



commitment to
Knowledge

Biomedical Research
at the University of Puerto Rico

UNIVERSIDAD DE PUERTO RICO
UPR

BIOMEDICAL RESEARCH AT THE UNIVERSITY OF PUERTO RICO

The University of Puerto Rico (UPR) founded in 1903 is a multiunit university system consisting of eleven campuses: three graduate campuses and eight 4-year institutions. It is considered the premier institution of higher education and research, with a faculty of over 5,000, more than 60,000 students enrolled per year, and the largest and most diverse academic offer in Puerto Rico: 472 academic programs, which include 32 doctoral programs.

The Medical Sciences Campus is one of the eleven campuses of the University of Puerto Rico distinguished by outstanding academia in the field of the health professions. It is a multidisciplinary center, assuming the leadership in teaching and research on prevalent health conditions in Puerto Rico. The campus is a specialized center in basic, applied and clinical research in the biomedical sciences.

The Medical Sciences Campus is located on the grounds of the Puerto Rico Medical Center and grants degrees in all the principal fields of health sciences. It houses the Schools of Medicine, Dental Medicine, Pharmacy, Public Health and Health Related Professions. It also includes the following research centers: the Clinical Research Center, the Behavioral Research Institute, the Women's and Health Research Center, the Research Center in Minority Institutions, the Maternal Infant Study Center the UPR Cancer Center and the AIDS Clinical Trials Units. The Institute of Neurobiology is located in Old San Juan. The Caribbean Primate Center is located on an offshore island, but part of its colony is kept in a town close to San Juan.

The School of Medicine of the University of Puerto Rico main goal is to provide a continued medical education and train scientists through master's and doctoral programs in Biomedical Sciences.

The Associate Deanship for Biomedical Sciences oversees five basic sciences departments: Biochemistry and Nutrition; Physiology; Anatomy and Neurobiology; Pharmacology and Toxicology, and Microbiology. The Deanship's research facilities are housed in the Medical Sciences Campus building, with ancillary facilities in the Institute of Neurobiology, the Caribbean Primate Center, the Cancer Center, the Veterans Administration Hospital, the University Hospital, the University Pediatric Hospital, and affiliated hospitals. A system of core laboratories serves the needs of several departments, providing facilities for molecular genetics, proteomics, tissue culture, electron microscopy, flow cytometry and cell sorting, molecular biology, and state-of-the-art animal facilities, including BL3 areas for nonhuman primates.

The Río Piedras Campus is the oldest and also the largest campus in the University of Puerto Rico System. Under the Carnegie criteria, it is a Level II Doctoral University, with over 18,000 students. The College of Natural Sciences of the University of Puerto Rico, Río Piedras Campus provides one of the best educations in science in Latin America with degrees in Biology, Chemistry, Computer Science, Environmental Science, Mathematics, and Physics. The college annually admits approximately 2,700 students, including those who continue graduate studies at the Medical Sciences Campus. About 300 students annually go

on to graduate studies in Biology, Chemistry, Mathematics, and Physics. There are doctoral programs available in Biology, Mathematics, and Physics Chemistry. The College of Natural Sciences has been distinguished for offering students a high-quality education. Thus, a large percentage of the students continue doctoral studies in many fields of research. Throughout its history, the college has made a great impact in science and technology in Puerto Rico and is well positioned to be increasingly competitive in research and education at an international level.

The Mayagüez Campus of the University of Puerto Rico is a co-educational, bilingual, and non-sectarian school comprising the Colleges of Agricultural Sciences, Arts and Sciences, Business Administration, Engineering, and the Division of Continuing Education and Professional Studies, and serves a student population of 12,136. In addition to the numerous research laboratories under direct faculty supervision, Mayagüez Campus has several research and development institutes that provide valuable support for research activities. The Arts and Sciences is the College with the largest portfolio of funded research at the University and the highest number of patents, mostly from the Physics Department. Most of the funded efforts are in the following thrust areas: Science and Mathematics Education, Detection of Explosives, Environmental Sciences, Biotechnology, Ecosystems and Conservation, Ocean Process, Nano-technology and Advanced Materials, Human Behavior and Energy. Its researchers, faculty, graduate and undergraduate students are at the forefront of research in areas such as: tsunamis, nanotechnology, protein, oceanic processes, bio-markers, coral reefs, applied economics, disasters, monitoring of seismic activity, biodiversity and physical oceanography.

