Neuroscience

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Graduate Studies

Neuroscience is the interdisciplinary study of neural function, development, and behavior. At the University of Oregon, the graduate training program in neuroscience is centered in the Institute of Neuroscience. Participating faculty members are drawn from the Departments of Biology, Human Physiology, and Psychology.

Curriculum

First-year graduate students take one of two core sequences:

1. cellular, systems, and cognitive neuroscience
2. developmental, molecular, and genetic neuroscience

The core sequences are taught cooperatively by the faculty. Most students also take elective courses in a variety of subjects.

Faculty-Student Seminars

Faculty members and graduate students participate in weekly informal seminars that feature lively discussion of research papers in specific areas of neuroscience. Students and faculty members also participate in the neuroscience seminar, a weekly series featuring visiting scientists. The purpose of the neuroscience seminar is to keep both the faculty and students abreast of current developments in this broad field.

Research

Students are encouraged to participate in laboratory research from the very beginning of their graduate training. A laboratory rotation program is directed toward this objective. In the rotation program, new students take part in the activities of a different laboratory group during each of the three terms of the first year. Participation may include a research project, ongoing experiments, or other activities. This program allows students to learn firsthand about different approaches to the study of neuroscience before choosing an area of concentration.

Doctoral Study

Students who want to enter the neuroscience program should apply to the PhD program of a participating department and indicate their interest in neuroscience. Typically, students interested in cognitive neuroscience apply to the psychology department; students interested in molecular, cellular, developmental, or systems neuroscience apply to the biology department. Such applications are reviewed by the neuroscience faculty as well as the departmental admission committee. Answers to specific questions about prerequisites and deadlines may be obtained by writing directly to one of the participating departments, University of Oregon, Eugene, Oregon 97403. Additional information about the Institute of Neuroscience may be obtained from the institute website. See also the Institute of Neuroscience section in the **Research Centers and Institutes** (http://catalog.uoregon.edu/archive/2019-2020/research) area of this catalog.

Courses

Biology. Cell Biology (BI 322), Sensory Physiology (BI 353), Animal Physiology (BI 356), Neurobiology (BI 360), Special Studies: [Topic] (BI 399) (Cellular Biology of the Senses), Experimental Course: [Topic] (BI 410) (Computational Neuroscience), Protein Toxins in Cell Biology (BI 422), Systems Neuroscience (BI 461), Cellular Neuroscience (BI 463), Developmental Neurobiology (BI 466), Experimental Course: [Topic] (BI 510) (Computational Neuroscience), Protein Toxins in Cell Biology (BI 522), Systems Neuroscience (BI 561), Cellular Neuroscience (BI 563), Developmental Neurobiology (BI 566), Experimental Course: [Topic] (BI 610) (Advanced Cellular Neuroscience)

Human Physiology. Motor Control (HPHY 333), Experimental Course: [Topic] (HPHY 410) (Neurophysiology of Concussion), Experimental Course: [Topic] (HPHY 510) (Neurophysiology of Concussion), Experimental Course: [Topic] (HPHY 610) (Advanced Systems Neuroscience)

Psychology. Biopsychology (PSY 304), Brain Mechanisms of Behavior (PSY 445), Cognitive Neuroscience (PSY 449), Brain Mechanisms of Behavior (PSY 545), Cognitive Neuroscience (PSY 549), Experimental Course: [Topic] (PSY 610) (Advanced Cognitive Neuroscience)

Participating Faculty

Yashar Ahmadian, biology

Paul Dassonville, psychology

Chris Q. Doe, biology

Judith S. Eisen, biology

Santiago Jaramillo, biology

Clifford Kentros, psychology

Charles B. Kimmel, biology

Shawn R. Lockery, biology

Adam Miller, biology

Helen Neville, psychology

Cristopher Neill, biology

Michael I. Posner, psychology

John H. Postlethwait, biology

Matt Smear, psychology

Terry Takahashi, biology

Philip E. Washbourne, biology

Michael Wehr, psychology

Monte Westerfield, biology

Marjorie Woollacott, human physiology

Dasa Zeithamova, psychology