UNIVERSITY of CALIFORNIA, BERKELEY

SCHOOL of PUBLIC HEALTH

DIVISION of

INFECTIOUS DISEASES and VACCINOLOGY

ORIENTATION BOOKLET

2022 - 2023

Dear Infectious Diseases and Vaccinology Incoming Class 2022,

On behalf of the faculty, students and staff of the Division of Infectious Diseases & Vaccinology (IDV) at UC Berkeley, we would like to welcome you **enthusiastically** to our program at UC Berkeley. This handbook is assembled as a resource guide for new students. Please read this in conjunction with the School of Public Health Student Handbook (available in the Berkeley Public Health website at sph.berkeley.edu/Student Resources) and the Resources and Services for Graduate Students at Graduate Division website at http://grad.berkeley.edu/students/

Much of the information in this guide can also be found in the School website under IDV program sections.

Our faculty and staff are here to support you and take pride in your academic success. Please feel free to contact us for assistance. Wishing you a very prosperous and rewarding year ahead!

Sincerely,

Lee Riley, MD

Professor of Epidemiology and Infectious Diseases

Chair, Division of Infectious Diseases and Vaccinology

School of Public Health

Table of Contents

IDV MPH Program Core Competencies

Students completing the MPH curriculum with a concentration in Infectious Diseases should be able to:

1. Apply the following frameworks of principles of infectious disease to describe each infectious disease: microbiology, epidemiology, clinical spectrum, immunology, pathogenesis, treatment, and prevention.

2. Describe the major viral, bacterial, fungal, and parasitological agents of infectious diseases of humans and the nonhuman animal sources of some of these infectious agents.

3. Discuss how infectious diseases impact non-communicable disease public health problems.

4. Describe how the social, behavioral, environmental, and administrative/policy components of public health affect infectious disease occurrence and distribution.

5. Discuss how infectious disease surveillance systems are used to detect, control, and prevent outbreaks, and how they are used to study modes of infectious disease transmission, predict trends, and monitor response to interventions.

6. Assess different epidemiological, statistical, or computational biological methodologies and assessment techniques to analyze infectious disease modes of transmission and risk factors.

7. Discuss the role of local, state, federal, and international public health agencies in the prevention and control of infectious diseases.

IDI PhD Program Core Competencies

Students completing the Infectious Diseases and Immunity PhD curriculum should be able to:

1. Describe viral, bacterial, fungal, and parasitological agents of infectious diseases of humans; explain biological, molecular, cellular and immunological mechanisms of infection and disease; and demonstrate advanced knowledge of molecular biology, microbiology, immunology, biochemistry and cell biology (Groups I and II Infectious Diseases and Immunology)

2. Understand various epidemiologic analytical study designs to address infectious disease occurrence and distributions in human populations (Group IV Epidemiology)

3. Increase our understanding of infectious diseases and immunology through basic and translational research that contributes to developing new diagnostics, treatments, and methods to prevent or control diseases (Groups I and II Infectious Diseases and Immunology)

4. Apply statistical methods appropriately to analyze laboratory and/or epidemiological data (Group III: Biostatistics and Group V Research)

5. Develop a research proposal that states a study question, presents a scientific and public health rationale for its significance and specifies a detailed methodology for carrying out the research project.
   (Group V Research; PH 293 IDI Doctoral Seminar, Qualifying Exam)

6. Organize, analyze and present scientific data in a lucid manner through oral communications. (Group V Research; PH 293 IDI Doctoral Seminar, PH 293 IDI Research Seminar; Dissertation Committee Meeting, Qualifying Exam; Annual Retreat)

7. Design, conduct, and publish original research in the area of infectious diseases and immunity. (Group V Research; Dissertation and publications)

Overview

The study of infectious diseases focuses on the interactions between infectious agents, their hosts, and the environment that may lead to disease in humans. Infectious Diseases and Vaccinology is a multidisciplinary program. The curriculum is designed to emphasize the biology and molecular biology of host-pathogen interactions; host immune response to infection associated with protection or pathology; the ecology, evolution, and transmission of infectious agents, methods of laboratory-based surveillance and the epidemiology of infectious diseases.

The mission of the Infectious Diseases and Vaccinology Program is to create opportunities for students to gain new and advanced knowledge about infectious disease agents and how they interact with host cells, human populations, and the environment. Students learn how to design and implement independent investigations using interdisciplinary approaches. The goal is to promote public health through better understanding of infectious diseases and human immunology based on interaction of basic and translational research that contributes to the development of new diagnostics, treatment, prevention, and control of human infectious diseases.

The Division of Infectious Diseases & Vaccinology offers two degrees:

- The professional two-year MPH degree in Infectious Diseases & Vaccinology; and
- The five year academic degree of the Infectious Diseases and Immunity PhD program (wet lab research)

IDV Office

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Faculty & Staff

Faculty

Peter Dailey, Ph.D., Assistant Adjunct Professor
5321-13 Berkeley Way West (By appointment)

Eva Harris, Ph.D., Professor of Infectious Diseases and
Molecular Biology, IDI PhD program Head, 500B
Li Ka Shing Center

Fenyong Liu, Ph.D., Professor of Virology
326 Barker Hall

Veronica Miller, Adjunct Professor.
5321-14 Berkeley Way West (By appointment)

Lee W. Riley, M.D., Professor and Division Chair of Infectious Diseases &
Vaccinology 500D Li Ka Shing Center
Sarah Stanley, Associate Professor, MCB & SPH
500C Li Ka Shing

John E.Swartzberg, M.D., Clinical Professor, Emeritus

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Ashley Wolf, Assistant Professor, SPH/CCB

81A Koshland Hall

Filipa Ferreira, Assistant Professor, SPH

51 Koshland Hall.

Affiliate Faculty

Jay Graham, PhD, MBA, MPH, Assistant Professor in Residence, Env. Health Sciences

Joseph Lewnard, PhD, Assistant Professor, Epidemiology

Lecturers: Amy Garlin, Stephen Popper

Visiting Professor: John Sninsky

IDV Staff

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Rise: Berkeley Public Health Careers & Leadership
Office

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IDV Faculty

Peter J. Dailey PhD, MPH

Eva Harris, PhD

Fenyong Liu, PhD

Veronica Miller, PhD

Filipa Rijo-Ferreira, PhD

Lee W. Riley M.D.

Sarah Stanley, PhD

John E. Swartzberg, M.D.

Jay Graham, MPH, PhD

Joseph Lewnard, PhD

Ashley R. Wolf, PhD

Peter J. Dailey, Ph.D., MPH

Assistant Adjunct Professor of Infectious Disease & Vaccinology
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Course Taught:
PH 290-Diagnostics in Infectious Diseases: Development, Regulatory and Implementation Challenges. Team taught with Veronica Miller and John Sninsky

Research Interests:

- Development, evaluation, and implementation of diagnostic assays to combat antimicrobial resistance
- Development, evaluation, and enabling access of infectious disease diagnostics in low-resource settings

Current Projects:

- Senior Technical Officer for the Foundation for Innovative New Diagnostics (FIND). FIND is a nonprofit organization headquartered in Geneva, Switzerland whose mission is to drive the development and early implementation of innovative diagnostic tests that have a high impact on patient care, disease control, and public health in low-resource settings.
- COVID-19 Point-Of-Care molecular assay development
- CARB-X (Combatting Antimicrobial Resistant Bacteria – Accelerator); provide support to CARB-X specifically in their investments into diagnostics to combat AMR
- Development of a Lassa Fever molecular diagnostic assay
- Diagnostics to Ensure Antibiotic Stewardship for the Treatment of Gonorrhea Infections
- Development of a simplified and innovative blood culture system adapted to low level healthcare settings in low- and middle-income countries (LMICs)

Selected Publications:

Peter J. Dailey, Tarek Elbeik and Mark Holodniy. Companion and complementary diagnostics for infectious diseases. Expert Rev. Molecular Diagnostics, 2020. https://doi.org/10.1080/14737159.2020.1724784

Peter J. Dailey, Jennifer Osborn, Elizabeth A. Ashley, Ellen Jo Baron, David A. B. Dance, Daniela Fusco, Caterina Fanello, Yukari C. Manabe, Margaret Mokomane, Paul N. Newton, Belay Tessema, Chris Isaacs, and Sabine Dittrich. Defining System Requirements for Simplified Blood Culture to Enable Widespread Use in Resource-Limited Settings. Diagnostics 2019, 9, 10; doi: 10.3390/diagnostics9010010

Morrison CS, Homan R, Mack N, Seepolmuang P, Averill M, Taylor J, Osborn J, **Dailey P**, Parkin N, Ongarello S, and Mastro TD. Assays for estimating HIV incidence: updated global market assessment and estimated economic value. Journal of the International AIDS Society 2017;20(3):e25018. Doi:10.1002/jia2.25018.

Murphy, G., Pilcher, C.D., Keating, S.M., Kassanjee, R., Facente, S.N., Welte, A., Grebe, E., Marson, K., Busch, M.P., **Dailey, P.J.**, Parkin, N., Osborn, J., Ongarello, S., Marsh, K., and Garcia-Calleja, J.M. Moving towards a reliable HIV incidence test – current status, resources available, future directions and challenges ahead. 2016. Epidemiol. Infect. DOI: https://doi.org/10.1017/S0950268816002910. Published online: 22 December 2016.

Holger Becker, Richard Klemm, William Dietze, Wallace White, Nadine Hlawatsch, Susanne Freyberg, Christian Moche, **Peter Dailey,** and Claudia Gärtner. Modular microfluidic cartridge-based universal diagnostic system for global health applications. 2016. *Proc. SPIE 9705, Microfluidics, BioMEMS, and Medical Microsystems XIV*, 970514 (March 18, 2016); doi: 10.1117/12.2217892.

Helb D, Jones M, Story E, Boehme C, Wallace E, Ho K, Kop J, Owens MR, Rodgers R, Banada P, Safi H, Blakemore R, Lan NT, Jones-López EC, Levi M, Burday M, Ayakaka I, Mugerwa RD, McMillan B, Winn-Deen E, Christel L, **Dailey P,** Perkins MD, Persing DH, Alland D. Rapid detection of *Mycobacterium tuberculosis* and rifampin resistance by use of on-demand, near-patient technology. 2010. *J Clin Microbiol.* 48(1):229-37.

Eva Harris, Ph.D.

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Infectious Diseases and Immunity PhD Program Head
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Lab: 510D Li Ka Shing Center
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Courses Taught:

- PH265: Molecular Parasitology (odd-numbered year Fall)
- PH260F: Infectious Disease Research in Developing Countries (Even-numbered year Spring)
- PH292/3: Doctoral Research Seminar
- PH162A: Public Health Microbiology (Fall) (Team taught with Fenyong Liu and IDV Faculty)

Research Interests:

- Molecular virology, pathogenesis, immunology, epidemiology, clinical aspects and control of dengue, Zika, and chikungunya
- Epidemiology of influenza and COVID-19 in tropical countries
- Scientific capacity building in developing countries

Selected recent publications

Dias Jr, A.G., Atyeo, C., Loos, C., Montoya, M., Roy, V., Bos, S., Narvekar, P., Singh, T., Katzelnick, L., Kuan, G., Lauffenburger , D. A., Balmaseda, A., Alter, G., Harris, E. (2022) Antibody Fc characteristics and effector functions correlate with protection from symptomatic dengue virus type 3 infection. Sci. Transl. Med. 14:eabm3151.

