabbaticals, parental leave, or other types of leave for part of the academic year will have a teaching workload reduction proportional to their active duty that year.

15. This teaching workload policy will be re-evaluated annually by the department prior to finalizing teaching assignment for the next academic year. Any modification of this policy needs to be discussed and voted by all DEB faculty members holding a primary appointment in DEB.

This policy is adopted by the simple majority approval among the votes cast by all departmental faculty members.
Policy

- This policy supplements any university or School of Population and Public Health (SPPH) teaching workload policies or procedures and applies to all faculty in the Professor series and Professor of Teaching series with expectations for teaching within the Department of Population Health and Disease Prevention. The purpose of this policy is to set guidelines regarding teaching expectations that balances engagement in teaching activities, fulfillment of departmental instructional needs, and facilitates research and scholarly success.

- All full-time faculty are expected to serve as an instructor of record for at least one formal course each year within the SPPH. A formal course is one in which there are officially scheduled classroom, laboratory, and/or field experiences led by a faculty member, or online interactions through an officially scheduled course.

- The department will consider elective course buyouts, proportional reduction in teaching in exchange for clinical service, excused teaching for newly hired faculty, and other teaching reductions in recognition of extraordinary service or productivity on a case-by-case basis.

- For faculty with less than 100% departmental appointments, the teaching workload will be prorated according to the percentage appointment at the discretion of the Department Chair.

- Faculty who take sabbaticals, parental leave, or other types of leave for part of the academic year will have a teaching workload reduction proportional to their active duty that year.

- Each faculty member need not meet his or her exact teaching workload in each year, but should meet the teaching workload on average during each merit period. Only those faculty members who met their expected teaching workloads in the most recent merit period and are on track to meet their teaching workloads during the current merit period shall be eligible to participate in the Negotiated Salary Trial Program, subject to the other eligibility criteria of that program.

Departmental Teaching Workload

- The standard faculty workload shall be equivalent of 2 full academic courses per year and 6 full academic courses per year for Teaching series faculty with 9-month appointments.

- In recognition of the extra contact time required for larger courses, within an academic year, faculty can at the discretion and determination of the Chair designate one course with a substantially large actual enrollment as equivalent of the fulfillment of 2 courses.

- The Chair shall determine whether each member of the departmental faculty has an active research or scholarly program, as judged by the most recent merit review and other relevant indicators of scholarship and research productivity. Those who have a series of ‘no actions’ may be assigned by the Chair to teach more than the standard teaching load, up to one additional course annually.
• An extraordinarily productive research program might qualify for further reduction in teaching load, depending on the degree of scholarly productivity, and the number and scope of grant applications submitted and awarded, and the number of students successfully mentored. An accelerated merit increase or accelerated promotion based on research accomplishments is strong evidence of extraordinary productivity. The Chair has responsibility for nominating appropriate candidates for such teaching load reductions for research.

• Cross-listed courses and concurrent enrollment do not typically earn extra teaching credit. Exceptions may be granted by the Department Chair.

• For co-taught and team-taught courses, fulfillment of teaching expectations shall be divided proportionally among the instructors, according to time spent actively engaged in instruction and course management. If the instructors are unable to agree on the appropriate distribution of effort, the Chair will decide.

• Teaching during the summer session will not ordinarily be considered to fulfill departmental teaching expectations without approval of the Chair.

• This policy does not apply to teaching expectations for Adjunct Faculty or other affiliated faculty without salary appointments.

• The department recognizes that an active and productive research program often involves informal teaching, including research group meetings, frequent interactions with undergraduate, graduate, and/or postdoctoral students who are not enrolled in thesis-based degree programs, and other student-oriented activities that do not count towards the fulfillment of departmental teaching expectations.

Policy Changes

• DPHDP is overall committed to the pursuit of workload equity within the SPPH and this policy is currently applicable to faculty with 9-month academic appointments. Workload will be adjusted, or this policy amended accordingly for any 11-month appointees.

• This policy will be reviewed and updated by departmental faculty on an as-needed basis and is, as such, subject to modification.

V2, adopted by Department Vote 3/16/2022
Teaching Workload Guidance
Department of Environmental and Occupational Health
Program in Public Health
University of California, Irvine

- This policy applies to all faculty in the Professor and Professor of Teaching series in the Department of Environmental and Occupational Health (DEOH). This policy does not apply to faculty in the Health Sciences Compensation Plan.
- The standard teaching load is 3 courses per year for those in the Professor series who are actively engaged in productive extramurally funded research and make significant contributions to service in the department, school/program or university. The standard teaching load is 6 courses per year for the Professor of Teaching series. Teaching loads shall be reduced for faculty with extraordinary grant-funded salary support and/or university/clinic service, as determined by the Chair.
- The Chair shall determine whether each member of the departmental faculty in the Professor series has an active research program, as judged by the most recent merit review and other relevant circumstances. With approval by the Dean, faculty with primary appointments in DEOH who have an inactive or minimally active research program and are not making significant contributions to university service may be assigned by the Chair to teach more than the standard teaching load.
- All officially scheduled in-person and online courses in the Program in Public Health (or, with approval by the Chair, other University of California courses) count toward the total number of courses each year.
- The graduate three-quarter seminar series counts as one course.
- One half day clinic session per week throughout the calendar year will be considered equivalent to teaching one course per year.
- Independent studies, directed studies, and dissertation units do not count toward the total number of courses each year. Faculty members are expected to serve as primary advisor for doctoral students, MS (thesis option) students, and/or BA/BS honors thesis students. However, at the discretion of the Departmental Chair, those who consistently offer many independent and directed studies to students may be granted teaching workload reduction by at most one formal course each year.
- In recognition of the extra workload required for larger undergraduate courses, a course with 90 or more students counts as 1.5 courses.
- Newly hired faculty are provided a course release in their first year to support the establishment of their research program.
- For faculty with less than 100% appointment, the teaching workload will be prorated according to the percentage appointment.
- All other Program in Public Health workload policies are also applicable to DEOH faculty.
- This policy shall be reviewed annually, and revisions will be made, if necessary, to ensure that the teaching needs of DEOH are being met.
Health, Society, & Behavior
Departmental Teaching Workload Policy
Professor and Professor of Teaching Series
University of California, Irvine

Policy

• This policy applies to all full-time faculty in the Professor series within the Department of Health, Society, & Behavior (DHSB). This purpose of this policy is to set guidelines regarding teaching expectations that balance engagement in teaching activities, fulfillment of departmental instructional needs, and facilitate research and scholarly success and equity.

• All full-time faculty in the Professor series are expected to serve as an instructor of record for at least one formal course each year in the PPH. A formal course is one listed in the schedule of classes for degrees in the Program of Public Health and future projected SPPH at UC Irvine, in which there are officially scheduled classroom, laboratory, and/or field experiences led by a faculty member, or online interactions through an official scheduled course. Consistent with University policy, DHSB defines a formal course as having at least 4 graduate or at least 16 undergraduate public health students enrolled.

• For faculty with less than 100% departmental appointments, the teaching workload will be prorated according to the percentage appointment.

• Faculty who take sabbaticals, parental leave, or other types of leave for part of the academic year will have a teaching workload reduction proportional to their active duty that year.

• Each faculty member need not meet his or her exact teaching workload in each year but should meet the teaching workload on average during each merit period. Only those faculty members who met their expected teaching workloads in the most recent merit period and are on track, considering university leaves and/or sabbaticals taken and/or extraordinary service during the period, to meet their teaching workloads during the current merit period shall be eligible to participate in the Negotiated Salary Trial Program, subject to the other eligibility criteria of that program.

Departmental Teaching Workload

• Full-time DHSB faculty in the Professor series with 9 month appointments will teach, on average, 2 courses a year. Professors of teaching will teach, on average, 6 courses per year. Exceptions to this policy may be granted through course releases through roles in the Academic Senate that include this expectation, teaching releases negotiated as part of recruitment or retention plans, or extraordinary service or research. These exceptions are made at the discretion of the DHSB Chair provided that teaching obligations of the department are met. The standard teaching workload for full-time DHSB faculty in the Professor series includes both undergraduate and graduate teaching of required courses.
• The Chair assigns teaching to the faculty, including coverage of program/School wide degree programs that are negotiated with Chairs of the other departments.

• The chair may request faculty to “bank” course releases up to 5 years in order to meet departmental teaching needs.

• The Chair shall determine whether each member of the departmental faculty has an active research or scholarly program, as judged by the most recent merit review and other relevant indicators. Those who have an inactive or minimally active program may be assigned by the Chair to teach more than the standard teaching load.

• Cross-listed courses will only count for one DHSB course credit.

• Courses taught in the summer for which faculty receive remuneration do not count towards teaching workloads.

• Concurrent enrollment courses (i.e. a course with concurrent undergraduate and graduate students, or concurrent MPH and doctoral students enrolled) will only count for one DHSB course credit.

• For co-taught and team-taught courses, fulfillment of teaching expectations shall be divided proportionally among the instructors, according to time spent actively engaged in instruction and course management. If the instructors are unable to agree on the appropriate distribution of effort, the Chair will decide. For co-taught classes with large enrollment, the sum of the proportional credit for each co-teaching faculty may be higher than 1.

