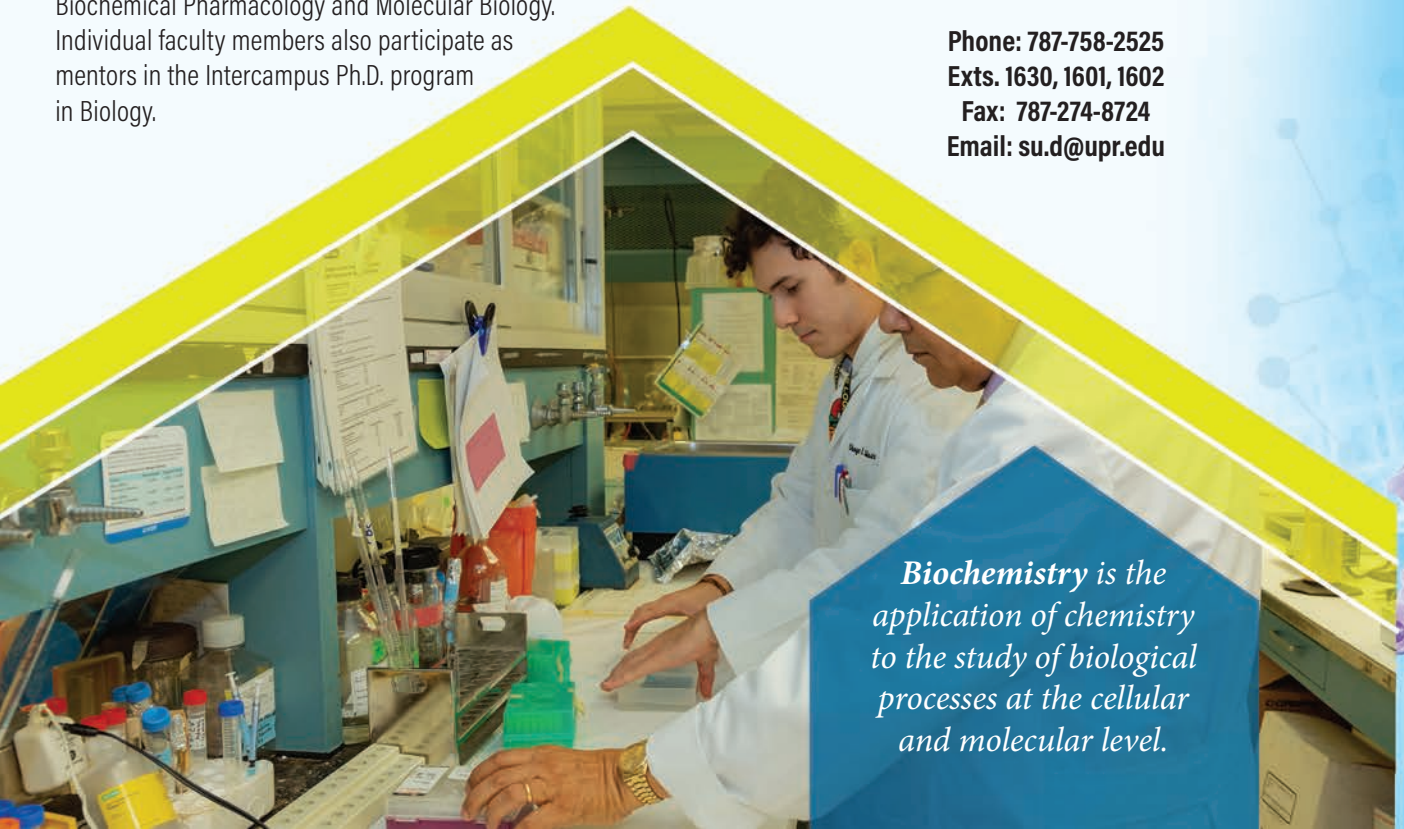
DEPARTMENT OF BIOCHEMISTRY

The graduate program in Biochemistry began in 1960 starting with the offering of Masters in Science (M.S.) and doctor in Philosophy (Ph.D.) degrees in Biochemistry and Nutrition. The name of the department was changed in 1992 to Department of Biochemistry. The graduates of our program can be found throughout the industrial, academic and government environment in Puerto Rico, the U.S. mainland and in Latin America. The department faculty actively seeks external funds to support our graduate students and have been able to improve our research facilities with state of the art instrumentation.

