CELLULAR PHYSIOLOGY AND MOLECULAR BIOPHYSICS

biomed.med.miami.edu

Overview

Cellular Physiology and Molecular Biophysics is focused on how human organism function by applying principles of physics to the underlying molecules and cells. The training and research emphasis in the Graduate Program in Cellular Physiology and Molecular Biophysics at the University of Miami School of Medicine is directed at determining the molecular mechanisms underlying physiological functions, such as how does the heartbeat, how does the brain work, and how do we see, smell, and taste, using biophysical techniques and analyses. More specifically, research facilities and guidance for graduate work are available in developmental neurobiology, sensory receptor mechanisms, axonal electrophysiology, ionic mechanism of the nerve impulse, electrophysiological and molecular aspects of synaptic and neuromuscular transmission, mechanisms of ion channel gating, selectivity, and conductance, metabolic aspects of nervous function, molecular neuroscience, neuroimmunology, protein structure-function studies, molecular recognition, ligand-receptor interactions, axonal growth, neurotrophic factors, cytokines, gene targeting, neuronal apoptosis, nerve regeneration, molecular adhesion, and regulation of muscle contraction.

The Graduate Program in Cellular Physiology and Molecular Biophysics trains its students to use and develop state-of-the-art biophysical techniques that address fundamental questions related to molecular and cellular physiology and biophysics and developmental and molecular neuroscience. In addition, the students receive training in related biological disciplines and also in systemic physiology in order to obtain a broad viewpoint. This training prepares the students for future careers in research and teaching in academic institutions and also for careers in industry.

Contact Information

H. Peter Larsson, PhD, (plarsson@med.miami.edu) Graduate Program Director
Reygine Cantave, MHA, LSSGB, Program Coordinator

Office of Graduate and Postdoctoral Studies
Rosenstiel Medical Sciences Building, Suite 1128-A
1600 NW 10th Avenue, M857
Miami, FL 33136

305 243 6821
physiology@miami.edu

Doctoral Programs

Ph.D. in Cellular Physiology and Molecular Biophysics (http://bulletin.miami.edu/graduate-academic-programs/medicine/physiology-biophysics/phd/)