



The Doctor of Philosophy (PhD) in Applied Physiology provides advanced training for students in the field of applied physiology with the goal of preparing students for research-based careers. Areas of in-depth study are driven by faculty research and encompass cardiovascular physiology, exercise physiology, musculoskeletal physiology, and neurophysiology. The programmatic emphasis is on the regulation, adaptation, and integration of mechanisms across all levels of biological organization from molecules to organ systems. Our researchers are continuously generating and disseminating new knowledge on health, aging, chronic disease, and injury prevention. Our students have access to state-of-the-art labs in the Department of Kinesiology and Applied Physiology, as well as other labs and facilities in affiliated programs at the University of Delaware. They gain valuable research experience through involvement in federally funded research projects and interaction with a variety of interdisciplinary research groups.

#### EXCEPTIONAL LEARNING OPPORTUNITIES

- Our program provides in-depth, laboratory-based immersion in research starting the first semester with a focus on producing researchers with excellent technical and critical thinking skills. Students work directly with outstanding faculty mentors who are recognized experts in their field of study.
- Our high quality classroom-based instruction is provided by our core graduate curriculum, our elective offerings, and seminars. Students are required to take a minimum of 46 credits including 9 dissertation credits. All students are enrolled in a 1-credit seminar each semester focused on building additional professional skills necessary for future success.
- Our students regularly travel to regional, national, and international meetings to present their research allowing them to engage and network with top researchers in the field. Furthermore, their research is published in high impact physiology journals..

# CORE RESEARCH AREAS

## LIFESTYLE FACTORS AND THEIR IMPACT ON NORMAL PHYSIOLOGY.

The impact of lifestyle factors such as diet, exercise, and sleep can have a tremendous effect on the normal functioning of a number of systems within the body including the cardiovascular, nervous, and musculoskeletal systems. By understanding the impact of these lifestyle factors on the body, we can help shape future guidelines on lifestyle factors as they relate to health and disease.

## CARDIOVASCULAR FUNCTION AND DISEASE ACROSS THE LIFESPAN.

Cardiovascular diseases are the number one killer of men and women in the United States. Furthermore, men and women are affected differently by disease particularly as they age. Other chronic diseases also increase the risk for cardiovascular disease. Our research is aimed at better understanding the effects of sex differences, aging, and chronic disease on the cardiovascular system.

## MOLECULAR AND CELLULAR PHYSIOLOGY

Understanding and identifying biomarkers for neuromuscular and neurological pathologies as well as identifying mechanisms of impairment related to vascular function is critical to developing novel targets and therapeutics in a wide range of physiological disorders. Our researchers are performing cutting edge research in these areas.

## NEUROVASCULAR PHYSIOLOGY

An aging and/or diseased vasculature impacts not only blood vessels of the heart and limbs but the brain as well. Understanding the impact as well as mechanisms of age or disease related declines in cerebrovascular function and the role this may play in cognitive function is important for our aging population.

## TO APPLY

For more information about graduate admission and to apply online, visit the Graduate College at [www.udel.edu/gradoffice](http://www.udel.edu/gradoffice). Applicants must have a bachelor's degree.



## FUNDING

Our students are supported by departmental teaching assistantships and research assistantships from grant funding. This support allows our students to present annually at national and international meetings and publish in high impact journals.

## DIVERSITY, EQUITY, & INCLUSION

In the Applied Physiology PhD program, we believe that diversity and inclusion are key drivers of academic excellence and impactful research. We are committed to supporting all of our students and in particular, those from diverse backgrounds, experiences, and perspectives. We are committed to creating a graduate community that is inclusive and respectful of all. Beyond the University's code of conduct for students and employees, which we fully support, we have **additional standards and expectations** for members of CHS and the Applied Physiology PhD program.

## ADMISSION DEADLINES

- **Priority Application Deadline: December 15<sup>th</sup>**
- **Final Application Deadline: March 15<sup>th</sup>**

## CONTACT

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