Biering, S.B.*, Tramontini Gomes de Sousa, F.*, Tjang, L., Pahmeier, F., Ruan, R., Blanc, S.F., Patel, T., Glasner, D.R., Castillo-Rojas, B., Servellita, V., Lo, N.T.N., Wong, M.P., Warnes, C.M., Sandoval, D.R., Clausen, T.M., Santos, Y.M., Ortega, V., Aguilar, H.C., Esko, J.D., Chui, C., Pak, J.E., Beatty, P.R., Harris, E. (2022) SARS-CoV-2 Spike triggers barrier dysfunction and vascular leak via integrins and TGF-b signaling. Nat. Comm. In revision. bioRxiv 2021.12.10.472112

Puerta-Guardo, H., Biering, S.B., Tramontini Gomes de Sousa, F., Shu, J., Glasner, D.R., Li, J., Blanc, S.F., Beatty, P.R., Harris, E. (2022) Flavivirus NS1 triggers tissue-specific disassembly of intercellular junctions leading to barrier dysfunction and vascular leak in a GSK-3β-dependent manner. Pathogens, 11:615.

Biering, S.B., Akey, D., Wong, M.P., Brown, W.C., Lo, N.T.N., Puerta-Guardo, H., Tramontini Gomes de Sousa, F., Wang, C., Konwerski, J.R., Espinosa, D.A., Bockhaus, N.J., Glasner, D.R., Li, J., Blanc, S.F., Juan, E.Y., Elledge, S.J., Mina, M.J., Beatty, P.R., Smith, J.L., Harris, E. (2021) Structural basis for antibody-mediated inhibition of dengue virus NS1-triggered endothelial dysfunction and vascular leak. Science. 371:194–200.

Katzelnick, L.C., Zambrana, J.V., Elizondo, D., Collado, D., Collado, D., Garcia, N., Arguello, S., Mercado, J.C., Miranda, T., Ampie, O., Lopez Mercado, B.,Narvaez, C., Gresh, L., Binder, R.A., Ojeda, S., Sanchez, N., Plazaola, M., Latta, K., Schiller, A., Coloma, J., Bustos Carillo, F., Narvaez, F., Halloran, M.E., Gordon, A., Kuan, G., Balmaseda, A., Harris, E. (2021) Long-term dynamics of protective and enhancing antibodies after dengue and Zika virus infection. Sci. Transl. Med. 13(614): eabg9478.

Katzelnick, L.C., Narvaez, C., Arguello, S., Lopez Mercado, B., Collado, D., Ampie, O., Elizondo, D., Miranda, T., Bustos Carillo, F., Mercado, J.C., Latta, K., Schiller, A., Segovia-Chumbez, B., Ojeda, S., Sanchez, N., Plazaola, M., Coloma, J., Halloran, M.E., Premkumar, L., Gordon, A., Narvaez, F., De Silva, A.M., Kuan, G., Balmaseda, A., Harris, E. (2020) Zika virus infection enhances future risk of severe dengue disease. Science. 369:1123-1128. PMC8274975

Andrade, P., Narvekar, P., Montoya, M., Michlmayr, D., Balmaseda, A., Coloma, J., Harris, E. (2020) Primary and secondary dengue virus infections elicit similar memory B cell responses but breadth to other serotypes and cross-reactivity to Zika virus is higher in secondary dengue. J. Infect. Dis. 222:590-600. PMID: 32193549

Puerta-Guardo, H., Glasner, D.R., Espinosa, D.A., Biering, S.B., Patana, M., Ratnasiri, K., Wang, C., Beatty, P.R., and Harris, E. (2019) Flavivirus NS1 triggers tissue-specific vascular endothelial dysfunction reflecting disease tropism. Cell Rep. 26(6):1598-1613.e8. PMC6934012

Andrade, P., Gimblet-Ochieng, C., Modirian, F., Collins, M., Cárdenas, M., Katzelnick, L., Montoya, M., Michlmayr, D., Kuan, G., Balmaseda, A., Coloma, J., de Silva, A., Harris, E. (2019) Impact of pre-existing dengue immunity on human antibody and memory B cell responses to Zika. Nat. Commun. 10(1):938.

Katzelnick, L. Gresh, L, Halloran, M.E., Mercado, J.C., Kuan, G., Gordon, A., Balmaseda, A., and Harris, E. (2017) Antibody-dependent enhancement of severe dengue disease in humans. Science. 358:929-32. PMC5858873

Burger-Calderon, R.*, Bustos Carillo, F.*, Gresh, L.*, Ojeda, S., Sanchez, N., Plazaola, M., Katzelnick, L., Mercado, B.L., Monterrey, J.C., Elizondo, D., Arguello, S., Nuñez, A., Gordon, A., Balmaseda, Z., Kuan, G., Harris, E. (2019) Age-dependent manifestations and case definitions of pediatric Zika: a prospective cohort study. Lancet Infect. Dis. 20(3):371-380. PMC7085943

Parameswaran, P., Wang, C., Trivedi, S.B., Eswarappa, M., Montoya, M., Balmaseda, A., and Harris, E. (2017) Intrahost selection pressures drive rapid dengue virus microevolution in acute human infections. Cell Host Microbe. 22(3):400-410.e5.

Andersson, N., Nava-Aguilera, E., Arosteguí, J., Morales-Perez, A., Suazo-Laguna, H., Legorreta-Soberanis, J., Hernandez-Alvarez, C., Fernandez-Salas, I., Balmaseda, A., Cortés-Guzmán, A.J., Coloma, J., Ledogar, R.J., and Harris, E. (2015) Camino Verde (Green Way) to Dengue Prevention: a pragmatic cluster-randomised controlled trial of evidence-based community mobilisation in Nicaragua and Mexico. BMJ 351:h3267.

Other interests:

- President, Sustainable Sciences Institute
- Director, Center for Global Public Health
- Infectious Diseases and Immunity Graduate Group (Chair)
- Microbial Biology Graduate Group

Fenyong Liu, Ph.D.

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Courses Taught:

PH 162A: Public Health Microbiology (Fall, Team-Taught with Harris and IDV Faculty)

PH 168: Public Health Microbiology lab (Fall)

PH 264: Capstone Seminar in IDV (Fall) (2nd IDV MPH students only)

Research Interests:

- Biology of human viruses (e.g. herpes, cytomegalovirus)
- Development of novel antiviral agents
- Biochemistry of nucleic acids and RNA enzymes

Selected Publications:

Deng, Q., Liu, Y., Li, X., Yan, B., Sun, X., Tang, W., Trang, P., Yang, Z., Gong, H., Wang, Y., Lu, J., Chen, J., Xia, C., Xiwen X., Lu, S., **Liu, F**. (2019). Inhibition of human cytomegalovirus major capsid protein expression and replication by ribonuclease P-associated external guide sequences. *RNA*. 25(5), 645-655.

To, A., Bai, Y., Shen, A., Gong, H., Umamoto, S., and **Liu, F.** (2011). Yeast two hybrid analyses reveal novel binary interactions between human cytomegalovirus-encoded virion proteins. *PLoS ONE*. 6, e17796.

Bai, Y., Gong, H., Li, H.,Vu, G., Lu, S., and **Liu, F.** (2011). Oral delivery of RNase P ribozymes by Salmonella effectively inhibits viral infection in mice. *Proc. Natl. Acad. Sci.* USA. 108(8):3222-27.

Jiang, X., Bai, Y., Rider, P., Kim, K., Zhang, C., Lu, S., and **Liu, F.** (2011). Engineered external guide sequences effectively block viral gene expression and replication in cultured cells. *J. Biol. Chem.* 286(1):322-30.

Liu, F., and Altman, S. (2010) *Ribonuclease P*. Springer, New York.

Bai, Y., Li, H., Gong, H., Vu, G., Umamoto, S., Zhou, T., Lu, S., **Liu, F.** (2010) Salmonella-mediated delivery of RNase P ribozymes for inhibition of viral gene expression and replication in human cells. *Proc. Natl. Acad. Sci.* U.S.A. 107, 7269-7274.

Rider, P. J., Dunn, W., Yang, E., and **Liu, F.** (2009). Human cytomegalovirus microRNAs. *Curr Top Microbiol Immunol*, 325, 21-39.

Veronica Miller, Ph.D.

Adjunct Professor
Executive Director, Forum for
Collaborative HIV Research
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Course Taught:

PH 236: U.S. Food and Drug Administration, Drug Development, Public Health, and Health Policy

PH 290: Diagnostics in Infectious Diseases: Development, Regulatory and Implementation Challenges (Sp, Team taught: Peter Dailey, John Sninsky)

PHW236A: Regulatory Science, Drug Development and Public Health

Research Interests:

- Advancing regulatory science for unmet medical/public health needs
- Collaborative frameworks for drug development
- Translating biomedical innovation to global access
- Disease areas: HIV, HCV, HBV, CMV, liver diseases

Research Description:

In 2001, Miller joined the Forum for Collaborative Research—a public/private partnership addressing cutting-edge science and policy issues through a process of stakeholder engagement and deliberation—as executive director. The Forum brings together researchers and advocates, national and international regulatory agencies, pharmaceutical and diagnostic companies, health care providers, and private foundations to compare data and debate consequences. The Forum also identifies gaps and impediments, frames issues, and helps set research strategy.

Under her leadership, the Forum for Collaborative Research extended its deliberative process to advance regulatory science (applied successfully to HIV) to drug development for hepatitis C infection, the treatment of liver diseases (NASH and fibrosis), and human cytomegalovirus disease in solid organ and stem cell transplant patients.

Prior to 2001, Miller's own research focused on randomized clinical trials and observational cohorts to determine factors associated with HIV treatment outcomes, including the impact of drug resistance, documented in more than 50 peer-reviewed articles. Her original research work contributed to FDA and EMA guidelines on assessment and reporting of drug resistance and the generation of international guidelines for drug resistance testing.

Current Projects:

- HIV Cure Project
- Overcoming Health Disparities in the Bay Area Using HIV/AIDS and HCV as Models
- HCV Drug Development Advisory Group
- Facilitating Drug Development for the Treatment of Liver Disease
- Facilitating Drug Development for the Prevention and Treatment of CMV Disease in Transplantation Settings
- Pre-Exposure Prophylaxis and Microbicide Research
- HBV Therapeutic and Curative Interventions
- Pediatric HIV Clinical Trials
- Addressing the Regulatory Challenges of Primary Sclerosing Cholangitis (PSC) to Advance Therapeutic Interventions

Selected Publications:

Lazarus, JV., Colombo, M., Cortez-Pinto, H., Huang, TT., **Miller, V**., Ninburg, M., Schattenberg, JM., Seim, L., Wong, VWS., Zelber-Sagi, S., *NAFLD – sounding the alarm on a silent epidemic*. Nat Rev Gastroenterol Hepatol 2020. DOI 10.1038/s41575-020-0315-7

Lazarus, JV., Block T., Brechot, C., Kramvis A., **Miller V**., Ninburg M., Penicaud C., Protzer, U., Razavi, H., Thomas, LA., Wallace, J., Cowie, BC. *The hepatitis B epidemic and the urgent need for cure preparedness*. Nat Rev Gastroenterol Hepatol 2018. DOI 10.1038/s41575-018-0041-6

Natori Y, Algahamdi A, Tazari Mahmood, **Miller V**, Husain S, Komatsu T, Griffiths P, Ljungman P, Orchanian-Cheff A, Kumar D, Humar A. *Can Viral Load be used as a Surrogate Marker in Clinical Studies of Cytomegalovirus in Solid Organ Transplantation: A Systematic Review and Meta-analysis.* CMV. CID 2017. In press. DOI 10.1093/cid/cix793

Patel YA, Imperial JC, Muir A, Quentin M, Debrota DJ, Dimick-Santos L, Filozof C, Metha R, Sanyal AS, Schabel E, Neuschwander-Tetri BA, **Miller V.** *Baseline parameters in clinical trials for nonalcoholic steatohepatitis: Recommendations from the Liver Forum*. Gastroenterology 2017; In press. DOI 10.1053/j.gastro.2017.07.024

Bartlett SR, Grebely J, Eltahla AA, Reeves JD, Howe AYM, **Miller V**, Ceccherini-Silberstein F, Bull RA, Douglas MW, Dore DJ, Harrington P, Lloyd AR, Jacka B, Matthews GV, Wang GP, Pawlotsky J-M, Feld JJ, Schinkel J, Garcia F, Lennerstarnd J, Applegate TL. *Sequencing of hepatitis C virus for detection of resistance to direct-acting antiviral therapy: A systematic review*. Hepatology Communications 2017; in press. DOI 10.1002/hep4.1050

Liu J, Goicochea P, Block T, Brosgart CL, Donaldson EF, Lenz O, Lim SG, Marins EG, Mishra P, Peters MG, **Miller V.** *Advancing the regulatory path on hepatitis B virus treatment and curative research: A stakeholders' consultation.* Journal of Virus Eradication 2017; 3:1-6.

