

DEPARTMENT OF NEUROSCIENCES

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More Information: <http://case.edu/medicine/neurosciences/>
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Understanding how the nervous system develops and functions to process information and mediate behavior and how it is altered by disease, injury and the environment is one of the most exciting frontiers remaining in biological science. Neuroscience is inherently multidisciplinary and integrative and solving the major outstanding problems will require knowledge of molecular, cellular, systems, and behavioral levels of organization. It also requires a multidisciplinary approach combining the tools of electrophysiology, anatomy, biochemistry and molecular biology in studies of animals, brain slices, and tissue culture models.

The department offers a PhD program that provides interdisciplinary training in modern neurosciences through a combination of course work, seminars, and research experience. Medical students are encouraged to pursue research projects with neurosciences faculty. Neuroscientists at CWRU are using state-of-the-art techniques and instrumentation to study diverse aspects of nervous system function, including neural circuitry and plasticity, development and regeneration, and cellular and molecular neurobiology. Techniques used include electrical recording and imaging to study the behavior of neurons from ion channels to how they function in awake, behaving animals; molecular genetic approaches to discover the roles of specific genes in circuit formation, synaptic function, and in neurological disorders; and anatomical, biochemical, computational, and behavioral methods to understand the normal nervous system and how it is affected by disease and injury.

Programs

- Neuroscience, BS
- Neurosciences, PhD

Note: Neuroscience, BS is administered by the Department of Biology in the College of Arts and Sciences

Dual Degrees

- Medical Scientist Training Program (MSTP), PhD/Medicine, MD