• The department recognizes that an active and productive research program often involves informal teaching, including research group meetings, frequent interactions with undergraduate, graduate, and/or postdoctoral students who are not enrolled in thesis-based degree programs, and other student-oriented activities that do not count towards the fulfillment of departmental teaching expectations.

Policy Changes

• This policy supersedes all previous policies for departmental teaching and is endorsed by vote of departmental faculty. This policy will be reviewed and updated by departmental faculty on an as-needed basis and is, as such, subject to modification by a vote of a simple majority of faculty.

Final version 3/21/22
Approved by departmental vote 3/23/22
Appendix V:
Professor of Teaching Research and Scholarly Activities Guidelines
Workload Guidelines for the Professor of Teaching Series

These guidelines provide a general outline of the expected roles and duties of Professors of Teaching (PoT) in the School of Population and Public Health. Percent distributions are meant to provide a broad and general guideline rather than an exact quantification of work responsibilities.

70% Teaching

- PoTs will teach six classes during the nine-month academic year, in accordance with applicable departmental faculty workload policies and procedures. These classes will largely be undergraduate courses for majors and non-majors in both upper and lower divisions. Based in their expertise and the needs of the academic programs, they may also teach graduate-level courses.
- PoTs will contribute to curriculum development and will support the implementation of best practices for Public Health education across the School, subject to approval by the school wide curriculum committee.
- PoTs will mentor undergraduate students in research projects, including through the Honors Research and PH198/199 mechanisms. Depending on expertise and need, PoTs may also serve on doctoral committees and advise master’s students.
- PoTs will mentor graduate students in their development as teachers.

15% Service

- PoTs will participate in the governance of the School of Population and Public Health and the University by serving on departmental, schoolwide, and university committees.
- PoTs will engage in the mentoring and professional development of students through formal and informal advising, serving as the faculty advisor for student groups, and similar activities.
- PoTs will provide guidance to other Public Health faculty in instruction, course development, and course design.
- PoTs will participate in faculty recruitments and assist in the evaluation of the teaching skills of candidates.
- PoTs will contribute to the development of the profession through participation in national and international associations, serving on publication editorial boards, and other related activities.
- PoTs will also work with community, discipline-specific, and government organizations in the development of the public health and healthcare workforce.

15% Research and Creative Activity

- PoTs will engage in scholarly and creative achievement related to their subject expertise and/or pedagogy, curriculum science, and educational methods.
- Scholarly and creative work may include but is not limited to publishing in scholarly journals; presenting at academic and professional conferences; speaking to community organizations about their work; producing work for general, non-academic audiences on academic or scholarly topics; and the research, development, and implementation of new curriculums and courses.
- PoTs are encouraged to collaborate with students to produce scholarly and creative work, which may include serving as senior author on student-led research and coaching students on research presentation.
- PoTs will cooperate with colleagues to develop grant proposals to fund innovations in pedagogy and scholarship of teaching and learning.
Appendix W:
Resource Commitments
DIRECTOR AND FOUNDING DEAN BERNADETTE BODEN-ALBALA
PROGRAM IN PUBLIC HEALTH

RE: School Pre-Proposal Resource Commitments

With great enthusiasm, I write to document my commitment to support the development and growth of the proposed School of Population and Public Health.

To ensure adequate resources to meet accreditation standards, I commit 8.0 new senate FTE beyond those that have already been approved for recruitment (2.0 new FTE were just authorized per my memo dated August 14, 2020). These will help establish Nutrition as a concentration area, and bolster the resources in Health Policy, Health Society and Behavior, Epidemiology and Biostatistics, and Environmental and Occupational Health. The FTE are expected to be at various ranks: 2.5-Professor, 3.5-Associate, and 2-Assistant. One or two may be in the Professor of Teaching series. Specific recruitment authorizations will be defined through the annual faculty recruiting plan process based on top unit priorities and the availability of campus resources. Concurrent with progress through the school approval process, FTE will be targeted for release over the next two-three years. The unit will also have opportunities to pursue additional FTE through campus faculty hiring initiatives such as the inclusive excellence supplement, career partner, and other hiring programs that may become available and that align with unit goals.

To support operating needs, previous commitments from the FY21 budget process and the phase 1 department proposal were made totaling $968K in base resources and $300K temporary funds. These were to support faculty compensation, academic administrator stipends, staff salary adjustments, 3.0 FTE new staff, and operating needs. To fully support the school pre-proposal, additional base resources at $447K will also be provided in FY 2020-21 to support 2.0 FTE staff in the Dean’s Office staff and 2.0 FTE academic advisors. $300K in operating resources remain temporary, so any ongoing needs should be addressed in future budget cycles.

I appreciate all of the effort and collaboration that has gone into school planning, and look forward to successful progress through the review process. The current pandemic is likely to pose challenges and additional hurdles along the way, but it also presents opportunities to highlight the value of having a
strong School of Population and Public Health. Your efforts and those of your unit have been pivotal in supporting campus and community efforts to responsibly respond to the crisis. I am grateful.

Sincerely,

Hal S. Stern, Ph.D.
Interim Provost and Executive Vice Chancellor
Chancellor’s Professor, Department of Statistics

C: Chief Financial Officer and Vice Chancellor Cortez
Vice Chancellor Goldstein
Interim Associate Provost and EVC Leinen
VCHA Chief of Staff Khalili
Assistant Vice Chancellor Gallardo
Interim Assistant Dean Robert
Director Stevenson
Katherine Warnke-Carpenter
Appendix X: SPPH Budget
## School of Population and Public Health

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### Revenue

#### Base/Core Budget Estimate

- Permanent faculty base 19900: 4,389,386
- Permanent Campus Support - New Faculty (Estimates): -
- Permanent Campus Support - Black Thriving Initiative: -
- Permanent TA base 19900: 514,920
- Permanent staff allocation 19000: 1,345,686
- Permanent Fringe benefit allocation 19000: 1,824,636
- Permanent Unallocated 19000: 259,028
- Indirect cost recovery to unit (ICR): 273,978

#### Revenue

- Campus Allocations (Excl. New faculty Est.): 8,607,634
- Carryforward to support school: -

#### Total Revenues + Strategic Support

- 10,944,026

### Unit Income/Other

- Current year budget allocation - Deans Office Operations: 350,000
- Current year budget allocation - Support for clinical faculty and shared staff (COEH): 314,066
- Current year budget allocation - Summer Session: 107,000
- Current year budget allocation - Undergraduate Workload Formula Allocation: 228,100
- Current year budget allocation - NRST: 26,754
- Profession Fee Supplemental Tuition (POST): 296,112
- University Student Aid Program (USAP): 135,992
- Graduate Division Support (ASE Remission/TA): 398,267
- Graduate Division Block Model Support (Projected): 234,400
- Graduate Division Flexible Fund Support (Projected): 15,700
- SOM Dean/BEAP Support to PhD Program: 80,000
- SOM Block Grant Allocation: 40,000
- SHSCCM Graduate Program Support (Temporary): 10,000
- Philanthropy/Gifts: 10,000

#### Total Unit Income

- 2,336,392

#### Total Revenue

- 10,944,026

### Total Revenues + Strategic Support

- 10,944,026

DMS 441 - Item 1-435
### Expenses

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*Core campus support reserves are recommended to be in the range of 10-20% of operating expenses.
Appendix Y:
PDST Table
### UC System Public Health Professional Degree Supplemental Tuition (PDST) Fees

#### Resident

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<td>5%</td>
<td>$ 7,897</td>
<td>5%</td>
<td>$ 8,292</td>
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#### Non-Resident

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<th>2021-22 PDST Charge</th>
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<td>$ 10,482</td>
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<td>Davis</td>
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Appendix Z: Professorial Series
## Academic Series

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<tr>
<th>Senate Professor</th>
<th>Professor of Teaching</th>
<th>In-Residence</th>
<th>Adjunct Professor</th>
<th>HS Clinical</th>
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<tbody>
<tr>
<td>Assistant Professor</td>
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<td>Assistant Adjunct Professor</td>
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<td>Associate Professor Professor</td>
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## Responsibilities

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<td>Professional Competence</td>
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## Academic Senate Status

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## Funding

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<td>State-Allocated FTE, 100% on 19900 funds</td>
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</tr>
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## Continuation

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<tr>
<td>Associate</td>
<td>Year-to-year contract, contingent on available funding; 8-year rule applies</td>
</tr>
<tr>
<td>Professor</td>
<td>Year-to-year contract, contingent on available funding; 8-year rule applies</td>
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## Percent of Time

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<tbody>
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<td>Must be full-time paid UCI employee 100%</td>
</tr>
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<tr>
<td>Professor</td>
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## Dossier

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<td>Professor</td>
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March 28, 2022

TO: Provost and Executive Vice Chancellor, Hal Stern

RE: Support for Establishment of the UC Irvine School of Population and Public Health

The faculty of Public Health has strongly endorsed the proposal for the establishment of the UC Irvine School of Population and Public Health. As the founding Dean and Director of the Program in Public Health, it is with great enthusiasm that I submit on behalf of myself together with the faculty - the pre-proposal for the establishment of the School of Population and Public Health. Of note, our progress towards a school has resulted in greater reputation as evidenced by the US News and World Report Ranking of 31 among all Schools and Programs of Public Health. Note this is a 10-point increase from last year. Furthermore, the UC is the Number 1 University for Public Health in the world and UCI becoming a School of Public Health will contribute to that strength.