The Department of Biochemistry characterizes itself by conducting research in the following areas: Molecular and Genetic Alterations in Disease, Biochemistry of Proteins, Protein Structure/Function Relationships, Biochemistry of Glycoconjugates and Cellular Differentiation, Interactions between Nutrition and Disease, Aging and Oxidative Stress, Ocular Biochemistry, Clinical Biochemistry, Analytical Biochemistry, Biochemical and Molecular Toxicology, Biochemical Pharmacology and Molecular Biology. Individual faculty members also participate as mentors in the Intercampus Ph.D. program in Biology.



Biochemistry is the application of chemistry to the study of biological processes at the cellular and molecular level.

UPR School of Medicine
Medical Sciences Campus
PO Box 365067
San Juan PR 00936-5067

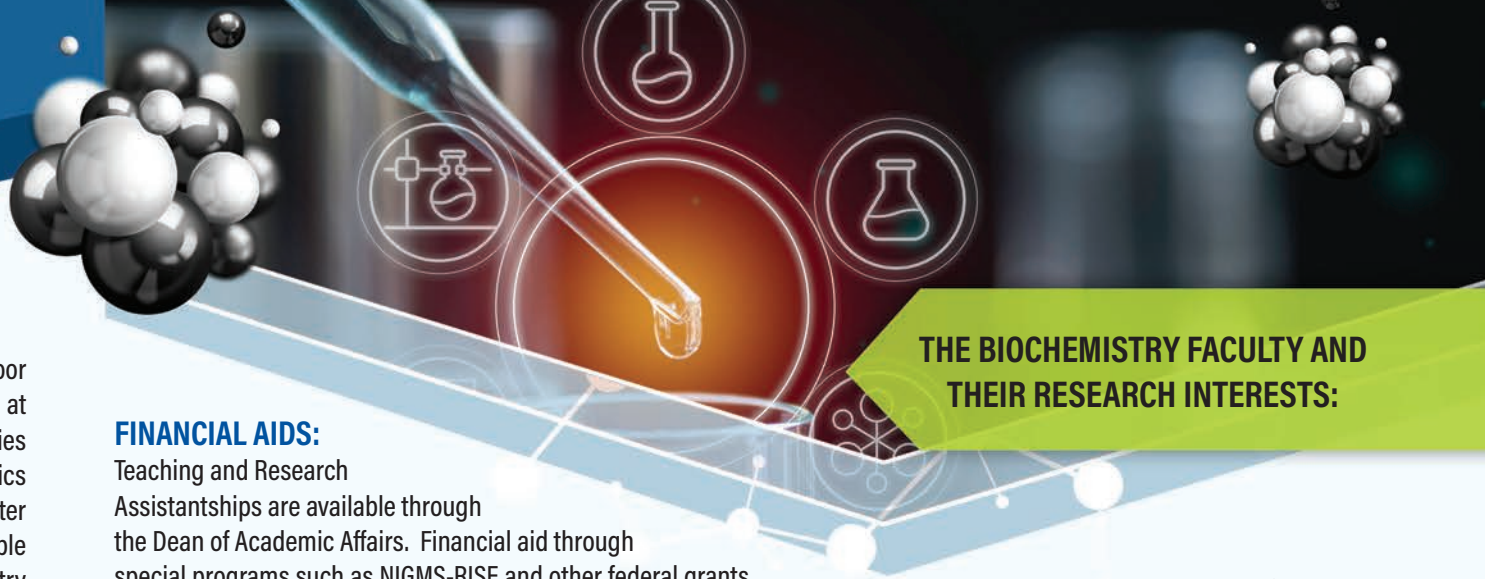
Dr. Suranganie Dharmawardhane
Coordinator Graduate Studies
Department of Biochemistry, 6th Floor

Phone: 787-758-2525
Exts. 1630, 1601, 1602
Fax: 787-274-8724
Email: su.d@upr.edu

UNIVERSITY OF PUERTO RICO
SCHOOL OF MEDICINE

Graduate Studies in BIOCHEMISTRY

Graduate Studies in BIOCHEMISTRY



PROGRAM DESCRIPTION AND ADMISSION REQUIREMENTS:

The Department of Biochemistry is located in the sixth floor of the University of Puerto Rico, Medical Sciences Building at the Río Piedras Medical Center. Available Research Facilities include the Metabolomics Research Core, the Genomics Translational Research Unit and the facilities of the Center for Environmental and Toxicological Research. Also available are the Translational Proteomics Center, Flow Cytometry and Electron Microscopy Units, the campus Computer Center and the Animal Laboratory Resources Center. These resources complement the facilities offered by the individual investigators in their respective laboratories.