Ljungman P, Boeckh M, Hirsch HH, Josephson F, Lundgren J, Nichols G, Pikis A, Razonable RR, **Miller V**, Griffiths PD. *Definitions of Cytomegalovirus Infection and Disease in Transplant Patients for Use in Clinical Trials*. CID 2017; 64(1):87-91. DOI 10.1093/cid/ciw668

Filipa Rijo- Ferreira, PhD
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Berkeley Public Health Infectious Diseases and Vaccinology
Molecular and Cell Biology
University of California, Berkeley
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Research Interests: Molecular parasitology and circadian rhythms

Research Description or current projects:

Research in the Rijo-Ferreira lab aims to uncover how circadian clocks regulate parasitic diseases. In humans, circadian clocks regulate multiple aspects of physiology, including sleep-wake cycles, metabolism, and immune defense. Our own circadian biology leads to body rhythms experienced by the pathogens that infect us. In addition to sensing host rhythms, I recently discovered that parasites who cause devastating health burden such as malaria and sleeping sickness diseases also have intrinsic clocks. The clocks of parasites regulate core biological functions from metabolism to the cell cycle, and the discovery of the existence of their clocks serves as an opportunity to access the molecular mechanisms regulating their rhythmic biology. Our major goal is to identify parasite clock genes and test the biological impact of circadian clocks of parasites to infection and transmission using a variety of innovative approaches. Beyond the significance of this work to basic parasitology discovery, the findings have the potential to provide broad insights into disease pathogenesis. In fact, malaria's main symptom is the periodic fevers experienced by patients, fevers that 'come and go' at certain times of the day and are a consequence of synchronized parasite rhythms. Parasitic diseases pose increasing threats to global public health and our work will provide new targets to directly disrupt the rhythms that contribute to the disease. We will focus on the following questions:

- *What are the malaria parasite clock genes that drive daily rhythms in parasites?*
- *Do circadian rhythms in malaria parasites impact mosquito transmission?*
- *What are the temporal host cues the parasite population senses? Is it nutrients, temperature, immune response?*
- *Can we improve current anti-malarial treatment by time-of-day drug administration?*

Selected Publications:

1. **Filipa Rijo-Ferreira,** Victoria A. Acosta-Rodriguez, John H. Abel, Izabela Kornblum, Ines Bento, Gokhul Kilaru, Elizabeth B. Klerman, Maria M. Mota, Joseph S. Takahashi. The malaria parasite has an intrinsic clock. *Science* (2020), 368(6492): 746-753.

2. **Filipa Rijo-Ferreira**, Tania Carvalho, Cristina Afonso, Margarida Sanches-Vaz, Rui M. Costa, Luisa

M. Figueiredo, Joseph S. Takahashi. Sleeping sickness is a circadian disorder. *Nature Communications* (2018), 9(1): 62.

3. **Filipa Rijo-Ferreira**, Daniel Pinto-Neves, Nuno Barbosa-Morais, Joseph S. Takahashi, Luisa M. Figueiredo. *Trypanosoma brucei* metabolism is under circadian control. *Nature Microbiology* (2017), 2, 17032, doi:10.1038

4. Sandra Trindade***** & **Filipa Rijo-Ferreira***, Tania Carvalho, Daniel Pinto-Neves, Fabien Guegan, Francisco Aresta- Branco, Fabio Bento, Simon A. Young, Andreia Pinto, Jan Van Den Abbeele, Ruy M. Ribeiro, Sergio Dias, Terry K. Smith and Luisa M. Figueiredo. *Trypanosoma brucei* parasites occupy and functionally adapt to the adipose tissue in mice. *Cell Host & Microbe* (2016), 19 (6): 837-848

Lee W. Riley, M.D.

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https://sites.google.com/site/rileylabucberkeley/home

Courses Taught:

- PH 260A: Principles of Infectious Diseases (Fall)
- PH 260E: Molecular Epidemiology of Infectious Diseases (Even-numbered year Fall)
- PHW 260: Principles of Infectious Diseases (with Dr. Swartzberg)

Research Interests:

- Mechanisms of drug resistance in Gram-negative bacteria
- Molecular epidemiology of tuberculosis and drug-resistant Gram-negative bacterial infections
- Rapid diagnostic test development for drug-resistant Gram-negative bacterial infections
- Tuberculosis biomarker test development and validation
- Field epidemiology and global health research focused on diseases of urban slums

Current Projects:

- Global Health Equity Scholars Fellowship Program: A NIH/Fogarty International Center-funded project to train US postdoctoral fellows and advanced PhD students to go abroad do research related to slum health.
- NIH-funded project on new diagnostic test development for drug-resistant Gram negative bacterial infections.
- CDC-funded project on molecular epidemiology of community-acquired urinary tract infections.

Selected Publications:

Riley LW, Blanton RE. Advances in Molecular Epidemiology of Infectious Diseases: Definitions, Approaches, and Scope of the Field. Microbiol Spectr. 2018; 6(6): 10.1128/microbiolspec.AME-0001-2018

Adams-Sapper S, Gayoso A, **Riley LW**. Stress-Adaptive Responses Associated with High-Level Carbapenem Resistance in KPC-Producing *Klebsiella pneumoniae*. J Pathog. 2018; 19:3028290.

Yamaji R, Rubin J, Thys E, Friedman CR, **Riley LW**. Persistent Pandemic Lineages of Uropathogenic Escherichia coli in a College Community from 1999 to 2017. J Clin Microbiol. 2018;56(4).

Tarlton NJ, Satoorian TS, Panchal A, Borges CA, Geisberg M, **Riley LW**. Monoclonal antibody-mediated detection of CTX-M β-lactamases in Gram-negative bacteria. J Microbiol Methods. 2018;144:37-43.

Schump MD, Fox DM, Bertozzi CR, **Riley LW**. *Subcellular Partitioning and Intramacrophage Selectivity of Antimicrobial Compounds against Mycobacterium tuberculosis*. Antimicrob Agents Chemother. 2017;61(3). pii: e01639-16.

Stephens CM, Adams-Sapper S, Sekhon M, Johnson JR, **Riley LW**. *Genomic Analysis of Factors Associated with Low Prevalence of Antibiotic Resistance in Extraintestinal Pathogenic Escherichia coli Sequence Type 95 Strains*. mSphere. 2017;2(2). pii: e00390-16.

Snyder RE, Boone CE, Cardoso CA, Aguiar-Alves F, Neves FP, **Riley LW**. *Zika: A scourge in urban slums*. PLoS Negl Trop Dis. 2017;11(3):e0005287.

Francis SS, Plucinski MM, Wallace AD, **Riley LW**. *Genotyping Oral Commensal Bacteria to Predict Social Contact and Structure*. PLoS One. 2016;11(9):e0160201.

Book: Corburn, J and **Riley LW**. *Slum health: from the cell to the street*. University of California Press, 2016: 315p.

Sarah Stanley, Ph.D.

The King Sweesy and Robert Womack Endowed Chair in Medical Research and Public Health
Associate Professor
Molecular and Cell Biology
School of Public Health
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Research Interests:

- Mechanisms of pathogenesis and immune subversion in tuberculosis
- Protective immunity to tuberculosis
- Metabolic interactions between hosts and pathogens
- Development of novel therapeutics for tuberculosis
- Scientific capacity building

Selected Publications:

Brier MI, Mundell JW, Yu X, Su L, Holmann A, Squeri J, Zhang B, **Stanley SA**, Friedman JM, Dordick JS. Uncovering a possible role of reactive oxygen species in magnetogenetics, Sci Rep. 2020 Aug 4; 10(1): 13096.

Van Dis E, Sogi KM, Rae CS, Sivick KE, Surh NH, Leong ML, Kanne DB, Metchette K, Leong JJ, Bruml JR, Chen V, Heydari K, Cadieux N, Evans T, McWhirter SM, ChenDubensky TW, Portnoy DA, **Stanley SA**. STING-activating adjuvants elicit a Th17 immune response and protect against Mycobacterium tuberculosis infection, Cell Reports. 2018 May 1; 23(5):1435-1447

Knight M, Braverman J, Asfaha K, Gronert K, **Stanley SA**. Lipid droplet formation in Mycobacterium tuberculosis infected macrophages requires IFN-γ/HIF-1α signaling and supports host defense. PLoS Pathogens, 2018 Jan 25; 14(1):e1006874.

Braverman J, **Stanley SA**. Nitric oxide modulates macrophage responses to M. tuberculosisinfection through activation of HIF-1α and repression of NF-kB. J. Immunol, 2017Sep 1; 199(5):1805-1816.

Sogi KM, Lien KA, Johnson JR, Krogan NJ, **Stanley SA**.The tyrosine kinase inhibitor gefitinib restricts Mycobacterium tuberculosis growth through increased lysosomal biogenesis and modulation of cytokine signaling. ACS Infect Dis, 2017 Aug 11; 3(8):564-574.

Braverman, J, Sogi KM, Benjamin D, Nomura DK, **Stanley SA**. HIF-1α Is an Essential Mediator of IFN-γ–Dependent Immunity to *Mycobacterium tuberculosis*. *Journal of Immunology* 2016 July, 1600266.

Stanley, SA, Barczak AK, Silvis, MR, Luo, SS, Sogi, K, Vokes, M, Bray, M, Carpenter, AE, Siddiqi, N, Rubin EJ, Hung, DTH. A chemical screen to identify host-targeted small molecules that restrict intracellular *Mycobacterium tuberculosis* growth. *PLoS Pathog* 2014 Feb; 10(2): e1003946. doi:10.1371/journal.ppat.1003946.

Stanley, S.A., Kawate, T., Iwase, N., Shimuzu, M., Clatworthy, A., Kazyanskaya, E., Siddiqi, N., Sac-chettini J.C., Ioerger T.R., Aquadro, J.A., Rubin, E.J., Hung, Diarylcoumarins inhibit mycolic acid

biosynthesis and kill M. tuberculosis by targeting FadD32. *Proc Natl Acad Sci.* 2013 Jul 9;110(28):11565-70.

Stanley, SA, Cox, JS. Host-pathogen interactions during *Mycobacterium tuberculosis* infections. *Current topics in Microbiology and Immunology,* 2013 July 24.

Stanley, S.A., Kazyanskaya, E., Aquadro, J.A., Silvis, M., Gomez, J., Hung, D.T. Identification of novel inhibitors of *M. tuberculosis* growth using whole cell based high-throughput screening. *ACS Chemical Biology*, 2012 May 21.