Public Health faculty have joined together to collaborate on the revisions and responses to the comments received from Academic Senate after the most recent submission of this pre-proposal. Our faculty council Chair and Vice Chair have spearheaded the process of faculty engagement, along with the Dean’s leadership team, to ensure there has been transparency, cohesiveness, and clarity regarding the direction of the future school, including policies, processes, student growth, program development, faculty recruitment and growth, and budget. I am excited by and will continue to support this faculty driven process, providing insight and council, and have remained part of the conversation not only as the Director and Founding Dean, but also a faculty member in the program.

It is important to note that since the last submission, there have been many changes in the program. Philanthropically, a few highlights include a $14 million donation for seven endowed chairs by the Irvine Health Foundation, the creation of a Dean’s Community Advisory Board, and most recently a fellowship for $100K by Erin Samueli to support doctoral student research on health equity that will be awarded to underrepresented students. Public Health has welcomed four faculty members since October 2021 and will welcome an additional three faculty members in the next six months. Our student recruitment for the fall 2023 remains on target based on our enrollment plans, keeping a steady state of 90 PhD students, and growing our MPH program toward 150 enrolled students in the next three-years.

The final pre-proposal incorporates those suggestions and carries that spirit of public health and the unified enthusiasm we have for the future school.

Following is the final faculty vote for the submission for the pre-proposal for the establishment of the School of Population and Public Health.
I support the submission of this pre-proposal | 37
I do not support the submission of this pre-proposal | 1
Abstain | 1
Did not vote | 0

It is without hesitation that I endorse the pre-proposal for the establishment of the School of Population and Public Health.

Best wishes,

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean, Program in Public Health
Professor, Department of Health, Society and Behavior
Professor, Department of Neurology, School of Medicine
Susan and Henry Samueli College of Health Sciences
University of California, Irvine
March 28, 2022

Dear Dean Boden-Albala-

We send this letter to report on the result and process of the faculty vote on the School of Population and Public Health (SPPH) Pre-preproposal.

_Voting Procedures_
We followed the current faculty by-laws to identify eligible voting faculty. According to by-laws these included all Academic Senate Member faculty with salaried appointments in Public Health. This includes a total of 39 voting faculty. On Wednesday March 23, 2022 the finalized, revised pre-proposal document was sent to program faculty and on the same day we opened the vote. We used the Qualtrics online survey platform to conduct the vote which allowed for faculty to vote 100% anonymously while ensuring each faculty member only submits a single vote. We also provided opportunity for all voters to submit written comments. The vote was comprised of a single item, “Please vote below on the submission of the SPPH Pre-proposal”. The vote was closed at 11:59pm on Friday March 25, 2022.

_Voting Result_
Notably, 39 of the 39 eligible faculty entered a vote on time. Thirty-seven of these voted in support of submission of the SPPH Pre-proposal (~95% of voting faculty), one faculty did not support submission of the SPPH Pre-proposal (~2.5% of voting faculty), and one faculty member abstained (~2.5% of voting faculty).

We believe this vote was conducted fairly and without bias. We respectfully submit this result that shows a substantial majority of faculty support continuation of the proposal and development of a new School of Population and Public Health at UCI. In addition, we attach a verbatim detail of the anonymous written comments received from faculty.

Sincerely,

Rufus Edwards, Ph.D.
Professor
Faculty Chair

Michael A. Hoyt, Ph.D.
Associate Professor
Faculty Vice Chair
ANONYMOUS FACULTY COMMENTS:

37 – Support the submission of the SPPH Pre-proposal
1 – Do NOT support the submission of the SPPH Pre-proposal
1 – Abstain

- UCI and the UC system needs this School of Population and Public Health. The proposal is both sound and ambitious, and I am thrilled to be included in it and part of this school. Fiat lux.

- I am a formerly “no” vote now voting in support of this preproposal. The elected faculty leaders have done a fantastic job of guiding this revision as a faculty-led effort. All of the problems and difficulties are not necessarily resolved – some will require long term cycles of change. However, continued work on faculty equity, giving faculty voice in leadership and the directions of the school, fixing the problems with administrative mismanagement of grant submissions and systems, and supporting the faculty research mission will be an avenue to positive outcome. I support this much improved proposal and the establishment of the school.

- I enthusiastically support this proposal.

- I am fully supportive of the creation of this innovative, interdisciplinary new School of Public Health. The transparency and communication involved in crafting the final pre-proposal document and addressing equity in the program were well-managed and appreciated.

- This is long overdue. We have worked very hard and made huge strides towards a school of Public Health. I came from a top ranked institution to be part of this great effort. We need to move this forward - we have excellent faculty, the best students, wonderful staff and first rate administration. what are we waiting for? It’s time to be a top ranked SCHOOL of Public Health!!!

- We have been working really hard toward the school status. Now it is the perfect time for it to happen - SPPH!

- I believe the School will expand research at UCI.

- This is a critically important next step for public health at UCI.

- This proposal represents an important step forward in becoming a School and I fully support its submission. The faculty leaders and administration have worked hard to address equity concerns and hear faculty voices. As with any academic body, there are issues we must address, but this will take time and we now have robust procedures and processes to do so.

- I enthusiastically support the school. We have faculty new and existing that came to UCI to build a new school and have worked together on this proposal. The majority of the PPH faculty support this proposal for a school. Our Yes votes are just as important as the handful of No votes. It is unfair to the majority of our faculty to not allow the divisional senate assembly to consider the proposal and vote.
• The formation of a School of PPH is something that many of the faculty, myself included, have been working towards for many years. A clear majority of the faculty support the proposal and the establishment of a SPPH at UCI.

• Thanks to the faculty council chairs for your leadership to maximize faculty involvement in this version of the pre-proposal. I feel much more confident that we can support everyone’s successes as a school.

• I am honored to support the formation of this new school. We have very strong and collaborative research and training programs. The faculty are ready, willing, and able to leverage these foundations to establish a distinguished School of Population and Public Health.

• Transforming to PPH to a school will serve to enhance the University of California as the preeminent public university addressing public health globally. In addition, the current national ranking of the PPH is #31, a 10 point increase while not yet even a school, which demonstrates the significant promise to develop into a renowned school of public health nationally. The national ranking also demonstrates that the program is higher ranked than many already existing schools across campus. The current version of the proposal engaged the faculty at every opportunity and demonstrated strong and effective shared governance within the program.

• I am voting for the pre-proposal to become a school, because it is a logical next step for us. I believe that the Dean has done an excellent job in communicating the process, in allowing departments to act with relative autonomy, and in being generally supportive of the will of faculty members (within reason). This has not been an easy process, in part because some faculty members feel that they should have been leading this effort instead of the current Dean. I must also point out a serious inequity that has been built into the process – seemingly out of the Dean’s control. Some of our faculty have historically had 11 month contracts whereas the majority of us have had 9 month contracts. We were all told that we would have a choice to move to either a 9 or 11 month contract as part of the school building process. Unfortunately, that choice was only provided to a select few, all in one specific department. The logic that we have been provided is that there needs to be consistency within departments. Unless the goal was to create separate departments that are not part of a unified whole, this is not a logical solution as it builds a tier system whereby faculty in one department are better compensated than faculty in all other departments. Furthermore, we have been told that those who benefited from this change will be required to increase their labor efforts (for example, carry a heavier teaching load), but those same individuals who have benefited from this inequity are also the ones who decide whether or not their labor efforts are commensurate with their increased compensation. I do not necessarily blame my colleagues for doing things that personally benefit themselves as individuals, or for doing things that benefit their department, but I fail to see how this is conducive to us coming together as a school and I, and many of my colleagues, are resentful. We deserve to be fairly compensated too. Compare our research, teaching, and service outputs and you will see that this difference in compensation is unrelated to meritorious output. What would make sense would have been for faculty who were hired on 11 month contracts to retain their 11 month contracts, and for those of us who were hired on 9 month contracts to all remain on 9 month contracts. By allowing one department to switch all department members to 11 month contracts we have created a tiered system of faculty. Those lucky few who are now on 11 month contracts will have summer pay for life, something that the rest of us must work hard for each year. (I realize that a 11 month contract would pay slightly less across a year than a 9 month contract with full summer pay – but that difference is quite negligible, and the difference would more than pay for itself if that faculty member missed a single year of summer pay across their career). They will also have much better retirement savings, since faculty
on 9 month contracts who are fortunate enough to earn summer pay do not accrue retirement savings from that summer pay. The majority of us accrue retirement savings from 9 months regardless of our extra grant income, whereas those on 11 month contracts accrue retirement savings from each of those 11 months. There is no logical reason that some faculty were blessed with this major boost to their compensation. Unfortunately, members of this special department likewise hold important places in the Dean’s Office (as Associate Deans) and so this inequity is not only baked into the foundation of our school, those who’ve benefited most from it are in the most powerful positions as well. Finally, not only is this inequitable shift in compensation unfair to existing faculty, it will impact future faculty recruitment. Why would a good prospective faculty member want to be hired into a department with lower compensation when they could instead be hired into the department where you automatically have summer pay every year and your retirement will be much better? The answer is that if they are good at what they do, they won’t. They will either go to the department with better compensation, or to a school at another university where they will be better compensated and likely won’t have to be hired in as part of the lower class in a tiered faculty system. In short, I believe that our university has set us up for failure when it comes to becoming a unified and cohesive school. I truly hope that administrative powers are listening, and will do something to right this wrong. We (at least ¾ of us) deserve better.

