Neurosciences


Doctor of Philosophy in Neurosciences

University requirements for the Ph.D. are described in the "Graduate Degrees (http://exploredegrees.stanford.edu/archive/2014-15/graduatedegrees) " section of this bulletin.

The interdepartmental Neurosciences Program offers instruction and research opportunities leading to a Ph.D. in Neurosciences. The requirements for a Ph.D. degree follow those of the University and in addition are tailored to fit the background and interests of the student. Accepted students receive an award covering tuition, a basic health plan, and a living stipend. Qualified applicants should, where possible, apply for the predoctoral fellowships in open competition, especially those from the National Science Foundation. Applications and all supporting material are due in early-December each year.

Applicants should familiarize themselves with the research interests of the faculty and indicate their preferences clearly on the application form.

Since students enter with differing backgrounds, and the labs in which they may elect to work cover several different disciplines, the specific program for each student is developed individually with an advisory committee. All students are required to complete the basic introduction to neurobiology (NBIO 206 The Nervous System or equivalent). All students must complete nine quarters of Professional Development and Integrity in Neuroscience (NBIO 300 Professional Development and Integrity in Neuroscience). Lastly, students must also take five courses within (and at least one course in each of) the following three areas:

1. Molecular, Cellular and Developmental Neuroscience
2. Systems, Computational, Cognitive and Behavioral Neuroscience
3. Translational Neuroscience

Courses from outside the neuroscience core can satisfy the elective requirement.

Students rotate through several labs during their first year, although they may choose to begin thesis research upon entry. After the first rotation, students may rotate both within and outside the Neurosciences Program. Required course work should be completed by the end of the second year. Passing of a comprehensive oral preliminary examination given by the student's advisory committee is required for admission to Ph.D. candidacy. This examination is usually taken by the end of the second year. The student is required to present a Ph.D. dissertation, which is the result of independent investigation contributing to knowledge in an area of neuroscience, and to defend his or her dissertation in a University oral examination, which includes a public seminar.

Medical students may participate in this program provided they meet the prerequisites and satisfy all the requirements of the graduate program as listed above. The timing of the program may be adjusted to fit their special circumstances.

Director: Anthony J. Ricci (Edward C. and Amy H. Sewall Professor in the School of Medicine and, Professor, by courtesy, of Molecular and Cellular Physiology)

Steering Committee: Katrin Andreasson, Paul Buckmaster, Marion Buckwalter, Aaron Gitler, John R. Huguenard, Merritt Maduke, Michelle Monje-Deisseroth, Giles Plant, Anthony Ricci, Thomas Sudhof

Participating Faculty:

Anesthesiology: Rona Giffard (Professor), Sean Mackey (Professor), Gregory Scherrer (Assistant Professor), David Yeomans (Associate Professor)

Applied Physics: Surya Ganguli (Assistant Professor), Mark Schnitzer (Associate Professor)

Bioengineering: Kwabena Boahen (Professor), Karl Deisseroth (Professor), Jin Hyung Lee (Assistant Professor), Michael Lin (Assistant Professor), Matthew Scott (Professor)

Biomedicine: Xiaoke Chen (Assistant Professor), Russell Fernald (Professor), H. Craig Heller (Professor), Ron Kopito (Professor), Liuqin Luo (Professor), Susan McConnell (Professor), Robert Sapolsky (Professor), Mark Schnitzer (Associate Professor), Carla Shatz (Professor), Kang Shen (Professor)

Comparative Medicine: Paul Buckmaster (Professor), Corinna Darian-Smith (Associate Professor), Joseph Garner (Associate Professor), Shaul Hestrin (Professor)

Computer Science: Fei-Fei Li (Associate Professor)

Developmental Biology: Ben Barres (Professor), Seung Kim (Professor), David Kingsley (Professor), Matthew Scott (Professor)

Electrical Engineering: Krishna Shenoy (Professor)

Genetics: Anne Brunet (Associate Professor), Aaron Gitler (Associate Professor), Matthew Scott (Professor)

Microbiology and Immunology: Helen Blau (Professor)

Molecular and Cellular Physiology: Axel Brunger (Professor), Miriam Goodman (Associate Professor), Brian Kobilka (Professor), Richard S. Lewis (Professor), Daniel V. Madison (Associate Professor), Merritt Maduke (Associate Professor), Anthony Ricci (Professor), Stephen Smith (Professor), Thomas Sudhof (Professor)

Neurobiology: Stephen Baccus (Associate Professor), Ben Barres (Professor), Tom Clandinin (Associate Professor), Ricardo Dolmetsch (Associate Professor), Lisa Giocomo (Assistant Professor), Eric Knudsen (Professor), Tirin Moore (Associate Professor), William Newsome (Professor), Jennifer Raymond (Associate Professor), Carla Shatz (Professor)

Neurology and Neurological Sciences: Katrin Andreasson (Professor), Ben Barres (Professor), Paul Buckmaster (Professor), Marion Buckwalter (Assistant Professor), Yoon-Jae Cho (Assistant Professor), Jun Ding (Assistant Professor), May Han (Assistant Professor), Ting-Ting Huang (Associate Professor, Research), John R. Huguenard (Professor), Jin Hyung Lee (Assistant Professor), Frank Longo (Professor), Michelle Monje-Deisseroth (Assistant Professor), Josef Parvizi (Associate Professor), Kathleen Poston (Assistant Professor), Thomas A. Rando (Professor), Richard Reimer (Associate Professor), Robert Sapolsky (Professor), Tony Wyss-Coray (Professor), Yanmin Yang (Associate Professor)

Neurosurgery: Marion Buckwalter (Assistant Professor), Lu Chen (Associate Professor), EJ Chichilnisky (Professor), Theo Palmer (Associate Professor), Giles Plant (Associate Professor), Gary K. Steinberg (Professor), Xinnan Wang (Assistant Professor), Heng Zhao (Associate Professor, Research)

Ophthalmology: EJ Chichilnisky (Professor), Yaping Joyce Liau (Assistant Professor)

Otolaryngology: Mina Mustapha (Assistant Professor), Anthony Ricci (Professor)
Pathology: Bingwei Lu (Associate Professor), Marius Wernig (Assistant Professor)

Pediatrics: Michael Lin (Assistant Professor)

Philosophy: Patrick Suppes (Professor, emeritus)

Psychiatry and Behavioral Sciences: Lu Chen (Associate Professor), Luis de Lecea (Professor), Karl Deisseroth (Professor), Firdaus Dhabhar (Associate Professor), Amit Etkin (Assistant Professor), Craig Garner (Professor), David Lyons (Professor, Research), Robert Malenka (Professor), Vinod Menon (Professor, Research), Karen Parker (Assistant Professor), Allan Reiss (Professor), Jamie Zeitzer (Assistant Professor)

Psychology: Ian Gotlib (Professor), Kalanit Grill-Spector (Associate Professor), James Gross (Professor), Brian Knutson (Associate Professor), James McClelland (Professor), Samuel McClure (Assistant Professor), Anthony Norcia (Professor), Anthony Wagner (Professor), Brian Wandell (Professor)

Radiology: Gary Glover (Professor)

Courses

NEPR 299. Directed Reading in Neurosciences. 1-18 Unit.  
Prerequisite: consent of instructor.

NEPR 399. Graduate Research. 1-18 Unit.  
Student Investigations sponsored by individual faculty members. 
Prerequisite: consent of instructor.

NEPR 801. TGR Project. 0 Units.

NEPR 802. TGR Dissertation. 0 Units.