UPR BIOMEDICAL GRADUATE PROGRAMS

MEDICAL SCIENCES CAMPUS

School of Medicine

Associate Deanship of Biomedical Sciences

Master Degrees

Master of Science in Anatomy
Master of Science in Biochemistry
Master of Science in Pharmacology
Master of Science in Toxicology
Master of Science in Physiology
Master of Science in Microbiology
Post Doctoral Master of Science in Clinical Research

Doctoral Degrees

Doctor of Philosophy in Anatomy
Doctor of Philosophy in Biology
Doctor of Philosophy in Biochemistry
Doctor of Philosophy in Pharmacology
Doctor of Philosophy in Toxicology
Doctor of Philosophy in Physiology
Doctor of Philosophy in Microbiology

School of Pharmacy

Master Degrees

Master of Science in Pharmacy specialized in Pharmaceutical Services.
Master of Science in Pharmacy specialized in Industrial Pharmacy

Doctoral Degrees

Doctor of Pharmacy (Pharm. D.)

RÍO PIEDRAS CAMPUS

NATURAL SCIENCES GRADUATE PROGRAMS

College of Natural Sciences

Master Degrees

Master of Sciences in Biology
Master of Sciences in Physics
Master of Sciences in Chemistry

Doctoral Degrees

Doctor of Philosophy in Biology
Doctor of Philosophy in Physics-Chemistry
Doctor of Philosophy in Chemistry

MAYAGÜEZ CAMPUS
ARTS AND SCIENCES GRADUATE PROGRAMS

College of Arts and Sciences

Master Degrees

Master of Science in Biology

Master of Science in Chemistry

Doctoral Degree

Doctor in Philosophy in Applied Chemistry

**UNIVERSITY OF PUERTO RICO
BIOMEDICAL RESEARCH CENTERS AND FACILITIES**

MEDICAL SCIENCES CAMPUS

Cancer Center <http://www.md.rcm.upr.edu/ccpr/eng/index.htm>

Focus Areas:

Cancer Prevention
Clinical Studies
Epidemiological Studies

Clinical Research Center <http://rcrri.rcm.upr.edu/>

Focus Areas:

Clinical Biomedical Research
Clinical Trials

Research Centers in Minority Institutions (RCMI) <http://rcmi.rcm.upr.edu/>

Focus Areas:

Health Disparities
Proteomics
Molecular Genetics
Infectious Diseases

RCMI-Funded Facilities

[Clinical Proteomics Discovery Core Facility](#)
[Center for Molecular Genetics and AIDS/Infections Diseases Research](#)
[Molecular Neurogenetics Research Unit at the Institute of Neurobiology](#)
[Collaborative Technologies Initiative](#)

RCMI-Associated Facilities

[Central Electron Microscopy Unit](#)
[Flow Cytometry and Cell Sorting Unit](#)
[Core Instrumentation Laboratories](#)

Center for information Architecture in Research <http://ciar.rcm.upr.edu/>

Focus Areas:

Research Informatics
Video Conferencing
Collaborative Teaching

Institute of Neurobiology <http://www.neuro.upr.edu/>

Focus Areas:

Neuroscience Basic Research
Nervous System Function and Development

Women and Health Research Center <http://whc.rcm.upr.edu/>

Focus Areas:

Infectious Diseases/AIDS
Breast Cancer
Osteoporosis
Cardiovascular Diseases
Diabetes
Neurosciences