Barczak, A.K., Gomez, J.E., Kaufmann, B.B., Hinson, E.R., Cosimi, L., Borowsky, M.L., Onderdonk, A.B., **Stanley, S.A.**, Kaur, D., Bryant, K.F., Knipe, D.M., Sloutsky, A., Hung, D.T. RNA signatures allow rapid identification of pathogens and antibiotic susceptibilities. *Proc Natl Acad Sci* USA, 2012 April 17; 109(16):6217-22.

Chindelevitch, L., **Stanley, S.**, Hung, D., Regev, A., Berger, B. MetaMerge: scaling up genome-scale metabolic reconstructions with application to *Mycobacterium tuberculosis*. *Genome Biol*. 2012 Jan 31; 13(1):R6.

John E. Swartzberg, MD, FACP

Clinical Professor,
Emeritus
Chair, Editorial Board, *UC Berkeley Wellness Letter*
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Phone: (510) 643-0499
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E-mail: jes@berkeley.edu

Courses Taught:

- HMS 202 D/E: Clinical Skills
- PHW 260: Principles of Infectious Diseases
- PH 266C: Healthcare Associated Infections (Fall)

Research Interests:

- Healthcare Associated Infections
- Infectious Diseases
- Journalism and Public Health

Selected Publications:

UC Berkeley Wellness Reports:

- Dietary Supplements, 2017
- Eating for Optimal Health, 2017
- Women's Health, 2017
- Men's Health, 2017
- Controlling Your Cholesterol, 2017
- "The Physician as a 21st Century Public Health Professional," JAMA, Dec 24/31, 2009.

Other interests:

- Chair, Editorial Board - *UC Berkeley Wellness Letter*

Ashley R. Wolf, PhD

Assistant Professor, IDV
Assistant Professor, Center for Computational Biology
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Research Interests:

- Mechanisms defining gut microbiome composition
- Microbial metabolism of dietary ingredients
- Bacterial competition in the mammalian gut
- Impact of the gut microbiome on host physiology

Research projects

- Isolation of personalized probiotics to metabolize meat-specific sialic acids
- The role of the gut microbiome in Mycobacterium tuberculosis infection
- Bacterial competition in the context of Shigella infection

Publications

Wolf, A.R., Wesener, D.A., Cheng, J., Houston-Ludlam, A.N., Beller, Z.W., Hibberd, M.C., Giannone, R.J., Peters, S.L., Hettich, R.L., Leyn, S.A., Rodionov, D.A., Osterman, A.L., and Gordon, J.I. (2019). Bioremediation of a Common Product of Food Processing by a Human Gut Bacterium. Cell Host & Microbe, 26, 463-477.e468.

Ma H., Sales, V.M., **Wolf, A.R**, Subramanian S., Matthews, T.J, Chen, M., Sharma, A., Gall, W., Kulik, W., Cohen, D.E., Adachi, Y., Griffin, N.W., Gordon, J.I., Patti, M.-E. and Isganaitis, E. (2017). Attenuated Effects of Bile Acids on Glucose Metabolism and Insulin Sensitivity in a Male Mouse Model of Prenatal Undernutrition. Endocrinology, 158(8), 2441–2452.

Wolf, A.R., and Mootha, V.K. (2014). Functional genomics of mitochondrial RNA processing. Cell Reports, 7, 918-931.

M. Figueiredo, Joseph S. Takahashi. Sleeping sickness is a circadian disorder. *Nature Communications* (2018), 9(1): 62.

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4. Sandra Trindade***** & **Filipa Rijo-Ferreira***, Tania Carvalho, Daniel Pinto-Neves, Fabien Guegan, Francisco Aresta- Branco, Fabio Bento, Simon A. Young, Andreia Pinto, Jan Van Den Abbeele, Ruy M. Ribeiro, Sergio Dias, Terry K. Smith and Luisa M. Figueiredo. *Trypanosoma brucei* parasites occupy and functionally adapt to the adipose tissue in mice. *Cell Host & Microbe* (2016), 19 (6): 837-848

Affiliate Faculty

Jay Graham PhD, MBA, MPH
Assistant Professor in Residence,
Environmental Health Sciences
Affiliate IDV Faculty
Phone: (510) 643-5716
E-mail: jay.graham@berkeley.edu

Courses Taught:

- PH W200F: Environmental Health Sciences
- PH 270A: Exposure Assessment and Control

Research Interests:

- Community-acquired antimicrobial resistance
- Zoonotic infectious diseases
- Environmental determinants of infectious diseases
  Exposure assessment

Affiliate Faculty

Joseph Lewnard, PhD
Assistant Professor, Epidemiology
Affiliate IDV Faculty
Phone: (510) 664-4050
E-mail: jlewnard@berkeley.edu

Courses Taught:

PH 253B: Epidemiology and Control of Infectious Diseases

Research Interests:

- Infectious diseases
- Antimicrobial resistance
- Public health surveillance
- Mathematical modeling
- Bayesian inference

Lecturer

Amy Garlin, MD
Stephen Popper, PhD

Visiting Professor

John Sninsky PhD

MPH Program Career Opportunities

I. Research/Education -Related

1. Health Analyst, Research analyst, research associate, research scientist in a:
   - Public health sector, biotechnology, state (CDHS) or federal (CDC, LBL, FDA, NIH, etc.) unit/laboratory;
   - county health department laboratory or division (e.g., communicable diseases, STD, TB, bioterrorism);
   - hospital-based or academic research groups/institutions;
   - forensics laboratory;
   - city sanitation department.
2. Clinical Trial Associate/Assistant, Clinical Researcher in pharmaceutical company.
3. Licensed clinical laboratory scientist in a hospital or private laboratory at a supervisory level (must complete 12-15 month training program and licensure).
4. As a stepping stone for a higher degree: Dr PH, PhD, DVM, MD. Some IDV MPH graduates continue on for more education immediately after graduation such as MD, DrPH, PhD degrees.

II. Epidemiology-Public Health Epidemiologist in private or public sector

1. Infection control officer/coordinator in a hospital/medical center or other institution.
2. Regional Epidemiologist.
3. Surveillance coordinator in a public health department.
4. Epidemiology analyst.

III. Public health microbiologist in a state or county public laboratory at a supervisory level (must complete 6-month training program and licensure).

IV. Teaching

1. Clinical laboratory scientist or public health microbiologist training programs (with appropriate licenses).
2. Instructor or faculty in a junior college.
3. Academic coordinator for microbiology lab courses, internships, etc. in a college or university.
4. Field program supervisor, public health practice.

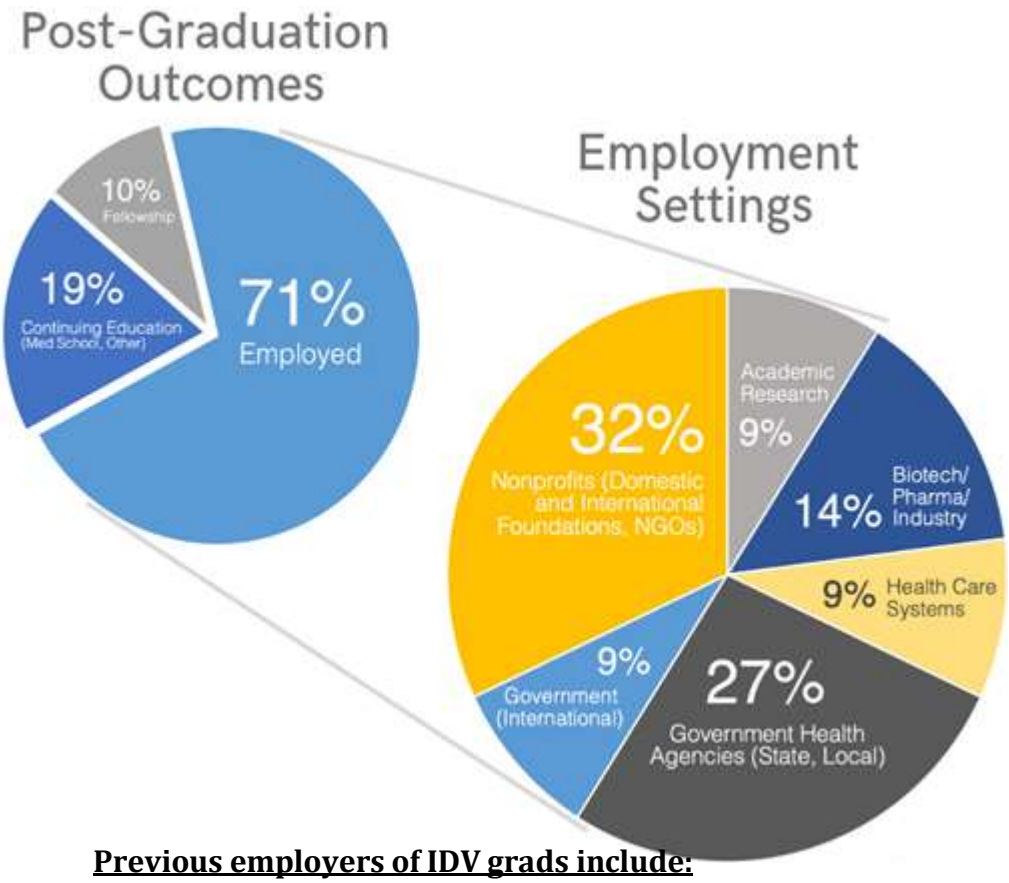
V. Program Administrator

1. Biohazard inspector for a university, institute, or biotech company.
2. Environmental microbiologist.
3. Industrial hygienist specializing in infectious diseases.
4. Health facility evaluator.
5. Health program director
6. Program Coordinator/Program Analyst

VI. Journalism

1. Science writer
2. Producer/director of science programs

VII. Consulting



Previous employers of IDV grads include:

MPH Program Curriculum Requirements

This MPH program provides a basic course of study in public health microbiology and infectious diseases. Forty-eight (48) graduate units are required for graduation. All Breadth and Division core courses must be taken in letter grades, with a minimal of a B- grade for graduation. Students must maintain an overall grade-point average of at least 3.0 on the basis of all upper division and graduate courses taken in graduate standing (100- and 200-level, please note 300-level and below 100 level courses will not count for graduation). No more than one third of the classes for graduation can be taken in Satisfactory or Unsatisfactory (S/U) grade. A Satisfactory grade implies work of B minus (B-) quality or better. The time required to complete the MPH degree is two years. Twelve units is full time. Graduate students in the MPH program usually take 16 units per semester and the maximum units they can take each semester is no more than 20.5 units.

As part of general School of Public Health Breadth requirements, the following courses: PH 142 and PH 250A or accepted substitutes must be taken. More advanced level substitutes are recommended when possible (please refer to MPH Breadth Course Requirement), or an exemption examination passed.

MPH Breadth Requirement:

PH 200J, K, & L	Public Health Core Breadth Course (PH 200J- 2 units, 200L-2 units, (4 units total) (Fall 2021) (PH 200K 2 units)(Sp 2022)
PH 142	Probability and Statistics in Public Health and Biology (4 units) (F)
PH 250A	Epidemiologic Methods (3 units) (Su) (F)
PH 297	Public Health Practicum (3 units) (Placement in Summer 2022), Register the class PH 297 Fall 2022 in S/SU grade for 3 units
PH 291A	PH Leadership course

MPH students are required to attain a B- or better in BPH Breadth courses, IDV core courses and IDV Advanced courses. **Students attaining less than a B- will be required to retake the course in order to receive a MPH degree**. Students must also meet the "Good Academic Standing Rule" (i.e. student must maintain overall GPA of a B, which is a 3.0) to participate in the PH 297 Practicum and to graduate.

