The PhD Program in Physiology and Biophysics is top-ranked in the nation and includes over 40 faculty members who share a common interest in understanding how biological systems span from the molecule to cell membranes and organ tissues to the whole animal.

Students pursue research in areas important to human physiology and disease states:

- cardiovascular disorders
- hypoxia
- hypertension and kidney disease
- inflammation
- cancer
- cirrhosis of the liver
- Alzheimer's Disease
- prion disease

Major areas of study include the structure/function analysis of ion and gas channels, G-protein coupled receptors, protein folding, cytoskeleton and molecular motors, muscle contraction, signal transduction, regulation of gene expression, pH regulation, regulation of vesicle trafficking and targeting, epithelial transport, synaptic transmission, metabolic regulation, and cell-cell interactions in various organ systems.

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- Cell and Molecular Physiology
- Molecular and Cellular Biophysics
- Organ Systems Physiology

Features of our graduate program include:

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- Journal Clubs
- Experience writing an NIH-Style Grant
- Frequent Thesis Committee Meetings and Mentoring
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- Coaching to obtain Positions in Academia or Industry

Core facilities include state-of-the-art instrumentation including high-field NMR spectrometers, EPR, digital subtraction fluorescence imaging, and atomic force microscopy.

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