- Lines 1714-1718: To avoid confusion, Ph.D. degrees are not the same as Ph.D. concentrations. The Program in Public Health offers four Ph.D. degrees, but at least one of them, Ph.D. in Public Health has two concentrations, with two co-directors. Therefore, the minimum number of current Ph.D. directors is five. - Appendix-S (and Lines 1722 – 1747): There is still some confusion about current administrative structure and projection of future organization chart for the School. For example, on December 23, 2019, a zot mail announcement was sent to all UCI employees to inform the campus of the expansion of the leadership team, including appointments to the new position of “Associate Director of Faculty Affairs” and “Associate Director of Academic Affairs”. There is some confusion among faculty if those appointed to those positions are still active, or if they have been replaced, and there have been some noticeable gaps in function and access to information about the Program. In Appendix-S, a separate Director of Academic Program Development is included, but it is not clear how this role is different from that of the “Associate Dean/Director of Academic Affairs”. There are no coordination lines drawn between these two positions. It also important to note that there is currently no clear identity for faculty overseer for the Accreditation process by the Council on Education for Public Health, or the Western Association of Schools and Colleges (WASC). In Appendix-C, separate “Director of Accreditation” is included with no direct or dotted line to the academic and professional program directors. The top box in the chart presented in appendix-C is the Dean of SPPH. Therefore the chart should be revised to reflect that subordinate positions are identified as “Associate Dean” nor “Associate Dean/Director”. Clarifying these roles and responsibilities and filling these positions now (not after the school is approved and established) is very important for data collection, monitoring, and evaluation, for upcoming self-studies for reviews to at least maintain current accreditation status. For the purposes of the current process of reviewing the School, proposal, clarifying these faculty administrative roles is necessary to make a compelling case for shared governance, and to ensure that external reviewers who may be affiliated with existing accredited Schools and Programs within the UC System (Berkeley, Los Angeles, Davis, and soon, San Diego) do not question the proposed organization chart and administrative structure. - Table-3 (Line 2250): The information presented in this Table confuses tracks within the MPH degree with department units. This error was pointed out in the previous version of the proposal and should be corrected. In fact, the MPH track in Epidemiology is distinct from the MPH track in Biostatistics. There is no MPH track in Population Health and Disease Prevention. Students in the dual degree programs (MD-MPH and JD-MPH) can in fact select any of the existing four tracks within the MPH degree. It is very important to
correct this Table before the proposal leaves UC Irvine campus! - Line 2835 (and Line 231): Much has changed since 2019 in terms of health workforce needs assessments. The change may or may not support the projections about the areas of emphasis of the proposed School. It is important to cite the latest update from the California Future Health Workforce Commission (See: https://futurehealthworkforce.org/2022/01/20/january-2022-update-on-health-workforce-progress/). There is an increasing need to train versatile researchers who can address complex population and public health challenges through relevant methods from various sub-disciplines of traditional public health in multidisciplinary teams. This is the new paradigm shift that should be more compellingly articulated in the vision for a new school which could be positioned to transcend the rigid structures of California’s and the country’s Schools of Public Health which were established more than 50 years ago. - Line 2957: Questions still remain about the proposal to develop a 4+1 BA-BS/MPH within the framework of increasing enrollment in the MPH degree program. The proposal notes the plan to enroll the top 10% of undergraduate students (which, based on current undergraduate enrollment size of 1,300 students, means 130 students per year). This means that most students in the future MPH program will be overwhelmingly UCI alumni of our undergraduate degrees. Note that in Table 3, the enrollment project for MPH by 2025-2026 is 150 students. It is also not clear what criteria the 10% selection will use? Grade Point Average? This is particular important because it seems the Program faculty seems to be moving toward abolishing the GRE. For a counter argument for maintaining rigor in the admission process and quality of students, see: https://www.nytimes.com/2022/03/15/opinion/test-optional-admissions.html. - Lines 2980 – 2995: It is prudent to acknowledge here that including UCI, there are 4 accredited Schools and Programs of Public Health in the UC System. UC San Diego is currently seeking accreditation for their innovative MPH program, which includes a concentration in “Technology & Precision Health” (See: https://ph.ucsd.edu/mph/). UC Davis has a long-standing CEPH-accredited MPH program and may still have ambitions of becoming an independent School of Public Health sciences. In that regard, it is even more important for UCI to differentiate our vision with the newer and relatively similar School and Department at UCSD and UCD, respectively, while acknowledging the more entrenched Schools at Berkeley and UCLA. - These are constructive comments, concerns, and suggestions to ensure that this School proposal advances a compelling foundation of excellence.

- I am appreciative of the great lengths that went into putting together this proposal for the SPPH, taking into account all of the feedback of faculty members. I support submitting this proposal.

- I strongly support the submission of the SPPH proposal!!! we have been waiting for this moment for so long.

- In years of attending department faculty meetings and program-wide school planning meetings, I have never heard anyone make the case that we shouldn't transition to a school now. So it's hard for me to understand the small number of "no" votes, particularly since the anonymous comments in opposition are largely centered on issues of faculty appointments and compensation that are not under our control. We're all aware that a few of our colleagues have consistently refused to attend these meetings or to engage in the proposal development process, and resent anyone asking them to do so, but I'm mystified by the Cabinet's decision to amplify those voices and block our proposal, in the face of overwhelming support from the vast majority of our faculty. We have worked tirelessly for nearly two decades to build a highly ranked program with strong academic and professional degree programs. Now that we are finally in a position to move forward and become a long-promised school with full administrative support, I'm deeply disappointed that the Senate Cabinet appears to want to halt our efforts and disband the faculty to return to the other top institutions from which we were recruited. I urge the Cabinet instead to read fully and
evaluate this school proposal with an open mind, and to consider its merits, the benefits to UCI and to the state, and the overwhelming majority support of our faculty. We came here to build a school.

- I would like to express my full support for submitting this proposal and advancing the process of establishing a School of Population and Public Health here at UCI. The Program in Public Health is ready to transition to School status. This transition is important not just for Public Health but for UCI as an academic institution and for the University of California system. While there are doubtless many issues faculty members will need to continue discussing and debating in the years ahead – this is true of all academic units and all academic institutions – we will be in a better position to address and resolve these issues as engaged participations in an expanding and developing School of Population and Public Health. We will also bolster our capacity to recruit and retain faculty members, students, and administrators if we transition to School status. I look forward to working in such a School and I would like to express my appreciation for all the time, effort, and thought faculty members, senior administrators, and staff members have put into the process of revising the proposal for the establishment of the School of Population and Public Health. I would also like to thank the many individuals and committee members who provided feedback in response to earlier versions of the proposal. We have a compelling, detailed, and convincing proposal thanks in part to these review processes and the constructive discussions they prompted.

- The written proposal seems fine to me, and has been prepared with significant faculty input, which is good. I hope the school will be successful. Things in the emerging school, however, could be quite a bit better than they are (including climate).
April 11, 2022

To: Jisoo Kim, Executive Director, Academic Senate

From: The Faculty, Program in Public Health

Re: Summary of Revisions

Thank you again for the opportunity to submit these revised materials. Revisions made to the pre-proposal since the last review by the Senate Councils were guided, in large, by two factors: 1) responsiveness to comments, questions, and suggestions by the Council reviews; and 2) responsiveness to comments and concerns raised by Public Health faculty. As we have described within the various response memos to the Councils, the revision process was very much a faculty-led process done in concert and collaboration with Dean Boden-Albala and the public health administrative team. This initially involved gathering faculty perspectives through structured and unstructured listening and discussion sessions.

Below is a brief summary of the substantive changes made to the package of pre-proposal materials. We also highlight that the proposal text and appendices were streamlined and edited to remain consistent with all of the items detailed below and to best reflect current and intended policies and plans. We point to the detailed memo’s submitted to each of the four Senate Councils requesting response (i.e., CPB, CORCL, CAP, CEI) for a more complete description.

- **Curriculum and Management of Student Affairs:** There were no substantive changes to the undergraduate programs’ or graduate programs’ curriculum. There were also no substantive changes made to the management structure of student affairs.

- **Research Mission:** The document has been revised throughout for content and presentation to reflect our strong and central focus on research. Our central focus on public health research is not a change in focus, but the feedback from the previous review suggested an opportunity to better emphasize this focus.

- **Faculty Vote:** Many of the Council inquiries were in regard to the faculty vote in the last revision. Although this is not a matter for the proposal document, we have addressed this in the response memos. This included a point-by-point response to the faculty comments that accompanied that vote. The revised proposal was heavily informed by these comments in conjunction with faculty commentary that was generated from various forums including departmental faculty meetings, Faculty Council discussion, the...
listening sessions focused on equity that occurred in each department, several full-
program faculty meetings, and via an anonymous electronic comment submission
portal. Given the new faculty vote and associated comments, we believe that generally
faculty feel heard and represented in the revised proposal.