Special curricular requirements for the IDV MPH Program are as follows:

IDV Core Requirements:

PH 260A	Principles of Infectious Diseases (4 units) (F) (must be taken in the first semester)
PH 264	Captstone Seminar in IDV (2 units) **(F, 2nd yr IDV MPH students only)**
PH 263	Public Health Immunology (3 units) (F)
PH 253B	Epid and Control in Infectious Diseases (3 units) (Sp)

Advanced Courses:

At least two advanced courses are required for all IDV MPH students for graduation. Courses offered in alternate years are in bold.

PH 260E	Molecular Epidemiology of Infectious Diseases (2 units) (F2022)
PH 260F	Infectious Disease Research in Developing Countries (2 units) (Sp 2023)
PH 262	Molecular Basis of Bacterial Pathogenesis (3 units) (Sp)
PH 265	Molecular Parasitology (3 units) (F 2023)
PH 266B	Zoonotic Diseases (2 units) (Sp) (not offered)
PH 236	US Food & Drug Admin, Drug Development, and Public Health (2 units) (Sp)
PH 290	Diagnostics in Infectious Diseases: Development, Regulatory and Implementation Challenges (Sp)

IDV Division Seminar requirement: I course required:

PH 266C-Healthcare Associated Infections (2 units) (F) is offered by IDV to meet this requirement. The course is named Healthcare Associated Infections effective Fall 2022. The course is taught in web-based.

PH 252B -Infectious Diseases Modeling is an accepted substitution for IDV Division Seminar. If students want to enroll in other MPH Seminars with Infectious Diseases focus as acceptable substitution, please contact for Program Manager for review and approval.

MPH Program
Sample of Two Year Course of Study

COURSE #	COURSE TITLE	UNITS
Year 1: Fall 2022 Semester		
*PH 260A	Principles of Infectious Diseases	4
PH 250A	Epidemiologic Methods I	3
*PH 200J & L	Public Health Core Breadth Course	4
PH 142 or	Intro. Probability and Statistics	4
PH 263	Public Health Immunology	3
Year 1: Spring 2023 Semester		
PH 250B	Epidemiologic Methods II	4
PH 257	Outbreak Investigation	2
PH 200K	Public Health Core Breadth Course	2
PH 253B	Epidemiology and Control of Infectious Diseases	3
PH 291A	PH Leadership	2
Summer 2023*PH 297	Public Health Practice – Practicum Placement	
Year 2: Fall 2023 Semester		
*PH 264	Capstone Seminar in IDV	2
PH 266C	Healthcare Associated Infections (IDV Div Seminar)	2
PH 252B		3
PH 2XX	Required IDV Advanced Course and/or elective	6
*PH 297	Public Health Practicum – Field Study	3
Year 2: Spring 2024 Semester		
PH 227A	Healthcare Finance	3
PH 2XX	Required IDV course and/or electives	10
PH 271D	Global Burden of Disease & Comp Risk Assessment	
PPH 299	Capstone mentoring 2 units	

PH 142 or PH 263 can be taken in the first or second year.

Additional courses offered by the School of Public Health and by other departments on the Berkeley campus may be taken to supplement the above curriculum and to satisfy particular. Student educational objectives. Such courses should include epidemiology, biostatistics, molecular biology, immunology, Public Health policy, MBA and behavioral science.

Recommended Alternatives to MPH Breadth Required Courses

Course	Acceptable Substitutions
PH 142	241, 245, PHW 241
PH 250A	PH 250B

Advanced Courses in Infectious Diseases and Vaccinology

(Courses offered in alternate years are **bolded**)

PH 260E	**Molecular Epidemiology of Infectious Diseases**	**2**	**Fall 2022**
PH 260F	**Infectious Diseases Research in Developing Countries**	**2**	**Spring 2023**
PH 262	Molecular Basis of Bacterial Pathogenesis	3	Spring
PH 265	**Molecular Parasitology**	**3**	**Fall 2023**
PH 236	US Food & Drug Admin, Drug Dev, and Public Health	2	Spring
PH 266C	Healthcare Associated Infections (counts as IDV Div seminar)	2	Fall
PH 266B	Zoonotic Diseases (not offer)	2	
PH 290	Diagnostics in Infectious Diseases: Development, Regulatory and Implementation Challenges	2	Sp

Recommended Electives:

Students may take courses as electives from other concentrations such as Biostat, Epi, EHS, Global Health, HSB, HPM, etc. The list below represents recommended electives relevant to the IDV curriculum that IDV MPH students have taken before and have found useful and relevant.

Class Number	Class Title	Semester	Units
Biostatistics			
PH 290	Introduction to SAS Programming	Spring	2
PH 241	Statistical Analysis of Categorical Data	Spring	2
PH 245	Introduction to Multivariate Statistics	Fall	4
PH 251C	Causal Inference and Meta-Analysis in Epidemiology	Fall	2
PH 251D	Applied Epidemiology Using R	Fall	2
PH 252C	Intervention Trial Design	Fall	3
Epidemiology			
*PH 250B	Epidemiologic Methods II	Fall	4
PH 253B	Epidemiology and Control of Infectious Diseases	Spring	3
PH 253D	Behavioral & Policy Science in HIV Treatment & Prevention	Fall	3
PH 253G	Sexual Health Promotion and Sexually Transmitted Diseases	Spring	2
PH 255A	Social Epidemiology	Fall/Spring	4
PH 256	Molecular and Genetic Epidemiology and Human Health in the 21st Century	Spring	4
PH 257	Outbreak Investigation	Fall/Spring	2
Environmental Health Sciences			
PH 269E	Environmental Medicine	Fall	2
PH 271D	Global Burden of Disease and Comparative Risk Assessment	Spring	3
PH 272A	Geographic Information Science for Public and Environmental Health	Spring	4
PH 273**	Environmental Determinants of Infectious Disease (Seminar)	Fall	3
Health & Social Behavior			
PH 219D	Social and Behavioral Health Research	Fall	3
PH 204F	Culture, Public Health Practice, and Eliminating Health Disparities: From Ideas to Action in the 21st Century	Spring	3
Health Policy and Management			
PH 220D	Health Policy Advocacy	Fall	3
PH 227A	Healthcare Finance	Spring	3
Molecular & Cell Biology			
MCB 110	General Biochemistry and Molecular Biology	Fall/Spring	4
MCB 210	Macromolecular Reaction and the Cell	Spring	4
MCB 250	Advanced Immunology	Spring	4

*****Highly recommended

** Will meet IDV Division seminar requirement. Offer in future TBA

Note: Course offerings based on past years; please check the latest course offerings in CalCentral.

MPH Practicum Requirement

Practicum Placement

MPH students are required to complete a practicum training or project-based public health practice activity following the first year of academic study in public health. This entails a 12- week, full-time work experience during the summer between the 1st and 2nd year. Unit credit is received by registering for 3 units of Public Health Practicum (PH 297) in the Fall semester of the 2nd year.

RISE formerly Center for Public Health Practice and Leadership (CPHPL) provides the academic and administrative structure for meeting this practice requirement for the MPH degree. To receive academic credit, students need to complete requirements and deliverables to Practicum supervisor before the start of Fall semester. Please check RISE website for more information.

Infectious Disease students can fulfill the public health practice requirement by active participation in a research or practicum within the School or by working in a public health agency at the local, state, national, or international level. Examples of previous internship placements are listed below. Students are strongly encouraged to explore practicum options early enough throughout their first Fall semester of the program and into January/February of their second year. RISE staff will work closely with IDV MPH Practicum faculty advisor: General advising Dr. Peter Dailey, and Dr. John Swartzberg specifically on collaboration with UCSF on IDV MPH practicum. The goal is to provide support to students throughout the practicum placement and advising. RISE will organize information sessions and student participation is strongly advised.

2022 IDV MPH Summer Practicum

First Name	Last Name	Employer	Name
Yuzin	Arias Gonzalez	SFDEM - San Francisco Department of Emergency Management	SFDEM - San Francisco Department of Emergency Management
Sam	Holland	Napa County	Napa County
Lian	Hsiao	CDPH Healthcare-Associated Infections Program	CDPH Healthcare-Associated Infections Program
Shradha	Iyer	U.S. EPA - United States Environmental Protection Agency	U.S. EPA - United States Environmental Protection Agency
Brandon	Ja	Providence Queen of the Valley Medical Center	Providence Queen of the Valley Medical Center
Ala	Koreitem	UCSF - UC San Francisco	UCSF - UC San Francisco
Kathryn	Lin	City of Berkeley Department of Public Health	City of Berkeley Department of Public Health
Luis	Lopez	Henry Wheeler Center for Emerging and Neglected Diseases	Henry Wheeler Center for Emerging and Neglected Diseases
Aliya	Mahmoud	UC Berkeley Forum for Collaborative Research	UC Berkeley Forum for Collaborative Research
Korie	McManus	PenguinSmart	PenguinSmart
Annette	Mercedes	Vaxart	Vaxart
Shannon	Mohler	NCIRE - Northern California Institute for Research and Education	NCIRE - Northern California Institute for Research and Education
Renee	Padiernos	Kennedy Krieger Institute	Kennedy Krieger Institute
Rushlenne	Pascual	CDPH - California Department of Public Health	CDPH - California Department of Public Health
Milciela	Reyes	CDPH - California Department of Public Health	CDPH - California Department of Public Health
Samantha	Sears	CDPH Immunization Branch	CDPH Immunization Branch
Mayland	Treat	UCSF - UC San Francisco	UCSF - UC San Francisco
Daoqin	Wang	Peking University	Peking University
Danni	Xuyang	UC Berkeley School of Public Health	UC Berkeley School of Public Health, Dr. Filipa Lab

2021

Student Name	Field Study	Location
California		
Clarissa Aquino	Gilead Sciences	Foster City
Adrian Cornejo	University Health Services	UC Berkeley
Zebediah Eskman	Marin Community Clinics	Marin
Victor Guillera	Queen's Medical Center	Napa
Ashika John	Alameda County Health	Alameda
Brooke Kazama	City and County of SF – Dept of Emergency Management	San Francisco
Sandya Krishna	CDPH	Sacramento
Gia Park	Placer Mosquito and Vector Control District	Roseville
Anna Parker	Lee Riley Lab	UC Berkeley
Shrey Saretha	CDPH and Prof. Joe Lewnard	Sacramento, UC Berkeley
Abi Shotland	CHORI	Oakland
Nikolina Walas	CHORI	Oakland
Rowan Wells-Edwards	i4Y	Berkeley
Out of State		
Emily Gainor	The Forum for Collaborative Research	Washington D.C
Amanda Reilly	Washington State Department of Health	Shoreline, Washington
International		
Colin Warnes	Oxford University Clinical Research Unit	Vietnam

2020

Student Name	Field Study	Location
California		
Ariel Munoz	UC Berkeley School of Public Health: Berkeley SafeCampus Study	Berkeley
Ruben Prado		
Sarah Gomez-Aladino		
Bonnie Xu	UC Berkeley Forum for Collaborative Research	
Daniel Mota		
Joseph Lau		
Frederique Sauve		
Emily Parker	UC Berkeley School of Public Health: Jay Graham	
Tyler Chervo	UC Berkeley School of Public Health: Joseph Lewnard	
Michelle-Ann Meas	UC Berkeley School of Public Health: East Bay COVID-19 Seroprevalence Study	
Alyssa Ochoa-Mena	Life Expectancy Project	San Francisco
Helen Guo	United Way Bay Area	
Elise Symer	CDPH Immunization Branch	Richmond
Jennifer DeGuzman	CDPH Vector-Borne Disease Section	Sacramento
Tolulope Ayoade	Queen of the Valley Medical Center	Napa
Matthew White	USC Keck Medical Center	Los Angeles