Caribbean Primate Research Center <http://ucm.rcm.upr.edu/cprc.html/>

Focus Areas:

Primatology
Behavioral Research
DNA
Genetics

Minority Biomedical Research Support

Support of Continuous Research Excellence

MBRS SCORE <http://mbrs-score.rcm.upr.edu/>

Focus Areas:

Faculty Research Support
Research Training

Minority Biomedical Research Support

Research Initiative for Scientific Enhancement

MBRS RISE <http://mbrs-rise.rcm.upr.edu/>

Focus Areas:

Graduate Students Research Support
Graduate Students Research Training

Quantitative Cytopharmacology <http://qcp.rcm.upr.edu/main.htm>

Focus Areas:

Insulin Receptor
Quantitative Immunophenotyping,
Flow Cytometry
Cell Culture
Cell Image Analysis

Specialized Neurosciences Research Program

<http://snrp.rcm.upr.edu/index.html>

Focus Areas:

Health Disparities
HIV Sensory Neuropathy
HIV Associated Dementia

AIDS Clinical Trials Unit <http://www.md.rcm.upr.edu/actu5401/>

Focus Areas:

Infectious Disease Treatments
HIV and HCV Vaccine Responsiveness

Unit of Comparative Medicine <http://ucm.rcm.upr.edu/>

Focus Areas:

HIV Vaccines
Neurological Complications of HIV-infected Hispanic Patients
Primate Morphology and Genetics
Primate Behavior

RÍO PIEDRAS CAMPUS

Center for Molecular, Developmental and Behavioral Neuroscience

http://biology.uprrp.edu/research/center_molecular.htm

Focus Areas:

Multidisciplinary Studies
Molecular Mechanisms of Brain Injury
Emotional Memory
Cocaine-seeking Behavior
Development of Maternal Behavior

Functional Genomics Research Lab <http://zephyr.hpcf.upr.edu/~spena/>

Focus Areas:

Neurobiological and Genetic Bases of Cognitive Processes
Learning, Memory, and Emotions

Structural and Molecular Biology Research Lab <http://nachrs.org/>

Focus Areas:

Ion Channel Structure
Nicotinic Receptors
Acetylcholine Receptor Function
Neurodegenerative Disorders

Center for Nanoscale Materials <http://nanomat.uprrp.edu/>

Focus Areas:

Nanoscale Dielectrics for Super Capacitors,
Nanostructured Materials for Flat Panel Displays
Nanoscale Materials for Regenerative Power Systems

MAYAGÜEZ CAMPUS

University of Puerto Rico Protein and Research Center (COBREII)

<http://cobre2.uprm.edu/>

Focus Areas:

Protein Structure and Function

Nanomaterials Laboratory <http://academic.uprm.edu/crinaldi/rinaldi.html>

Focus Areas:

Nanostructural Materials Applications

Magnetic Nanoparticles

Cancer

MULTICAMPUS RESEARCH PROGRAMS

The Alliance for the Advancement of Biomedical Research Excellence in Puerto Rico (PRAABRE) <http://aabre.hpcf.upr.edu>

Focus Areas:

Scientific Infrastructure

Research Competitiveness

Neuroscience

Drug Design and Delivery

Molecular Medicine

Institute for Functional Nanomaterials www.ifn.upr.edu

Focus Areas:

Innovation

Functional Nanostructure

Material Characterization Center <http://www.mcc.com.pr/>

Focus Areas:

Nuclear Magnetic Resonance

Mass Spectrometry

Surface Microscopy

Spectroscopy and X-Ray Diffraction

Confocal Microscopy

Contact Information:
Emma Fernández Repollet , Ph.D
Vice President for Research and Technology
Jardín Botánico Sur
1187, Flamboyán Street
San Juan, Puerto Rico 00926-1117
Phone: (787) 765-8767
Fax: (787) 751-7378
efernandez@rcm.upr.edu