- **Shared Governance**: We have greatly enhanced the description of our shared
governance structures within the program of public health (not repeated here). We
emphasize that since the last revision, we have worked hard to also strengthen our
systems of shared governance. This has included (but is not limited to) working very
closely with Dean Boden-Albala to address faculty-centered concerns, promote faculty
success, and foster open and transparent communication.

- **Equity and Inclusion**: We have made modification to our presentation of equity and
inclusion. These are largely outlined in the response memo to CEI. These have included
updating information about current faculty, updating the Diversity and Inclusion Plan
with increased faculty input, and clarification about our participation in the Black
Thriving Initiative.

- **Faculty Workload**: We have now included updated faculty workload policies from each
of the four departmental units. We have also removed the school-wide workload
guidelines. We believe these changes have greatly reduced confusion, but more
importantly, the new guidelines have greatly enhanced equity in workload across
departments.

- **Faculty By-Laws**: Ratified by faculty vote, some changes were made to the faculty by-
laws, including clarification of voting eligibility and committee membership. However,
the most substantive change was the addition of a standing committee on Research.

- **New Academic Programs**: We have largely removed any detailed description of
potential future academic programs. Any future programs are only in the nascent stages
of faculty and administrative discussion.

- **Organizational Charts**: We have streamlined and updated the proposed organizational
chart.

- **Integration with the Campus**: We enhanced our presentation of relationships and
activities across campus and between UC campuses throughout the document. The
public health faculty and the public health academic programs are already well-
integrated into the landscape and fabric of UCI. This has included long-standing
collaborations and affiliations across the campus, participation in leadership with the
UCI Senate as well as the College of Health Sciences, numerous collaborative research grants, cross-school academic appointments, among many other examples.

- **Faculty Growth**: We have updated the faculty hiring plan. There was concern about the potential for taxing faculty resources to conduct the planned searches. The updated information will show that many of the planned searches have actually already been successfully completed. We believe this will ease any concern in this regard.

We hope this information will be helpful in your continued review and look forward to the outcome of your discussions.
April 28, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE, IRVINE DIVISION

RE: Revised Pre-Proposal to Establish a School of Population and Public Health

At its April 14, 2022 meeting, Graduate Council reviewed the revised pre-proposal for the establishment of the School of Population and Public Health (SPPH) in the Susan and Henry Samueli College of Health Sciences (SHSCOHS).

Twice previously in May 2021 and October 2021, Graduate Council voted unanimously to support the original pre-proposal. The Council felt that the present version of the pre-proposal was stronger than the previous versions and voted unanimously to reaffirm its support of the pre-proposal.

On behalf of the Graduate Council,

Arvind Rajaraman, Chair

c: Jisoo Kim, Executive Director, Academic Senate
Gina Anzivino, Associate Director, Academic Senate
Thao Nguyen, Graduate Council Analyst
May 9, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE, IRVINE DIVISION

RE: Diversity Plan for the School of Population and Public Health (Second Revision)

The Council on Equity and Inclusion discussed the revised diversity plan for the proposed School of Population and Public Health at its meeting on May 2, 2022.

Members were pleased to learn that faculty took a much more active role in revising the entire pre-proposal, and in revising the diversity plan specifically. They understand the school has developed processes to better facilitate shared governance since the previous iteration of the pre-proposal. While the council does not expect to review another version of the pre-proposal, it nevertheless provided feedback that may help the school fine-tune its plan prior to submission of the full proposal.

One member acknowledged the role students play in addressing diversity, equity, and inclusion (DEI) issues in their department, and suggested the school should engage students in developing its priorities in this area. The council understands the school’s faculty council includes one student representative, and notes that additional student representation may be appropriate. Members also suggested that the school might consider including staff and non-Senate faculty in its decision-making processes, as well.

Some members noted that the revised plan continues to lack specificity in some areas. For instance, they would like to understand what mechanism the school would use to gather feedback from stakeholders to ensure it is meeting its DEI goals. As another example, the plan briefly mentions the “empowering students for success in public health” program, but includes no information about what this program provides in terms of resources, mentorship, etc. In general, the council welcomes specifics whenever possible.

Finally, members appreciated that school leadership including department chairs came together in support of the school’s diversity plan, and recommended that a process be in place to ensure that this commitment to keeping DEI issues at the forefront is passed along when there are leadership changes.

The Council on Equity and Inclusion appreciates the opportunity to comment.

Sincerely,

Jane Stoever, Chair
Council on Equity and Inclusion

Cc: Georg Striedter, Chair Elect-Secretary
    Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director & CEI Analyst
May 9, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE — IRVINE DIVISION

RE: Revised Pre-Proposal to Establish the School of Population and Public Health

The Council on Educational Policy reviewed the revised pre-proposal to establish the School of Population and Public Health at its meeting on May 5, 2022.

As the previous version of the revised pre-proposal adequately addressed the concerns of CEP and there are no changes in curriculum or courses, the Council has endorsed the revised pre-proposal.

Sincerely,

Melanie Cocco, Chair
Council on Educational Policy

Cc: Jisoo Kim, Executive Director
Gina Anzivino, Associate Director
Malcolm Bourne, Senate Analyst
JOANNA HO
CHAIR, ACADEMIC SENATE, IRVINE DIVISION

RE: Revised Pre-Proposal to Establish a School of Population and Public Health

At its meetings on April 14 and May 5, 2022 the Council on Academic Personnel (CAP) discussed the most recent Revised Pre-Proposal to Establish a School of Population and Public Health and appreciates the opportunity to comment.

CAP found that much of the concerns originally identified had been thoroughly addressed in this more recent pre-proposal:

- The graduate mission of SPPH was re-addressed.
- The negative faculty votes and comments were addressed as the faculty council conducted a faculty discussion with the school’s equity advisor.
- The PhD program addressed the shared governance structures highlighted in an earlier faculty survey, along with clarifying that the PhD program will sit within the departments and not at the Program (School, central) level.
- Addressed the collaborations with COHS and JWOS, research centers in SOM.
- Class course teaching requirement was addressed per 9-month vs 11-month term faculty.
- Types of faculty along with responsibilities were addressed in a new table.
- Accreditation of MS/PhD degree programs were addressed, as both will be accredited with all other degree programs in the next review cycle.
- Each departmental teaching policy was clearly documented. Appendix V included the research and scholarship guidelines for the Professor of Teaching series.

CAP did identify a few questions that should be considered more fully in a final proposal, but they do not represent any major concerns that should derail the pre-proposal from progressing:

- The Dean is enthusiastic to reduce senate faculty teaching load to two courses, but how will that be realistically achieved? Will that be accomplished with increased Professor of Teaching series hiring or another method?
• Regarding the types of faculty chart, the “responsibility” row would benefit from further clarification:
  o The main role of Professor series would be research scholar and educator while Professor of Teaching series focus primarily on teaching with some scholarship.
  o Clinical X is part of the senate members, as described in APM 275.
  o HS Clinical’s main role is clinical educator, but may include collaborating in clinical trials, as described in APM 278 and summarized in the document entitled “Criteria of academic series in the UC Irvine Health Sciences.”
  o In-Residence should be further clarified and differentiated.
  o Adjunct Professor should be further clarified and differentiated.

Sincerely,

Lisa Naugle, Chair
on behalf of the CAP membership

Cc: Georg Striedter, Chair Elect-Secretary
    Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director
    Casey Lough, CAP Analyst
May 12, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE, IRVINE DIVISION

RE: Revised Pre-Proposal for School in Population & Public Health

At its April 13, 2022 meeting the Council on Planning and Budget (CPB) discussed the revised pre-proposal for a School in Population & Public Health (SPPH).

The Council thanks the proposers for their responsiveness to its comments. Members expressed that the revisions satisfactorily addressed all CPB concerns.

The Council voted (7 in favor, 0 opposed, 2 abstained) to endorse the pre-proposal to establish the School of Population and Public Health.

The Council appreciates the opportunity to comment.

On behalf of the Council,

Alyssa Brewer, Chair

CC: Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director
    Michelle Chen, CPB Analyst
May 13, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE, IRVINE DIVISION

RE: Revised Pre-Proposal to Establish the School of Population and Public Health (SPPH)

At its meeting on April 21, 2022, the Council on Research, Computing, and Libraries (CORCL) discussed the revised pre-proposal to establish the UCI School of Population and Public Health (SPPH).

The Council found the revised pre-proposal to be well-considered. The revisions satisfactorily address all the Council’s previous concerns.

The Council unanimously voted to endorse the pre-proposal to establish the School of Population and Public Health.

On behalf of the Council,

Michele Guindani, Chair

c: Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director
    Michelle Chen, CORCL Analyst
REQUEST FOR REVIEW BY CRJ

The proposal must adhere to the following specifications.
Failure to do so will result in the return of the proposal and a delay in the review process.

Please send electronic copies to Gina Anzivino (ganzivin@uci.edu), Associate Director of Academic Senate, until otherwise notified, who will ensure that the proposal meets CRJ guidelines and is ready to be forwarded to the Chair of the Committee on Rules and Jurisdiction.