2019

Student Name	Field Study	Location
California		
Hannah Sans	UC Berkeley School of Public Health: Buehring Lab	**Berkeley**
Clarissa Martinez	Grifols Diagnostic Solutions Inc	**Emeryville**
Kelli Hager	Alameda County Mosquito Abatement District	**Hayward**
Jennifer Nguyen	LA County Department of Public Health	**Los Angeles**
Nathaniel Sands	Children's Hospital & Research Center	**Oakland**
Jane Lee	CEPA: Office of Environmental Health Hazard Assessment	
Kerri Ann Chen	Alameda County Health Care Services Agency	
Diana Holden	CDPH: Healthcare-Associated Infections Program	**Richmond**
Kaley Parchinski	CDPH: Tuberculosis Control Branch	
Phoebe Lu	CDPH: Disease Investigations Section	
Benjamin Iwaszewicz	CDPH: STD Control Branch	
Peter White	Centers for Disease Control & Prevention	**San Diego**
Christopher Hernandez	San Francisco Department of Public Health	**San Francisco**
Jan Bing Del Rosario	University of California, San Francisco	
Jessica Le	Ventana Medical Systems, Inc.	**Arizona**
Angela Monahan	Forum for Collaborative Research	**Washington DC**
International		
Rachel Marusinec	Universidad de San Francisco de Quito	**Ecuador**
Kathleen Kurowski		
Gathenji Njoroge	Lucile Salter Packard Children's Hospital	**Kenya**
Robin Hauschner	UC Berkeley School of Public Health: Harris Lab	**Nicaragua**
Junlin Chen	Ministry of Public Health	**Thailand**

Capstone Project

Students graduating from the MPH Program in Infectious Diseases are expected to possess both core knowledge and critical thinking skills in the area of infectious diseases and a basic understanding of the scope of public health. Students are evaluated for competency in these areas through a capstone project which consist of two components:

1. Preparation and submission of an analytical comprehensive paper on a topic involving infectious diseases in the public health context. This will serve as the student capstone project, a requirement for the MPH degree.

2. Students do an oral presentation of their capstone project in April of their graduating semester.

The purpose of the comprehensive/analytical paper is to take the student through the process of writing a professional and academic paper, from formulating a hypothesis, gathering data/information, analyzing the results, coming to conclusion(s) supported by the data, building the structure of the paper, writing, revising and finalizing the paper with proper references.

The preparation of the comprehensive/analytical paper is initiated during the Fall Term of the 2nd year in the course PH 264: Capstone Seminar in IDV. Students are expected to identify their paper topic early and present their topic in the class. The topic may build upon the student's own experience, e.g., a research project, the field study or a community intervention project. Alternatively, the student may develop a novel topic of his/her own interest, e.g. a policy proposal on a public health issue or a research proposal. Second year IDV MPH students also will present their Field Study projects in the PH 264 classes in mid/late September.

Students should start working on the Analytical Paper topics early in Fall

Once the topics are decided and approved in the class of PH 264, a faculty mentor will be assigned to the student, who will help the student with the development of the paper as early as in Oct. Student will need to register in the comp paper faculty mentor PH 299 course in their graduating semester **for 2 units in letter grade only**.

During the fall semester PH 264 course, students will give presentations reviewing progress of their papers for peer and faculty mentor critique as applicable. The paper is completed in the spring semester under the mentorship of a faculty member in the program assigned to the student under the PH 299 Independent Research (2 units) course number. Students are welcome to get area expertise advice from other faculty not in the program, but the mentor of the paper must be an IDV faculty.

Students should meet with their faculty mentors in late Oct to discuss their proposed paper topics and set a schedule and adhere to it for the work to be done. Students should update/meet with their mentors **regularly** on their progress and make revisions to the paper per feedbacks given. A **near** complete draft is due to the

faculty mentor in mid-February. The final written paper after the faculty paper mentor approved it, is due in **mid-March** to the Division prior to Spring Break. The paper is typically 10-15 pages, single spaced, in length (not including references, figures, tables). Deadlines must be strictly adhered to. No late submission will be accepted.

Students submitting acceptable comprehensive papers are then qualified to take the oral presentation of their capstone project/ paper. Passing of both the written paper and the oral presentation are required to satisfy the Capstone project requirement for graduation.

Financial Aid

There are several sources of financial support available for MPH students in IDV Division:

Graduate Division Fellowships BPH Department Award, Block Grant (BG) awarded at Admission. BG for continuing students available to apply .

Graduate Student Instructors (GSI): about 6 per year for courses in our Division. GSI appointment is similar to Teaching Assistants in other universities, appointment 25% or more come with partial fee remission in addition to salary income. A 25% GSI appointment and 50% GSI appointment work about 10 hrs and 20 hrs per week respectively. First time GSI required to complete the new GSI requirements as a condition for employment.
Many for science courses offered by departments such as Molecular and Cell Biology (MCB) at http://mcb.berkeley.edu/grad/graduate-support/gsi-appointments hire a lot of GSI each semester, and IDV MPH students are highly sought after to teach the large MCB courses like BIO 1A and 1B courses. Integrative Biology also hire some GSI. Please apply for GSI positions seeking by departments in your expertise areas and visit the respective department's website for details. And watch out for the weekly student digest from Student Services. Application for GSI positions usually made at least one semester in advance. Announcements are made at the department websites, email announcements, job postings in career center and open areas. Please contact the respective Student Affairs Officers for details and pay attention to email announcements at the BPH weekly student digest. Please note last minute GSI job openings may be available prior to semester starts. Students interested to apply for GSI should always highlight your academic qualifications and credentials and your teaching assistant/tutoring experience in your application.

Graduate Student Researchers (GSR): GSRs positions are usually hired by faculty and sometimes by research centers for administrating projects or programs. For appointment 25%-44% GSR appointments, it comes with partial fee remission as benefits. For 45% or above GSR appointments, students will get full fee remission. GSRs are subject to availability of funds and research needs. Please contact individual professors to see if they have any positions available. Moreover, faculty usually will give preference to PhD students for GSR appointments. Centers may also have GSR openings. Check Go to the
PHLEX: Public Health Leadership and Experience Exchange

PHAA Fellowships and Block Grant-Student Services will call for applications in the student digest announcements

Financial Aid

Work Study Job or Other Job Opportunities will be announced in Student Services students weekly digest among other announcements as well as BPH Career Center job site.

Please note that you can convert some of your loan amount to work study (if you do not offer any) this will make you more competitive in the process as under the Workstudy program, the employer only needs to pay approx. half of your salary, the other half will come from the Government. Unlike loans, which is guaranteed funding, Workstudy award is only an amount of how much you can earn within the Workstudy program, you still have to land on the job and earn the income. Please visit workstudy program website at http://financialaid.berkeley.edu/work-study and contact Financial Aid Office for questions.

Useful website for jobs:

Work Study: http://workstudy.berkeley.edu/JobSearch.aspx

RISE: Jobs and Internships :Search for full-time or part-time jobs, fellowships, internships, GSI/GSR, and volunteer opportunities using PHLEX

Association for Schools and Programs for Public Health (ASPPH) link for students to find outside scholarship and external financial aid http://www.aspph.org/study/financing-your-degree/

Courses

From the Berkeley General Catalog

PH 162A: Public Health Microbiology (4 units) (Fall)

Course Format: Two 1½-hour lectures per week.
Prerequisites: One year each of college-level biology and chemistry.
Description: Introduction to properties of microorganisms; their relationships with humans in causing infectious diseases and in maintaining health. May be taken without 162L.
(F) Harris, Riley (Fall 2021) and Liu; (Su)

PH 168: Public Health Microbiology Laboratory (2 unit) (Fall)

Course Format: One 2-hour laboratory per week.
Prerequisites: One year each of college-level biology and chemistry.
Description: Laboratory to accompany 162A.
(F) Liu

PH 236: US Food & Drug Admin, Drug Development, and Public Health (2 unit)(Sp)

Course Format: Two hour lectures per week.
Prerequisites: None
Description: The process and principles of drug development will be discussed in the context of the FDA's mandate and reach (basic science, pre-clinical and clinical research, policy law, and public health), emphasizing the impact of public health emergencies such as HIV on evolution of regulatory policies.
(Sp) Miller

PH 260A: Principles of Infectious Diseases (4 units) (Fall)

Course Format: 4 hours of lecture per week.
Prerequisites: Upper division course preparation in biology
Description: This course presents general principles of microbial interactions with humans that result in infection and disease. Common themes are developed using examples of viral, bacterial, and parasitological pathogens that exemplify mechanisms of infectious disease. The epidemiology, pathogenesis, host immune response, diagnosis, treatment, and control will be presented for each infectious disease discussed.
PH 260A: (F) Riley

PH 260E: Molecular Epidemiology of Infectious Diseases (2 units) (Fall of even-numbered years)

Course Format: Three hours of lecture and ½ hour of discussion per week.
Prerequisites: PH 250A, PH 260A or equivalent course.
Description: The course will cover general principles and practical approaches in the use of molecular laboratory techniques to address infectious disease epidemiologic problems. It is designed for students with experience in the laboratory or in epidemiology, but not both. The principles to be discussed will include the use of molecular techniques in outbreak investigations, characterizations of dynamics of disease transmission, identifying vehicles, and quantifying attributable risks in sporadic infections, refining data stratification to assist case-control studies, distinguishing pathovars from non-pathogenic variants of organisms, doing surveillance, and identifying genetic determinants of disease transmissions.
(Fall 2022) Riley

PH 260F: Infectious Disease Research in Developing Countries (2 units) (Spring of odd-numbered years)

Course Format: Two hours of lecture per week.
Description: The objective of this course is to provide M.P.H. and Ph.D. students with an appreciation and understanding of the complex issues involved in conducting scientific, laboratory-based investigation in developing countries. We will discuss the many obstacles to establishing and sustaining research projects, such as poor infrastructure, insufficient financial and material resources, and lack of scientific information and interaction. More importantly, we will identify innovative solutions to overcoming these obstacles. The first half of the course will consist of presentations by investigators in the U.S. and developing countries that have long-term research experience in Latin America, Asia, and Africa. We will also discuss related issues such as ethical considerations, equitable collaborations, and research capacity strengthening. During the second half of the course, students will give presentations on topics of their choice.
Offered in odd-numbered year.
(Sp 2023) Harris

PH 262: Molecular and Cellular Basis of Bacterial Pathogenesis (3 units) (Spring)

Course Format: Three hours of lecture and 1 hour of literature review per week.
Prerequisites: PH 260A, PH 260B, or consent of instructor.
Description: This course for graduate students will explore the molecular and cellular basis of bacterial pathogenesis. The emphasis will be on model bacterial pathogens of mammals. The course also will include some aspects of bacterial genetics and physiology, immune response to infection, and the cell biology of host-parasite interactions. Public health courses 102 and 262 are taught concurrently. Students enrolled in PH 262 also will be required to attend a weekly discussion of the primary literature, both current and classic. Each student will be required to present one paper.
(Sp) Portnoy

PH 263: Public Health Immunology (3 units) (Fall)