Candidates for an M.S. degree are required to complete a minimum of 24 credits in addition to 6 thesis credits. Ph.D. candidates must complete a minimum of 45 course credits in addition to 15 thesis credits. Ph.D. candidates must pass a qualifying exam that is taken after the second year of course work. Tuition costs currently includes $190.00 (MS) $250.00 (Ph.D.) per graduate credit.

THE REQUIREMENTS FOR ADMISSION ARE AS FOLLOWS:

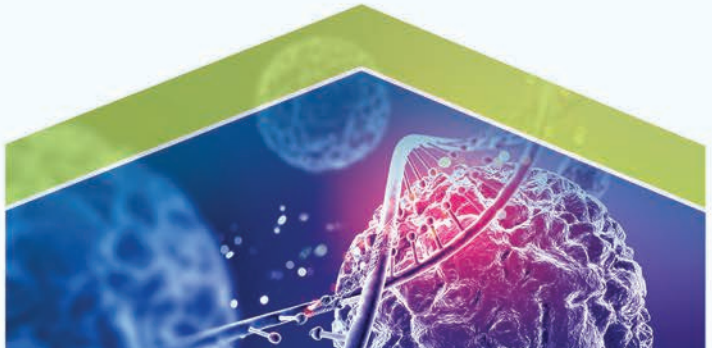
1. All applicants must fulfill the general requirements of the Graduate Division of the School of Medicine. The applicant must submit scores on the GRE General Test and the Subject test in their major area. The deadline to apply for admission is **DECEMBER 1ST.**
2. It is desirable that applicants have a B.S. degree in Chemistry or Biology, however, applicants with majors in other areas are strongly encouraged to apply.
3. Applicants must have a minimum G.P.A. of 3.0.
4. Required undergraduate courses are: General Chemistry, Analytical, Organic Chemistry, Physics, Differential and Integral Calculus. Recommended courses include Cell Biology, Biochemistry, Genetics and Physical Chemistry.

FINANCIAL AIDS:

Teaching and Research Assistantships are available through the Dean of Academic Affairs. Financial aid through special programs such as NIGMS-RISE and other federal grants may also be available. Information on other financial aid is available through the Office of Financial Aid.

RESEARCH INTEREST

- Molecular and Genetic Alterations in Disease
- Biochemistry of Proteins
- Protein Structure/Function Relationships
- Glycobiology
- Genomics
- Clinical Biochemistry
- Analytical Biochemistry
- Biochemical Toxicology
- Biochemical Pharmacology
- Molecular and Cell Biology
- Proteomics
- Cancer Metastasis



THE BIOCHEMISTRY FACULTY AND THEIR RESEARCH INTERESTS:

Baerga, Abel J., Ph.D., Associate Professor
Biosynthesis of natural products; Enzyme Structure, Function and Mechanisms.

Banerjee, Dipak, Ph.D., Professor
Glycobiology, breast cancer.

Cadilla, Carmen L., Ph.D., Professor
Human Genetics and Genomic, Rare Disorders that affect the PR population, Regulation of gene expression

Dharmawardhane, Suranganie, Ph.D., Professor
Signal transduction in breast cancer metastasis.
Experimental Therapeutics for breast cancer.

Jiménez, Braulio D., Ph.D., Professor
Molecular Toxicology. Effects of environmental pollutants on gene expression and asthma.

Pardo Reoyo, Sherly, Ph.D., Associate Professor
Human molecular genetics and translational stem cell biology.

Rodríguez Medina, José R., Ph.D., Professor, Chairman
Stress signaling in yeast. Protein interactions of stress receptors.

Rodríguez Orengo, José F., Ph.D., Professor
Molecular pathology of human diseases.

Vivas Mejía, Pablo E., Ph.D., Assistant Professor
Non-coding RNAs in ovarian and brain tumors
Nanoliposomal formulations for drug delivery
Role of oncogenes in drug resistance .