Main Contact Information

Name: Thao Nguyen  Phone: Click here to enter text.  Email: thao.nguyen@uci.edu

Title/Capacity: Grad Council Analyst  Date: 4/26/2022

The Proposal

☐ Title: Proposed Modifications to … or (if new) Proposed Bylaws for the…
Proposed modifications to Bylaw 100. Graduate Council

☐ Statement of rationale: Briefly explain why the proposed modifications are necessary to the existing legislation or organizational practice. Please include information on when the executive committee or governing body approved these modifications.
At the request of Senate Chair Ho and in response to WASC accreditation requirements, Graduate Council considered assessing learning outcomes for graduate programs and courses. The Council considered bylaws from CEP and other UC Graduate Councils. At its February 10, 2022 meeting, the Council voted unanimously to approve the following addition to its bylaw:

Periodically review and evaluate all graduate programs of study in coordination with the Council on Educational Policy and the Academic Program Review Board, as appropriate.

☐ Proposed Language (bylaws): Attached.
Document format should be in Microsoft Word (Letter size with 1” margins), Arial Font, Size 12 (please do not change font size within the document). If this a proposal for new bylaws, just include the original copy. Please submit all documents in Microsoft Word and not as a PDF.

Please attach two copies:

- One markup copy, indicating deletions by strikeout type and additions by underscore type.

- One clean copy with the proposed modifications already in place (no mark ups).

SECTION BELOW IS FOR SENATE USE ONLY

Received by CRJ:  CRJ review:  Forward to Senate Chair:
Cabinet review:  Assembly review:  Effective date:
Manual upload date:  DMS 465 - Item 2-2
Bylaw 100. Graduate Council

(Am 6 Jun 96) (Am 12 Oct 00) (Am 5 Jun 03) (Am 8 Apr 04) (Am 30 May 06) (CC 12 Feb 07) (Am 7 Jun 07) (Am 3 Dec 09) (Am 2 Jun 16)

A. Membership
1. The Graduate Council shall consist of one member from each of the Faculties of the Division (as defined by Irvine Bylaw 40).
   a. The Dean of the Graduate Division, the Chair of the Academic Program Review Board, and the Chair of the Subcommittee on International Education shall serve as ex officio non-voting members.

2. The Council Officers include the Chair, Vice Chair and a Representative to the Coordinating Committee on Graduate Affairs (CCGA).
   a. The Divisional representative to CCGA may also hold the position of Chair or Vice Chair.

B. Duties
1. Assume the responsibilities enumerated in Senate Bylaw 330.

2. Report and make recommendations to the Divisional Senate Assembly & Senate Cabinet on rules and regulations governing graduate education, graduate work and bylaws.

3. Advise the Chancellor on all matters relating to graduate education, policies, and work on the Irvine campus.

4. Monitor and ensure quality and diversity in graduate programs. If the Council determines that a graduate program does not have the quality required of a UC education then the Council may suspend admissions to that program, until further notice. Any review or further vetting will be in accordance with the most current Systemwide guidelines set forth by the Coordinating Committee on Graduate Affairs (CCGA).

5. Recommend the award of graduate student support. This includes, but is not limited to, block grant and graduate fellowships.

6. Set standards and campus policies for graduate student employee positions.

7. Set standards and campus policies for the conferral of graduate degrees. This includes, but is not limited to, rules and regulations of doctoral dissertation committees and advancement to candidacy.

8. Approve the awarding of graduate degrees for Master's and Doctoral candidates.
9. Review and approve all graduate courses.

10. Periodically review and evaluate all graduate programs of study in coordination with the Council on Educational Policy and the Academic Program Review Board, as appropriate.

C. Subcommittees

1. Academic Program Review Board (APRB)
   a. APRB is a standing board of the Council on Educational Policy and Graduate Council.

   b. Membership
      The Academic Program Review Board shall consist of two members from the Council on Educational Policy (CEP) appointed by the Chair of CEP, two members from the Graduate Council appointed by the Chair of Graduate Council, and one Division member who will serve as Chair. The Chair shall be appointed for a three-year term by the Committee on Committees, and is required to have prior experience on either the CEP or the Graduate Council, with strong preference given to Division members with prior experience conducting program reviews.

   c. Duties
      The APRB coordinates the academic program reviews for the University, as Delegated by the Regents of the University of California. The focus of every School's review is on evaluating the quality of UCI's undergraduate and graduate education. APRB coordinates these reviews in accordance with the document, Review of the Academic Review Process at UC Irvine.

2. Subcommittee for International Education (SCIE)
   a. Membership
      The subcommittee shall consist of one Division member from each Faculty offering an undergraduate and graduate degree to be appointed by the Committee on Committees. The Chair of the subcommittee shall be elected from this group of faculty. The subcommittee shall also consist of two faculty members from the Council on Educational Policy appointed by the Council chair and two faculty members from Graduate Council appointed by the Council chair. Ex Officio members shall be the Faculty Director of the Center for International Education, the Dean of Undergraduate Education and the Dean of Graduate Division. The Deans may designate the Associate Deans to represent them on the subcommittee.

   b. Duties
      Provide academic policy oversight on all matters concerned with the University of California's Education Abroad Program (EAP), UCI's International Opportunities Program (IOP), other formal educational
activities of UCI students abroad, and faculty exchanges between UCI and foreign universities. The subcommittee shall report to its parent councils and maintain liaison with the University Committee on International Education.

3. The Subcommittee for Graduate Courses and Program Modifications
   a. Membership
   The Subcommittee for Graduate Courses and Program Modifications shall consist of four voting members from the Graduate Council selected by the Graduate Council Chair.

   b. Duties
   The Subcommittee for Graduate Courses and Program Modifications is responsible for reviewing all course modifications and new course proposals through the online Course Inventory Management (CIM) system administered by the Registrar. Subcommittee members are also responsible for reviewing and vetting all program modification requests. This includes, but is not limited to, requests to modify program bylaws and degree requirements such as admission standards, core curriculum, time to degree, and graduation requirements. As such the subcommittee is expected to keep abreast of current Graduate Council policies of this nature.
Bylaw 100. Graduate Council
(Am 6 Jun 96) (Am 12 Oct 00) (Am 5 Jun 03) (Am 8 Apr 04) (Am 30 May 06) (CC 12 Feb 07) (Am 7 Jun 07) (Am 3 Dec 09) (Am 2 Jun 16)

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      a. The Divisional representative to CCGA may also hold the position of Chair or Vice Chair.

B. Duties
   1. Assume the responsibilities enumerated in Senate Bylaw 330.
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   3. Advise the Chancellor on all matters relating to graduate education, policies, and work on the Irvine campus.
   4. Monitor and ensure quality and diversity in graduate programs. If the Council determines that a graduate program does not have the quality required of a UC education then the Council may suspend admissions to that program, until further notice. Any review or further vetting will be in accordance with the most current Systemwide guidelines set forth by the Coordinating Committee on Graduate Affairs (CCGA).
   5. Recommend the award of graduate student support. This includes, but is not limited to, block grant and graduate fellowships.
   6. Set standards and campus policies for graduate student employee positions.
   7. Set standards and campus policies for the conferral of graduate degrees. This includes, but is not limited to, rules and regulations of doctoral dissertation committees and advancement to candidacy.
   8. Approve the awarding of graduate degrees for Master's and Doctoral candidates.
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May 6, 2022

Joanna Ho, Chair 
Academic Senate, Irvine Division

RE: Revisions to Senate Bylaw 100: Graduate Council

The Committee on Rules and Jurisdiction has reviewed the proposed revisions to Bylaw 100: Graduate Council. The Committee approves the proposed revisions as being within the Code of the Academic Senate.

The Committee appreciates the opportunity to comment. If you have any further questions, please do not hesitate to contact me.

Sincerely,

Knut Solna, Chair 
Committee on Rules and Jurisdiction

Cc: Georg Striedter, Chair Elect
    Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director
REQUEST FOR REVIEW BY CRJ

The proposal must adhere to the following specifications.
Failure to do so will result in the return of the proposal and a delay in the review process.

Please send electronic copies to Gina Anzivino will ensure that the proposal meets CRJ guidelines and is ready to be forwarded to the Chair of the Committee on Rules and Jurisdiction.

Main Contact Information

Name: Malcolm Bourne          Phone: (949) 824-6728          Email: bournem@uci.edu
Title/Capacity: Senate Analyst, CEP          Date: 5/10/2022

The Proposal

☐ Title: Proposed Modifications to… or (if new) Proposed Bylaws for the…
Proposed Amendment to Irvine Regulation A345.D: Course Repetition

☐ Statement of rationale: Briefly explain why the proposed modifications are necessary to the existing legislation or organizational practice. Please include information on when the executive committee or governing body approved these modifications.
The Subcommittee on Policy and Assessment voted to recommend that an amendment be added to the established course repetition conditions in Irvine Regulation A345.D. The current regulation does not include any information related to honors and or majors-only courses. In consultation with the Registrar, SCPA recommends that an amendment is necessary and will allow for honors and majors courses to be replaced by non-honors and non-majors courses, in the event that this should be needed. There are no changes to unit credit and grade point average computation for courses so repeated. Due to the current regulation, students who take honors and or majors-only courses and do not pass them, are required to take honors and or majors-only courses to replace them. For students who are no longer part of the campuswide honors program or have switched majors, this presents a difficult and challenging academic situation. CEP approved the proposed amendment at the May 5, 2022 meeting by a unanimous vote.