Course Format: Three hours of lecture and 1 hour of literature review per week
Description: This course will be the principal immunology course for graduate students in the field of public health. It is designed to teach both the basic biology of the human immune system and its response in health and disease, especially the specific response of the human immune system to major human pathogens. Four areas will be explored: 1) components of the immune system (spectrum of cell types and cell products); 2) different arms of the immune system including humoral, cell-mediated, innate and mucosal immunity; 3) specific immune response to infection caused by viral, bacterial, fungal, and parasitic pathogens; and 4) disorders of the immune system unrelated to infectious disease.
(F) Garlin and Popper

PH 264: Capstone Seminar in Infectious Diseases and Vaccinology (2 units) (Fall)

Course Format: One 2-hour lecture and presentation per week.
Prerequisites: ***2nd year IDV MPH students. 1st year IDV students welcome to sit in.***
Description: Examination of scientific, social, and policy dimensions of issues involving infectious diseases. Students select one topic for in-depth analysis and present findings in class. Topics vary from year to year.
(F) Liu

PH 265: Molecular Parasitology (3 units) (Fall of odd-numbered years)

Course Format: ***Two 1½-hour lectures and 2 hours of discussion per week for 11 weeks.***
Prerequisites: Upper division courses in molecular biology, parasitology, biochemistry, immunology, microbiology, or consent of instructor. Familiarity with reading primary research is recommended.
Credit Option: Course may be repeated for credit.
Description: This is an advanced course in the molecular aspects of parasite immunology, molecular biology, genetics, biochemistry, and genomics. For each parasite, the following areas will be covered: biology (history, classification/taxonomy, life cycle), disease spectrum/clinical manifestations, epidemiology (distribution, impact), pathogenesis, immunology (host immune response, immunopathology), vaccine development, and genomics. The lectures will focus on "state-of-the-art" research and knowledge in these areas in relation to molecular mechanisms of pathogenesis, parasite adaptions for survival within the host, and strategies for drug and vaccine development. Course content will rely heavily on current literature. Readings are required and consist of one review article about each parasite and several primary research articles on selected topics that will be focused upon in the lectures.
(Fall 2021) Harris

PH 266A: Foodborne Diseases (2 units) (currently not offer)

PH 266B: Zoonotic Diseases (2 units) (currently not offer)

PH 266C: Healthcare Associated Infections (2 units) (Fall)

Course Format: 1 hour lecture and 1 hour discussion per week.
Description: This course will examine and evaluate the principles underlying the control of infections in healthcare settings, the causes of these infections, current important topics in this field and future trends. Students will gain an appreciation of the national and local programs involved in preventing HAI's, their major causes, antimicrobial control, and specific agents and procedures causing HAI's. The class instructors have spent many decades in infection control in healthcare settings. Additional, there will be an invited guest for each class who has extensive knowledge of the topic to be discussed. (Division Seminar requirement)
(F) Swartzberg

PH 290: Diagnostics in Infectious Diseases: Development, Regulatory and Implementation Challenges (2 units) (Sp)

Description: This course will review domestic and global regulatory oversight and explore how tests are marketed around the world. Students will learn about the challenges to innovation generalizability and best practices to develop and translate a diagnostic test into clinical practice. Focused on diagnostics in infectious diseases, the course features ongoing epidemics and pandemics such as HIV, TB and COVID-19. Topics range from the role of diagnostics in global health, to the basics of regulatory approval and oversight, innovation in analytics, to best practices for bringing a test from the lab bench to domestic and global markets.
(Sp) Miller, Dailey and Sninsky

PH 291A : Public Health Professional Development Series (2 unit) Fall and Spring

Course Format: Two hours of workshop every week.
Description: A series of skills-based workshops designed to introduce the student to specialized skills needed in the public health workplace. These workshops are designed to complement the core curriculum of the School of Public Health and are selected based on regular feedback from faculty, public health practitioners, and students. Workshop facilitators include consultants, CPHP field supervisors, and public health practitioners with expertise in the subject. This course or series of workshops is open to all M.P.H. and Dr.PH. students. Students select from a list of 2-hour workshops to total 1 unit equal to 15 hours of class time, plus readings that are assigned for many of the workshops. Workshop topics have included writing for publication, moderating focus groups, human resources management, legislative policy and advocacy, negotiation, evaluation, tools for financial planning, scientific grant writing, leadership, oral presentations, strategic planning, cultural competency, time management, and budgeting.
(Sp) CPHPL staff

PH 293: Doctoral Seminar (1-2 units)

Course Format: One to four hours of seminar per week.
IDI Monday Doctoral Seminars PH 293 (1 unit, letter grade) Instructor: (Fall) (not offered in Fall 2021)
IDI Wednesday Doctoral Research Seminar PH 293 (2 units, letter grade) Instructor: (Fall 2021) Harris
Credit Option: Course may be repeated for credit.
Description: Discussion and analysis of dissertation research projects, as well as of conceptual and methodological problems in planning and conducting health research.
(F, Sp) IDV Faculty

PH 297: Practicum in Public Health (3 units) S/SU grade only

Course Format: Field Study.
Grading Option: Must be taken on a satisfactory/unsatisfactory (S/U) grade..
Description: Supervised experience relevant to specific aspects of public health in off-campus organizations for graduate students. Regular individual meetings with faculty sponsor and written reports required. IDV students should sign up for 3 units.
(Field Study will be completed in the summer after the first year; student should register the class in their second year fall semester) Staff

PH 298: Group Study (1-8 units)

Course Format: Independent study.
Credit Option: Course may be repeated for credit.
(F, Sp, Su) Faculty

PH 299: Independent Research (1-12 units)

Credit Option: Course may be repeated for credit.
Description: Independent study.
(F, Sp, Su) Faculty

Pathway through IDV MPH program

Coursework	IDV MPH is two year residential program. Students need to complete MPH Breadth, Leadership course, IDV core courses, two IDV Advanced courses, IDV Division seminar, plus at least 16 units of graduate courses as electives. A minimum of **48** units is required for graduation.
Practicum	Summer 2023-register the course PH 297 for credit in Fall 2023. Students should attend the workshops on Practicum organized by RISE and start looking for Practicum in Dec/Jan 2023.
Capstone project	Student research and select a capstone topic in PH 264. Capstone paper mentor assigned. Student start work on capstone analytical paper in early Dec 2022. Paper due in March and oral presentation of capstone in April for graduation.

Pathway through the IDI PhD program

Coursework	First and second year: Group I to Group V course requirement.
Lab rotations	First year: Students usually do 3 lab rotations.
Major milestone: Qualifying Exam (QE)	Second year: Application for QE. See section on QE
Advancement to Candidacy	Third year: After passing the QE, students should apply for advancement to candidacy
Annual Doctoral Candidacy Review (DCR)	Third to fifth year: Advanced to candidacy Doctoral student should complete the Annual review by IDI PhD program in March and the Grad Division annual requirement on Doctoral Candidacy Review (DCR) in calcentral in May.
Teaching Requirement	2 semesters of GSI teaching.
Dissertation Talk	Fifth year: present in IDI Doctoral Seminar
File Dissertation	Fifth+ year: Be a registered student or on filing fee to file dissertation.

Tips for Newcomers

Library Resources

The School of Public Health Library is located on the ground floor of University Hall in Room 1. Your registration card entitles you to borrow books from the main University library and any of its branches. For more information, call the Doe Library Privileges Desk at (510) 642-3403 or visit the UC Berkeley Library homepage at http://www.lib.berkeley.edu.

Computing Resources

Email Accounts:

UCB Campus email account should be set up once your student identification number (SID) is available at CalMail Website at https://calmail.berkeley.edu. Your Berkeley email account is the official email we will use to communicate with students. Students are responsible for the contents of the emails sent to them regarding policies and deadlines.

Useful Websites:

IDV website https://publichealth.berkeley.edu/academics/infectious-diseases-and-vaccinology/

(Students can use the search engine in the Berkeley home page to look for Online General Catalog, current Schedule of Classes and links to all campus departments and resources.)

SPH Career Services: https://publichealth.berkeley.edu/student-life/career-and-leadership-development/career-services/

Office of the Register- Residency Office website: Establish CA residency/

Graduate Division: http://www.grad.berkeley.edu

(Important information on the Guide to Graduate Studies, Information for holding GSI/GSR appointments, various academic forms, and fellowship information can be found in this site)

Berkeley Public Health homepage: http://sph.berkeley.edu

Basic needs program: https://basicneeds.berkeley.edu/

Tang Center University Health Services: https://uhsberkeley.edu

OOMPM-Residential students taking On line On campus courses:
https://onlinemph.berkeley.edu/academic-planning/academics/new-to-online-learning/

The Role of a Faculty Advisor

It is the responsibility of the academic faculty advisor to assist the student in developing an optimal academic plan that meets the basic curriculum requirements for the degree being pursued and insures sufficient flexibility to meet individual goals. The academic faculty advisor is prepared to discuss the requirements of the specific degree and program requirement. **It is the student's responsibility to keep his/her faculty advisor of apprised of their academic progress and seek academic advice as needed**. IDV MPH students are required to meet with their faculty advisor at least once a year, preferably every semester.

All faculty advisors will make available a sufficient number of office hours to advise students during Orientation Week, the first week of the semester, and throughout the semester. Please check with faculty of their availability, office hours and schedule meetings by bcal invite or by appointments.

Some possible questions students might want to ask their faculty advisor during an initial meeting is listed below. The purpose of a meeting with a faculty advisor early in a student's first semester is to give the student a chance to get to know their advisor and vice versa. Faculty advisor also want to learn about the student's academic and career goals to provide support, guidance and mentorship. Faculty advisor can let the student know of what he/she can expect from the relationship with a faculty advisor.

During the first meeting, students need to be prepared to talk about their academic goals and ask the questions for which they want answers. Suggested questions for the initial meeting with your faculty advisor include:

1. Let your advisor know whether you have a specific career goal in mind or if you are uncertain and are "exploring different possibilities".
2. Tell him/her what you would like to focus on while a student here; ask "What courses do you suggest I take?" "Here are the courses I am thinking about taking; what do you think of this plan?"
3. "How often should I plan to meet with you?"
4. "What is the best way to communicate with you if I have questions, a problem, or need to make an appointment?

Steps for resolving an unsatisfactory advising situation

The faculty advisor's responsibilities are limited to advising the student about coursework and other aspects of the curriculum. He/she is not necessarily the same person who will be the student's mentor for the MPH Comp paper. Summer Field Study placement should be arranged early through the CPHPL; students should start the process early by working with the Field Study Placement supervisor and participating in the IDV Field Study Placement information session and speaking with peer students of their experience. IDV faculty advisor can give general research advice to students but are not expected to be involved in the actual placement process. Dr. Dailey is the great resource for IDV MPH students advising on Field Study.

If a student feels that their faculty advisor is not fulfilling their responsibilities, the student should talk first with the advisor regarding that perception, and they should try to work together to take steps toward improving the situation. 2. If the situation is not resolved after talking about it with the faculty advisor, the student is encouraged to talk with the Division Head, Dr. Lee Riley and/or the Associate Dean of Services. It is the responsibility of the Division Head or the Associate Dean to discuss the situation with the faculty advisor to insure resolution of any advising difficulties.

