FACULTY AND THEIR RESEARCH

María J. Crespo, Ph.D.
Professor
Cardiovascular Physiology and Pharmacology

Nelson Escobales, Ph.D.
Professor
Ion and Organic Membrane Transport,
and Cardiovascular Physiology

Sabzali Javadov, M.D., Ph.D.
Professor
Cardiovascular Physiology

Carlos Jiménez, Ph.D.
Professor
Neurophysiology

Jorge D. Miranda, Ph.D.
Professor
Neuroscience

Annabell C. Segarra, Ph.D.
Professor and Chairman
Neurophysiology and Endocrinology

Walter I. Silva, Ph.D.
Professor
Cellular and Molecular
Physiology of Glial Cells

Carlos A. Torres, Ph.D.
Professor
Genetics and Aging

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P.O. Box 365067
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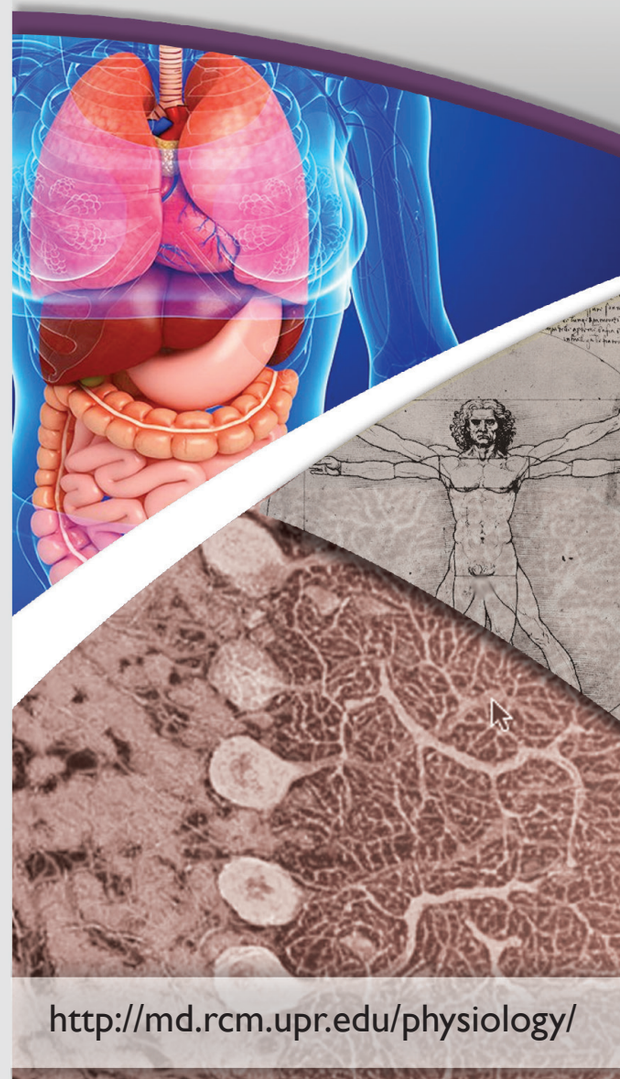
UNIVERSITY OF PUERTO RICO
SCHOOL OF MEDICINE

DEPARTMENT OF PHYSIOLOGY

GRADUATE PROGRAM



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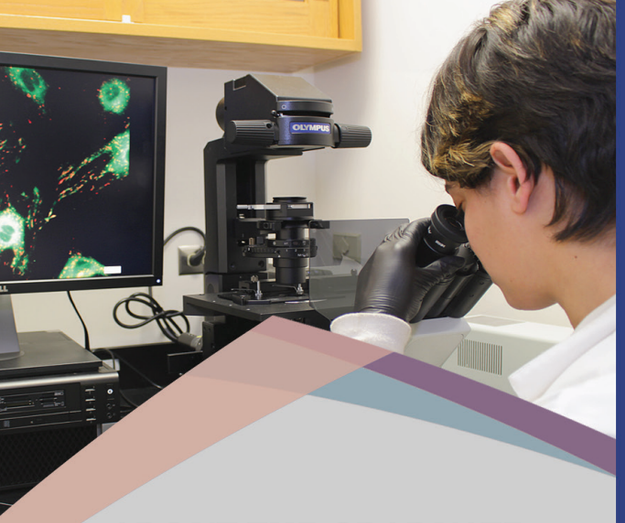

ABOUT THE GRADUATE PROGRAM IN PHYSIOLOGY

Physiology is the study of how the body works. The systems of the body — including the cardiovascular, respiratory, neural, renal, endocrine, gastrointestinal and reproductive systems — are examined using approaches ranging from molecular and cellular to whole-organism levels.

The Graduate Program of the Department of Physiology is a component of the Biomedical Sciences Division of the School of Medicine. It offers both M.S. and Ph.D degrees in Physiology for candidates who seek to develop a career in physiological sciences with emphasis in research and teaching. Our curriculum has been designed to expose students to physiological processes at all levels: from the interactions of individual molecules to the behavior of the whole animal.

Program benefits include a comprehensive preparation in physiological sciences using an integrated approach critical for basic and clinical research, and teaching.

PROGRAM OF STUDY

The Master's program usually requires two years and the Ph.D. no less than four years of study. During the first three semesters the student's time is devoted mainly to basic course work. During this time the student is also expected to become acquainted with the departmental research projects and to select an area in which he/she will work. Ph.D. students must take a Comprehensive Examination, usually at the end of their second year of study. The program includes courses in:

- Human Physiology
- General Physiology
- Biochemistry
- Biostatistics
- Instrumentation
- Cellular and Molecular Physiology
- Neuroscience
- Exercise Physiology

Students are also required to participate in the departmental seminars and other elective courses. As the student advances, more time is dedicated to thesis research under the direction of a faculty member. Upon completion of this research, a written thesis is submitted and a final oral examination is given.

FINANCIAL AID

The department's graduate students receive financial assistance via teaching or research assistantships funded by the University, the National Institutes of Health (NIH), and the National Sciences Foundation (NSF).

"Physiology is the science upon which medicine is based"

APPLYING

Applicants for the Master of Science degree should hold a bachelor's degree or its equivalent in one of the natural sciences, with a general grade index of no less than 3.0 on a 4.0 scale. The bachelor's degree training must include one year of course work with laboratory in physics, general chemistry, organic chemistry, general biology and at least one course in calculus. In addition, one semester of analytical chemistry, biochemistry and human biology are strongly recommended. The applicant must also be proficient in English and Spanish. The Graduate Record Examination (GRE) General Test in biology is required and the Subject Test recommended. An interview may be requested. The application deadline is December 1st.

AREAS OF RESEARCH

The Faculty members of the Department maintain active research programs covering a wide range of topics including:

- cell and molecular physiology
- cardiovascular physiology
- neuroendocrinology of reproduction
- neurophysiology
- exercise physiology
- functional genomics
- vascular biology and pharmacology

From a clinical perspective the faculty participates in research focus at understanding conditions such as:

- diabetes
- atherosclerosis
- heart failure
- ischemic diseases
- drug addiction
- spinal cord injury
- aging
- neurodegenerative diseases
- sexual differentiation
- asthma
- musculoskeletal diseases
- sport medicine

Other areas of research are available through collaborations with faculty from University of Puerto Rico at Rio Piedras, the Caribbean Primate Center, the Institute of Neurobiology and the Cardiovascular Center. In addition, our faculty maintains close collaborations with that of Universidad Central del Caribe at Bayamon, and Ponce Health Sciences University.