☐ Proposed Language (bylaws): Attached.
Document format should be in Microsoft Word (Letter size with 1” margins), Arial Font, Size 12 (please do not change font size within the document). If this a proposal for new bylaws, just include the original copy. Please submit all documents in Microsoft Word and not as a PDF.
Please attach two copies:

- One markup copy, indicating deletions by strikeout type and additions by underscore type.
- One clean copy with the proposed modifications already in place (no mark ups).
Irvine Regulation A345. Grading

Section D. Course Repetition (Undergraduate)

1. Conditions (Undergraduate)

Students may repeat only those courses in which they received a grade of C-, D+, D, D-, F, or NP. All courses which were originally taken for a letter grade must be repeated for a letter grade. Courses originally taken on a P/NP basis may be repeated for a P/NP or for a letter grade if the course is so offered.

In the case that an undergraduate student earns a C-, D+, D, D-, F, or NP in an honors course and/or majors-only course, the grade assigned may be replaced with the non-honors and/or non-major iteration of the course.
Irvine Regulation A345. Grading
Section D. Course Repetition (Undergraduate)

1. Conditions (Undergraduate)

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In the case that an undergraduate student earns a C-, D+, D, D-, F, or NP in an honors course and/or majors-only course, the grade assigned may be replaced with the non-honors and/or non-major iteration of the course.
May 10, 2022

JOANNA HO, CHAIR
ACADEMIC SENATE

RE: Proposed Amendment to Irvine Regulation A345.D. Course Repetition (Undergraduate)

The Subcommittee on Policy and Assessment voted to recommend that an amendment be added to the established course repetition conditions in Irvine Regulation A345.D. The current regulation does not include any information related to honors and or majors-only courses. In consultation with the Registrar, SCPA recommends that an amendment is necessary and will allow for honors and majors courses to be replaced by non-honors and non-majors courses, in the event that this should be needed. There are no changes to unit credit and grade point average computation for courses so repeated.

Due to the current regulation, students who take honors and or majors-only courses and do not pass them, are required to take honors and or majors-only courses to replace them. For students who are no longer part of the campuswide honors program or have switched majors, this presents a difficult and challenging academic situation.

CEP consulted with the Registrar and Vice Provost Dennin on the proposed amendment.

The proposed revision would add the following amendment to Irvine Regulation A345.D: Course Repetition (Undergraduate):

In the case that an undergraduate student earns a C-, D+, D-, F, or NP in an honors course and/or majors-only course, the grade assigned may be replaced with the non-honors and/or non-major iteration of the course.

CEP approved the proposed amendment at the May 5, 2022 meeting by a unanimous vote.

Sincerely,

Melanie Cocco, Chair
Council on Educational Policy

Cc: Jisoo Kim, Executive Director, Academic Senate
Gina Anzivino, Associate Director, Academic Senate
Malcolm Bourne, Senate Analyst, Academic Senate
May 13, 2022

Joanna Ho, Chair
Academic Senate, Irvine Division

RE: Amendment to Irvine Regulation A345.D. Course Repetition (Undergraduate)

On behalf of the Committee on Rules and Jurisdiction, I have reviewed the proposed amendment to Irvine Regulation A345.D. Course Repetition (Undergraduate). I approve the proposed amendment as being within the Code of the Academic Senate.

If you have any further questions, please do not hesitate to contact me.

Sincerely,

Knut Solna, Chair
Committee on Rules and Jurisdiction

Cc: Georg Striedter, Chair Elect
    Jisoo Kim, Executive Director
    Gina Anzivino, Associate Director
IN MEMORIAM

Masanobu Shinozuka
Professor Emeritus of Civil and Environmental Engineering
UC Irvine
December 23, 1930 – November 5, 2018

Shinozuka was a pioneer in development of the new fields of stochastic mechanics, structural safety and reliability, uncertainty quantification, and risk assessment and management methodologies. In particular, he introduced, established and promoted the use of Monte Carlo simulation techniques in engineering mechanics and civil engineering. Shinozuka also was a world-renowned expert in earthquake and wind engineering, and in the design of structures resistant to natural and human-induced disasters. He was elected to the National Academy of Engineering (NAE) in 1978 for his work in random vibrations and related applications to the safety and reliability of structures. He made innumerable additional contributions to many areas of civil engineering and engineering mechanics, including risk assessment of lifeline networks, socioeconomic impact of natural disasters, smart infrastructure systems, remote monitoring and control, and nondestructive evaluation of structural safety.

Shinozuka received his bachelor’s degree in 1953 and his master’s degree in 1955, both in civil engineering, from Kyoto University. He came to the U.S. and earned his doctorate in civil engineering and engineering mechanics at Columbia University, working under the direction of Alfred Freudenthal, who taught at the engineering school from 1949 to 1969. Shinozuka taught in the department for 30 years, from 1958 to 1988, and was eventually given the title of Renwick Professor. He then joined the faculty at Princeton University as Sollenberger Professor but left in 1995 to become the Fred Champion Professor of Civil Engineering at the University of Southern California.

Shinozuka came to UCI as a Distinguished Professor in 2001 and served two terms as chair of the Civil and Environmental Engineering Department. He was on the UCI faculty through 2013, then returned to Columbia and taught until 2016.
“Shino was always ahead of the pack with his research, pushing out into important new frontiers before they became mainstream,” said Brett Sanders, a professor of civil and environmental engineering who served as department chair following Shinozuka. “The department grew both in its size and stature under his leadership, and we are indebted to his many contributions.”

In addition to his election to the NAE, Shinozuka won many other honors and awards. In 2014, the American Society of Civil Engineers (ASCE) established a medal in recognition of his many contributions to the field. The Masanobu Shinozuka Medal honors an individual for outstanding research contributions in stochastic mechanics, reliability and risk and simulation. Other major awards include the 1978 Alfred Freudenthal Medal from ASCE’s Engineering Mechanics Institute (EMI) and the prestigious Theodore von Karman Medal from ASCE’s EMI in 1994. He also received the Egleston Award for Distinguished Engineering Achievement from Columbia in 2004.

Shinozuka served as director of NSF’s National Center for Earthquake Engineering Research, president of the International Association for Structural Safety and Reliability, and president of the Engineering Mechanics Division of ASCE. He was a fellow of the American Society of Mechanical Engineering, a foreign member of the Russian Academy of Natural Sciences, and a distinguished member of ASCE.

Sunny Jiang, Professor and Chair
Department of Civil and Environmental Engineering, UC Irvine
(on behalf of the Civil and Environmental Engineering faculty)

Lori Brandt, Communications Manager
Henry Samuele School of Engineering, UC Irvine
IN MEMORIAM

Gary Guymon
Professor Emeritus of Civil and Environmental Engineering
UC Irvine
November 5, 1935 – September 3, 2021

UC Irvine Professor Emeritus Gary Guymon died Sept. 3, 2021, at his home in
Montrose, Colorado, just two months before his 86th birthday. Guymon served on the
UCI engineering faculty for 20 years (1974-94), bringing an expertise in water resources
to the environmental engineering program and serving as the founding chair of the
Department of Civil Engineering (1984-88), the forerunner of today’s Department of
Civil and Environmental Engineering.

Guymon began his career as an engineer with the California Department of Water
Resources in 1955, a role he held for 11 years. He attended UC Davis where he earned a
bachelor's degree (1966), master's degree (1967) and doctorate (1970) in civil
engineering. He was an associate professor at the University of Alaska Fairbanks before
joining the UCI faculty.

Guymon’s research interests were in water resources, groundwater, hydrology,
mathematical modeling and uncertainty in hydrologic processes. Guymon was active in
developing finite-element models for use in water resources, developing regional models
of surface water and groundwater useful for management, and in research relevant to
infrastructure in the arctic such as freeze-thaw heat-transport modeling in areas of
permafrost. His textbook "Unsaturated Zone Hydrology" is well cited, and he developed
a coupled model of heat and moisture transport for arctic soils that stands out as one of
his most impactful research contributions, according to Brett Sanders, professor of civil
and environmental engineering and a former department chair.

“I was saddened to hear of Gary Guymon’s passing, and on behalf of our department,
express our sincere condolences to his family,” said Stephen Ritchie, CEE professor. “As
the CEE department chair, Gary actually hired me in 1985 and was always fully
supportive and generous of his time. His dedicated and visionary leadership as chair and
his scholarly achievements were instrumental in laying a strong foundation for CEE to
become one of the top departments in the country today. He had a kind heart, an at-
times mischievous sense of humor, and a love for UCI and the academic life.”

Guymon is survived by his wife, Lucinda Ann Kemmis, and two stepchildren: Nicholas
S. Moeller Jr. and wife Katrina of Bayfield, Colorado, and Christopher L. Moeller and
wife Melissa of Pagosa Springs, Colorado; his former wife, Rosa Della Guymon, and
their four children: Gary Jr. and wife Sandy of Salt Lake City, Utah; Richard Leland of
Salt Lake City; Michael Kevin and wife Nichole of Foothill Ranch, California; and Marisa
Elizabeth Vieira Guymon and husband Glenn of Blountville, Tennessee; and five
grandchildren: Abigail, Lester, Trinity Lynn, Jeri Ann and Kaci Mae.