Student Groups

Infectious Disease and Immunity PhD Student Group

2022-2023 co-presidents: Joseph Tran, Kishen Patel

Association of Public Health Infectious Diseases Students (APHIDS)

2022-2023 Coordinators: Rushlenne Pascual , Brandon Ja, Mayland Treat

2022 -2023 Academic Calendar

Fall Semester 2021

Event	Date
Fall Semester Begins	Wednesday, August 17, 2022
Instruction Begins	Wednesday, August 24, 2022
Academic & Administrative Holiday (Labor Day)	Monday, September 5, 2022
Academic & Administrative Holiday (Veterans Day)	Thursday, November 11, 2022
Non-Instructional Day	Wednesday, November 23, 2022
Academic & Administrative Holiday (Thanksgiving)	Thursday, November 24 & Friday, November 25, 2022
Formal Classes End	Friday, December 2, 2022
Reading/Review/Recitation Week	Monday, December 5– Friday, December 9, 2022
Last Day of Instruction	Friday, December 16, 2022
Final Examinations	Monday, December 12 – Friday, December 16, 2022
Fall Semester Ends	Friday, December 16, 2022
Academic & Administrative Holidays (Winter Holidays)	Friday, December 23 & Monday, December 26, 2022
Academic & Administrative Holiday (New Year's)	Friday, December 30, 2022 & Monday, January 2, 2023

https://registrar.berkeley.edu/wp-content/uploads/UCB_AcademicCalendar_2022-23.pdf

General Information

California Residency

Every entering student is classified as a Resident or Non-resident of California for tuition purposes. Fees and tuition will vary depending upon the student's residency status. To establish California residence for tuition purpose, it is important for non-California residents to begin collecting documentation. For more information, please visit the Registrar's website and California residency information for non-citizens is at https://registrar.berkeley.edu/tuition-fees-residency/residency-for-tuition-purposes/residency-requirements-graduate-students/

For inquiries regarding residence requirements, determination, and exemptions, please contact the Residence Affairs Unit of the Registrar's Office, email: orres@berkeley.edu, phone: (510) 642-5990, office located at 120 Sproul Hall.

Registration and Enrollment

Incoming IDV MPH and IDI PhD graduate students are asked to register for classes they must take by reviewing the program curriculum requirement in **Calcentral** student portal and confirming their class schedule after meeting with their faculty advisors during Orientation. Make any changes if necessary during the Adjustment Period.

To be officially registered at Berkeley, you must enrolled in at least 12 units; your registration fees must have been paid, either in full or by payment plan, by the published deadlines and you must have no registration/financial blocks. After adjustment period ended by the end of the 3rd week of instruction, students must fill out the Petition to Change Class Schedule for Graduate Students (forms available online) to make course schedule change. The form should be submitted to the Student Services at 417 U Hall and a small fee charged for adding/dropping classes. No change of class schedule will be entertained by Student Services after the SPH internal add/drop deadline for graduate students, it is usually earlier a week prior to the published deadline. Please always check your enrollment status in Calcentral on a regular basis to make sure your enrollment information is correct.

Note: Please check financial aid website for satisfactory academic progress requirement for student receiving federal loans and work study. http://financialaid.berkeley.edu/satisfactory-academic-progress

Online MPH courses

UC Berkeley's online learning is a rewarding experience that provides students with relevant, unique skills in a way that integrates with your busy schedule. While an online degree is flexible, it requires a good deal of time management. Online courses, like any academic endeavor, require significant effort and a commitment to keeping up with weekly assignments and engaging with course materials in a timely manner. With this in mind, we offer some advice for how to get the most out of your online education.

OOMPM-Residential students taking On line On campus courses:
https://onlinemph.berkeley.edu/academic-planning/academics/new-to-online-learning/

Campus students must complete the free OOMPH 101 tutorial one-time only prior to requesting a permission code for an online course from your program manager. You may enroll at any time at this link: https://berkeleyphw.catalog.instructure.com/courses/oomph-101 and selecting “enroll."

Campus Resources for students with disabilities

The campus offers many different resources for graduate students with disabilities. The purpose of an academic accommodation is to offer the graduate student an equal opportunity to meet with the department’s academic standards and requirements. The Disabled Students Program http://dsp.berkeley.edu at (510) 642- 0518 serves graduate students with disabilities (who complete the process of establishing eligibility) by authorizing academic accommodations. To get more information on the Disabled Access Services, please visit http://access.berkeley.edu or contact (510) 643-6473 or (510) 643-6456. It can usually assist with accommodations to extra-curricular events. Most physical access issues are addressed in the Campus Access Guide http://acads.chance.berkeley.edu/GAG/. Finally, problems with accommodations may be reported to the campus Disability Resolution Officer Derek Coates http://acads.chance.berkeley.edu/ada.shtml at (510) 642- 2795

University Health Services (UHS)

University Health Services (UHS) provides comprehensive medical, mental health and health promotion services to all Cal students and a variety of occupational health services to faculty and staff. http://www.uhs.berkeley.edu/

GSI/GSR Positions

If you are interested in finding GSI (Graduate Student Instructor) and/or GSR (Graduate Student Researcher). The best way is to contact the Student Affairs Officers and the faculty concerned of individual hiring departments and the faculty concerned, check the department’s website and pay attention to email announcements. Most departments hire their GSI at least a semester or even an academic year ahead of time (such as MCB), please apply early. The SPH GSI job openings are also posted in the SPH Career Center PHLEX. Students and alumni can search for full-time or part-time jobs, fellowships, internships, GSI/GSR, and volunteer opportunities using PHLEX

https://berkeleypublichealth.12twenty.com/Login

Complete academic departments and programs list (search by alphabet) can be found at www.berkeley.edu/academics/dept/a.shtml

Classes can be viewed at https://classes.berkeley.edu/

Basic need program: https://basicneeds.berkeley.edu/home

Useful Resources

Useful SPH resources for students:

- http://sph.berkeley.edu/current-students/student-resources

Useful campus resources:

- CalCentral is UC Berkeley's **online** one-stop service center that allows students to manage class enrollment, billing, financial aid, and student records.. This website combines multiple campus systems into one easy-to-use mobile friendly place. Check campus email, calendar, academic progress, financial aid, enrollment information, and more. https://calcentral.berkeley.edu
- **Cal Student Central** is the physical one-stop student services center located in 120 Sproul Hall where students can find answers to questions regarding financial aid, fees and billing, payments, disbursements, registration and enrollment in one convenient location. Visit studentcentral.berkeley.edu for quick answers to top questions. If you need further assistance, stop by 120 Sproul Hall, Monday - Friday, 9 a.m. - 4 p.m.http://studentcentral.berkeley.edu/
- www.berkeley.edu/visitors/contacts.html

Berkeley time: At Berkeley, classes start 10 minutes after their scheduled times, known as "Berkeley Time," this time provides a buffer for students with back-to-back classes. For example, if your schedule says you have: Class A from 9:00 AM – 11:30 AM, Class B from 11:30 AM –1:00 P

RISE: https://publichealth.berkeley.edu/student-life/career-and-leadership-development/internships/

Registrar's Office (Academic & student calendars, fees, establishing legal residency): http://registrar.berkeley.edu/
https://registrar.berkeley.edu/tuition-fees-residency/residency-for-tuition-purposes/residency-requirements- graduate-students/

Graduate Division: www.grad.berkeley.edu

- Guide to Graduate Policy: www.grad.berkeley.edu/policies/guide.shtml
- What do you Need to know about being a GSI, GSR, Reader or Tutor http://www.grad.berkeley.edu/policies/pdf/apptknow.pdf
- Degrees FAQ: www.grad.berkeley.edu/policies/faq.shtml
- Fees: www.grad.berkeley.edu/admissions/cost_fees.shtml
- Fellowship Office: www.grad.berkeley.edu/financial/fellowships_office.shtml
- Information on GSI/GSR/Reader/Tutor appointments: www.grad.berkeley.edu/policies/pdf/apptknow.pdf
- Graduate Diversity Program: http://www.grad.berkeley.edu/diversity/diversity.shtml
- Financial Aid Office: http://students.berkeley.edu/finaid/
- Disabilities Service: http://dsp.berkeley.edu
- University Health Services at UCTang Center: http://uhs.berkeley.edu/
- GSI Teaching and Resource Center: http://gsi.berkeley.edu/
- Housing: www.housing.berkeley.edu/livingatcal/graduatestudents.html
- Basic Needs program: https://basicneeds.berkeley.edu/home

IDI PhD Students	
1st yr IDI PhD students	
Jaime Cardona Ospina	Dr. Harris
Scott Espich	Dr. Harris
Felix Pahmeier	Dr. Harris
Marize Rizkalla	Dr. Harris
Zahra Zubair-Nizami	Dr. Harris

2nd yr IDI PhD

Carolina Agudelo	Dr. Wolf, co-mentor Dr. Stanley
Isabel Lamb-Echegaray	Dr. Stanley

3rd yr IDI PhD

Elias Duarte	Dr. Harris
Claire Mastrangelo	Dr. Riley

First year IDV MPH students

4th yr IDI PhD

Eric Jedel	Dr. Fleiszig
Kishen Patel	Dr. Seed
Reinaldo Mercado-Hernandez	Dr. Harris

5th yr IDI PhD

Cuong Tran	Dr. Welch
Joanna Vinden	Dr. Greenhouse, UCSF
Marcus Wong	Dr. Harris

1st yr IDV MPH Student Name	**Faculty Advisor**
Sarah Alhakimi	Dr. Eva Harris
Priyadharshini Balasubramanian	Dr. Ashley Wolf
Nicholas Coburn	Dr. Fenyong Liu
Luis Gay	Dr. Peter Dailey
Lauren Granskog	Dr. John Swartzberg
Kylie Hilton	Dr. Veronica Miller
Monica Hu	Dr. Eva Harris
Fareshta Jan	Dr. Peter Dailey
Kristen Jeong	Dr. Lee Riley
Helen Kong	Dr. John Swartzberg
Ashley Lee	Dr. Ashley Wolf
Yichen Li	Dr. Fenyong Liu

Yu-Tseng Lin	Dr. Peter Dailey
Lily MacCachran	Dr. Filipa Rijo-Ferreira
Sloane Pace	Dr. John Swartzberg
Ramiro Palomares	Dr. Ashley Wolf
Mihir Pandya	Dr. Filipa Rijo-Ferreira
Brent Siegel	Dr. Eva Harris
Abraham Soto	Dr. Filipa Rijo-Ferreira
Beimnet Taye	Dr. Veronica Miller
Liana Vannouvong	Dr. John Swartzberg
Deionna Vigil	Dr. Veronica Miller
Zhaohan Xu	Dr. Fenyong Liu
Lucas Yoshida	Dr. Lee Riley
Yongyan Yue	Dr. Veronica Miller
Mira Zelle	Dr. Peter Dailey

Second yr IDV MPPH Students

Student Name	**Faculty Advisor**
Nayri Alajaji	Dr. Miller
Yuzin Arias Gonzalez	Dr. Liu
Samuel Holland	Dr. Swartzberg
Lian Ching Yun Hsiao	Dr. Wolf
Shradha-Nicole Iyer	Dr. Swartzberg
Brandon Ja	Dr. Swartzberg
Ala Koreitem	Dr. Liu
Kathryn Lin	Dr. Wolf
Luis Lopez	Dr. Harris
Aliya Mahmoud	Dr. Miller
Korie McManus	Dr. Swartzberg
Annette Mercedes	Dr. Dailey
Shannon Mohler	Dr. Garlin and Dr. Dailey
Renee Padiernos	Dr. Miller
Rushlenne Pascual	Dr. Riley
Milciela Reyes	Dr. Harris
Samantha Sears	Dr. Liu
Mayland Treat	Dr. Harris
Danni Xuyang	Dr. Dailey

1st Year

Jaime Cardona-Ospina

Scott Espich

Felix Pahimeier.

Marize Rizkalla

Zahra Zubair-Nizami

2nd Year

Carolina Agudelo

Isabel Lamb-Echegaray

3rd Year

Elias Duarte

Claire Mastrangelo

4th Year

Kishen Patel

Eric Jedel

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