Physiology and Biophysics

Michael D. Cahalan, Department Chair
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Overview

The Department of Physiology and Biophysics offers research opportunities in the molecular biophysics of membranes and proteins, ion channels and signal transduction, endocrinology, molecular and cell biology, physiological genomics, developmental neurobiology, and exercise physiology.

The Department offers graduate study under the auspices of the School of Medicine and in conjunction with the graduate program in Cellular and Molecular Biosciences (CMB) and the Interdepartmental Neuroscience Program (INP), which are described in the Francisco J. Ayala School of Biological Sciences section, as well as by direct admission. Students are eligible to enter the Department program after meeting the specific requirements of the CMB or INP gateway curriculum or by direct application to the Department. The Department program leads to a Ph.D. degree in Biomedical Sciences, awarded after successful completion of all requirements. Students admitted through either gateway program who select a research advisor in the Department begin following the departmental requirements for the Ph.D. at the beginning of their second year. A direct admission student works towards fulfilling first-year departmental requirements for the Ph.D. as directed by their faculty mentor.

The faculty conducts quarterly reviews of all continuing students to ensure that they are maintaining satisfactory progress within their particular academic program. Students participate in a literature review course designed to strengthen research techniques and presentation skills, and attend the monthly department seminars. Students advance to candidacy during the third year; each student presents a seminar on a topic assigned by the formal candidacy committee. Following the seminar, the committee examines the student’s qualifications for the successful conduct of doctoral dissertation research. Each student must submit a written dissertation on an original research project and successfully defend this dissertation in an oral examination. Interdisciplinary dissertation research involving more than one faculty member is encouraged. In the normative case, the student will advance to candidacy by the end of the third year, and will complete the program by the end of the fourth (preferred) or, in exceptional cases, a fifth year.

Faculty

Geoffrey W. Abbott, Ph.D. University of London, Professor of Pharmacology; Physiology and Biophysics

Kenneth M. Baldwin, Ph.D. University of Iowa, Professor Emeritus of Physiology and Biophysics

Tallie Z. Baram, M.D. University of Miami, Danette Dee Dee Shepard Chair in Neurological Studies and Professor of Pediatrics; Anatomy and Neurobiology; Neurology; Physiology and Biophysics

Ralph A. Bradshaw, Ph.D. Duke University, Professor Emeritus of Physiology and Biophysics

Michael D. Cahalan, Ph.D. University of Washington, Department Chair and UCI Distinguished Professor of Physiology and Biophysics

Vincent J. Caiozzo, Ph.D. University of California, Irvine, Professor in Residence of Orthopaedic Surgery; Environmental Health Sciences; Physiology and Biophysics

Philip Felgner, Ph.D. Michigan State University, Adjunct Professor of Medicine; Physiology and Biophysics

John Jay Gargus, M.D. Ph.D. Yale University, Director of the Center for Autism Research and Translation and Professor of Physiology and Biophysics; Genetic Counseling; Pediatrics

Alan L. Goldin, M.D. Ph.D. University of Michigan, Professor of Microbiology and Molecular Genetics; Anatomy and Neurobiology; Physiology and Biophysics

Milton Greenberg, Ph.D. University of California, Irvine, Assistant Adjunct Professor of Physiology and Biophysics

Harry T. Haigler, Ph.D. Vanderbilt University, Professor Emeritus of Physiology and Biophysics

James E. Hall, Ph.D. University of California, Riverside, Professor Emeritus of Physiology and Biophysics

Todd Holmes, Ph.D. Massachusetts Institute of Technology, Department Vice Chair and Professor of Physiology and Biophysics

Naoto Hoshi, Ph.D. Kanazawa University, Assistant Professor of Pharmacology; Physiology and Biophysics
Lan Huang, Ph.D. University of Florida, Professor of Physiology and Biophysics; Biological Chemistry

Rongsheng Jin, Ph.D. Columbia University, Professor of Physiology and Biophysics

Frances A. Jurnak, Ph.D. University of California, Berkeley, Professor Emerita of Physiology and Biophysics

Janos K. Lanyi, Ph.D. Harvard University, Professor Emeritus of Physiology and Biophysics

Devon Lawson, Ph.D. University of California, Los Angeles, Assistant Professor of Physiology and Biophysics

John C. Longhurst, Ph.D. University of California, Davis, Susan Samueli Chair in Integrative Medicine and Professor of Medicine; Pharmacology; Physiology and Biophysics

Kenneth J. Longmuir, Ph.D. University of Oregon, Professor Emeritus of Physiology and Biophysics

Hartmut Luecke, Ph.D. William Marsh Rice University, Professor of Molecular Biology and Biochemistry; Physiology and Biophysics

Jogeshwar Mukherjee, Ph.D. Jodhpur National University, Professor in Residence of Radiological Sciences; Biomedical Engineering; Physiology and Biophysics (preclinical imaging, radiopharmaceutical design and development, PET imaging and quantitation, neuroscience)

Ian Parker, Ph.D. University College London, Professor of Neurobiology and Behavior; Physiology and Biophysics

Medha Pathak, Ph.D. University of California, Berkeley, Assistant Professor of Physiology and Biophysics

Eric Pearlman, Ph.D. University of Texas Health Sciences Center at San Antonio, Director of the Institute for Immunology and UCI's Chancellor Professor of Physiology and Biophysics; Ophthalmology

Thomas L. Poulos, Ph.D. University of California, San Diego, UCI Chancellor's Professor of Molecular Biology and Biochemistry; Chemistry; Pharmaceutical Sciences; Physiology and Biophysics (chemical biology)

Hamid M. Said, Ph.D. Aston University, Professor of Medicine; Physiology and Biophysics

Francesco Tombola, Ph.D. University of Padua, Associate Professor of Physiology and Biophysics

Bruce Tromberg, Ph.D. University of Tennessee, Director of Beckman Laser Institute and Professor of Surgery; Biomedical Engineering; Physiology and Biophysics (photon migration, diffuse optical imaging, non-linear optical microscopy, photodynamic therapy)

Nosratola D. Vaziri, M.D. University of Tehran, Professor Emeritus of Medicine; Physiology and Biophysics

S. Armando Villalta, Ph.D. University of California, Los Angeles, Assistant Professor of Physiology and Biophysics

Ping H. Wang, M.D. Harvard University, Professor of Medicine; Physiology and Biophysics

Stephen H. White, Ph.D. University of Washington, Professor Emeritus of Physiology and Biophysics

Qin Yang, M.D. Ph.D. Nanjing University of Chinese Medicine, Osaka University, Assistant Professor of Medicine; Physiology and Biophysics

Albert Zlotnik, Ph.D. University of Colorado Health Sciences Center, Department Graduate Faculty Advisor and UCI Chancellor’s Professor of Physiology and Biophysics