Sunny Jiang, Professor and Chair
Department of Civil and Environmental Engineering, UC Irvine
(on behalf of the Civil and Environmental Engineering faculty)

Lori Brandt, Communications Manager
Henry Samueli School of Engineering, UC Irvine
IN MEMORIAM

Igor Ekhiel’evich Dzyaloshinskii
Professor Emeritus of Physics and Astronomy
UC Irvine
February 1, 1931 – July 14, 2021

Igor Ekhiel’evich Dzyaloshinskii, who made groundbreaking contributions that span the entire field of theoretical condensed matter physics, died on 14 July 2021 in Irvine, California. His name and scientific legacy have already been immortalized in the areas of magnetism, low-dimensional conductors, liquid crystals, and applications of methods of quantum field theory.

Igor was born on 1 February 1931 in Moscow. His father died in German captivity in 1942 during the World War II. As a schoolboy, Igor worked in the car repair shop for food stamps in the postwar city and was the first member in his family to attend a university. He graduated from Moscow State University in 1953.

At age 21, while still a student, after passing infamous “theoretical minimum” exams, he joined the “Landau school” (named after its intellectual leader, Lev Landau), an informal circle of some of the best theoretical physicists of that time. Igor received the Ph.D. degree in 1957 and the Doctor of Science (habilitation) degree in 1962, both from the Institute for Physical Problems, Moscow.

Already in one of his first publications, in 1957, as part of his PhD thesis work, Igor outlined a set of elegant symmetry arguments that explained the puzzling phenomenon of “weak ferromagnetism”—the occurrence of a small net magnetization in select magnets. Later, Toru Moriya identified the microscopic mechanism of such an effect, which is now known as the Dzyaloshinskii–Moriya interaction, present in most magnets.
With his remarkable insight, and as part of the same PhD thesis, Igor suggested a mechanism of the magnetoelcetric effect and predicted piezomagnetism: magnetization induced by stress and deformation caused by a magnetic field.

Those conceptual results are the cornerstones of the field of magnetism. The symmetry approach Igor pioneered early in his career has been widely used and has given rise to new directions. It is fair to say that the blossoming modern fields of spintronics,— which is concerned with electron spin and applications in electronic devices,—and of multiferroics—the study of materials with coexisting magnetism and ferroelectricity—both take their origin from the foundational works by Igor more than half a century after their publications.

Another long-lasting impact of Igor’s research from the same era was the application of the methods of quantum field theory. Igor, together with Lev Gor’kov and Alexei Abrikosov, helped to develop and popularize the temperature-diagram technique—a universal method in theoretical condensed-matter physics. A groundbreaking monograph, *Methods of Quantum Field Theory in Statistical Physics*, written while Igor was still in his late twenties, was published in Russian in 1962 and in English in 1963. An immediate bestseller, it became known simply as AGD, after the authors’ initials. Generations of theoretical physicists have been brought up on that masterpiece. Many owe their craft and the research directions that define their entire careers to the methods learned from the book.

It is impossible for us to express sufficient amazement at the fertility of that period of Igor’s life because it was also marked by his seminal contributions to the theories of van der Waals forces and 1D conductors. The following decades in Igor’s scientific trajectory were again marked by an impressive variety of studies: phase transitions, quantum crystals, spin glasses, topological defects, and liquid crystals.

In 1964, Igor became one of the founding members and indisputable intellectual leaders of the newly established Landau Institute for Theoretical Physics. Igor was also a professor at the Moscow Institute of Physics and Technology and at the Moscow State University (1972-1989) and has served the scientific community in his role of an editor of the flagship Soviet physics journals *Journal of Experimental and Theoretical Physics* and *JETP Letters*.

In 1991 Igor left the Soviet Union for the US and became a professor at the University of California, Irvine (UCI) in 1992, where he continued teaching and working well into his retirement. Almost symbolically, in his last publication, in 2014, Igor suggested a novel effect in magnetoelectrics—one of his lifelong interests—that was soon confirmed experimentally. Life coming full circle.

Among his academic honors, Igor has received Lomonosov Prize (1972), USSR State Prize (1984), and Landau Prize (1989). He was elected a Corresponding Member of the Russian Academy of Sciences (1974), a Member of the American Academy of Arts and Sciences (1991), a Fellow of the American Physical Society (1996), and a Fellow of the American Association for the Advancement of Science (2002).
A very private man, and a resident of the campus faculty housing since his arrival at UCI, Igor could be found hiking surrounding hills or walking his dog in the early hours of the morning.

Igor had a rare combination of brilliance, integrity, modesty, generosity, and erudition, both in physics and far beyond. He was approachable and enjoyed a good joke. His colleagues, friends, and former students miss his warm, if mischievous, smile.

Igor is survived by his wife Elena of 60 years, their daughter, three grandchildren, and two great-grandchildren.

Alexander Chernyshev, Professor
Department of Physics and Astronomy, UC Irvine

Alexei Maradudin, Professor Emeritus
Department of Physics and Astronomy, UC Irvine
Arnold Binder, professor emeritus of criminology, law and society and founder of the school’s social ecology program, died Oct. 2, 2021. He was 97.

“Professor Binder had such a profoundly positive influence on so many of us over so many years,” said Chancellor’s Professor Emeritus Daniel Stokols, former dean of the School of Social Ecology. “His legacy of academic innovation and community service is renowned and admired by colleagues around the world. I was fortunate to come from graduate school to UCI to join the interdisciplinary Program in Social Ecology that Professor Binder created, and to be able to work closely with him and our colleagues as this highly novel Program became a School on the Irvine Campus. Arnie will always be remembered for his innovative contributions to higher education and community-based research. He will be sorely missed.”

Binder, who earned his Ph.D. in psychology from Stanford University, joined the faculty at UCI in 1966. He previously was a professor of psychology at Indiana University and a professor of industrial engineering at New York University.

As the first director of the Social Ecology program, he oversaw its growth. It started with a B.A. in 1970. A master’s degree was added in 1973 and a Ph.D. in 1975. Binder founded the program “for the purpose of providing direct interaction between the intellectual life of the university and the recurring problems of the social and physical environment,” according to Stokols’ book “Social Ecology in the Digital Age.”
Even before the program was created, Binder outlined a roadmap for it, including a requirement that each undergraduate student participate in public service through a field study course.

Binder’s colleague William Schonfeld, research professor of political science and former dean of the School of Social Sciences, recalled Binder’s determination in creating the program in Social Ecology.

“Were it not for Arnie Binder, UCI would never have had Social Ecology,” Schonfeld said. “Helped at first only by an undergraduate student, John Monson, he made contact with a series of social agencies in Orange County and got them to agree to have UCI students as interns. Then, he spread the word on campus about this work study opportunity, which became a hallmark of Social Ecology and rapidly created enormous student demand for it. ... Binder hired a set of first-rate scholars including senior faculty like Gilbert Geis and freshly minted Ph.D.s including Dan Stokols and Ray Catalano. In turn, the foundation for what was to become the School of Social Ecology was set, and there was no turning back."

In 1972, Binder founded and initially led the Youth Service Program (later Community Service Programs and now Waymakers), an intervention project providing counseling, housing and other services for delinquent youth and their families.

In 1992, the UC Regents recognized Social Ecology as a school at UCI. Binder was named the first chair of Criminology, Law and Society. He also served as interim dean of the School of Social Ecology during the 1998-99 academic year.

Administrative roles aside, Binder is known for his work on juvenile delinquency. He wrote several books, including “Juvenile Delinquency: Historical, Cultural, Legal Perspectives.” He also researched hate crimes and the use of deadly force by police.

Binder, who was a Fulbright Scholar in Ireland during the 1974-75 academic year, was awarded nearly $2 million in grants over a 30-year period for his research. His other honors included being named “Headliner of the Year” by the Orange County Press Club in 1977, being the recipient of the Western Society of Criminology President’s Award in 1985 and the Governor’s Award for contributions in victimology in 1986.

Since 2003, the Criminology, Law and Society Department has awarded an annual $500 Arnie Binder scholarship to one or more doctoral students in recognition of outstanding service contributions. The award is funded by the sales of the book, “Contemporary Issues in Crime and Criminal Justice” (Prentice Hall, 2001).

“By founding the Social Ecology program, Arnie Binder created an intellectual space for bringing together diverse scholars to tackle society’s biggest challenges, decades before this was mainstream in academia. His great legacy lives on at UCI, as scholars in Social Ecology continue to work across disciplines on major social challenges to improve life conditions for those near and far,” said Social Ecology Interim Dean Mona Lynch.
Binder’s daughter Jen Capasso said UCI held a special place in her father’s heart. “We are so proud of the legacy he has left and the lives he positively impacted at UCI and through Waymakers. We hope that his memory and impact will continue into the future.”

She added that Binder loved travel, meals, and wine with his family. “We all miss him beyond words.”

Binder is survived by his wife of 51 years Virginia; children Andrea, Jeff and Jennifer; and grandchildren Julia, Clare, Elliott and Damien, a freshman at UCI.

No memorial services are planned, but notes may be sent to: Virginia Binder, 100 Timber Ridge Way NW, Unit 620, Issaquah, WA 98027. Donations in Binder’s honor may be made to Waymakers or Carry the Future, an organization Capasso leads that helps refugees.

Mona Lynch, Professor and Chair
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