

About the University

The University of Puerto Rico, Río Piedras Campus is the only higher education institution in Puerto Rico to be classified as doctoral research intensive by the Carnegie Foundation for Advancement Teaching. Its campus is located in the metropolitan area of San Juan, occupying 289 acres in the community of Río Piedras. Founded in 1903 and characterized by its lush tropical vegetation and Spanish-style architecture, the Río Piedras Campus is the oldest and largest of the eleven campuses that form the University of Puerto Rico system. A land-grant university, UPR-RP offers a variety of academic programs to its approximately 15,000 students—3,600 of which are graduate students.

Students come from a variety of backgrounds and places, including Puerto Rico, the Caribbean, the US, China, Latin America and other countries of the world.

Research Facilities

The Center for Information Technology houses the library, which has an excellent supply of books and research journals in all areas of Mathematics. It also offers up-to-date computing facilities. The center is structured in a way that optimizes the use of information technology to provide relevant services to students, faculty, and researchers.

Financial Aid

Students accepted in the graduate program can receive financial aid in the form of teaching assistantships, research assistantships, and fellowships; those receiving teaching assistantships receive a tuition waiver. In addition, the university provides funds to support students' participation in meetings, workshops, and short courses. Students interested in applying to the graduate program are encouraged to contact faculty members with whom they share research interests to explore additional funding opportunities.

For more information about graduate programs at the University of Puerto Rico-Río Piedras Campus, visit the Office of the Dean of Graduate Studies and Research (DEGI)

<http://graduados.uprrp.edu>

For admission application, visit:
<https://app.applyyourself.com/?id=upr-grad>

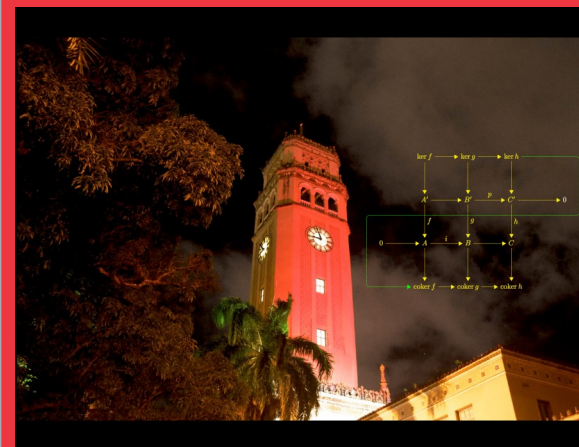
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Graduate Program in Mathematics

University of Puerto Rico
Río Piedras Campus



Graduate degrees in Mathematics at UPR-RP

The Department of Mathematics at UPR-RP offers graduate programs leading to the **Master of Science** and **Doctor of Philosophy degrees in Mathematics**. The **M.S. Program** has options in Pure Mathematics and Applied Mathematics.

The **Ph.D. Program** has specializations in Pure Mathematics, Discrete Mathematics, and Computational Mathematics & Statistics. Faculty members associated with the graduate program possess advanced degrees from prestigious universities around the world and many publish regularly in internationally recognized research journals and participate in exchange programs with institutions all over the world.

The relatively small size of the graduate classes offer individualized attention and is very favorable to establish common research interests with faculty members.

Careers in Mathematics

Graduates will qualify for a broad range of careers in academia, business, industry, and government, including: professor, research mathematician and scientist, statistician, computer analyst, forensics analyst, climate analyst, banker, actuary, cryptanalyst, quantitative analyst, public utilities analyst, among others.

Research Areas in the Mathematics Graduate Program at UPR-RP

Mathematical Analysis, Discrete Mathematics, Computational Mathematics and Statistics are the main research areas of interest in the M.S. and Ph.D. Programs in Mathematics. Research seminars are held regularly in these areas.

In Mathematical Analysis, research covers functional analysis, especially operator algebras, global analysis, non-commutative geometry, operator theory, semigroups of operators, as well as partial differential equations, control theory and potential theory.

Researchers in Discrete Mathematics study broad areas of that subject: graph theory, combinatorics, coding theory, discrete, convex and finite geometry, discrete and combinatorial optimization, number theory, finite fields and related applications.

The Computational Mathematics and Statistics area is concerned with problems in Bayesian statistics, biostatistics, bioinformatics, econometrics, machine learning, numerical methods, stochastic differential equations, mathematical modeling, mathematical biology and information theory.

The core courses in the Applied Mathematics option of the Master's Program now include a hybrid version (prepared in collaboration with the Department of Computer Science) combining classroom activities with online work. This is a result of the Title V project coordinated by the Deanship of Graduate Studies and Research (DEGI). For more information, contact the Department of Mathematics or the DEGI.



Research Faculty in the Mathematics Graduate Program and their Research Areas of Interest

Mathematics professors have a wide variety of research interests. Additionally, faculty members from the Department of Computer Science and from other UPR campuses collaborate with the Graduate Program.

Department of Mathematics

M. Reza Emamy-K., *Discrete and convex geometry. Geometric hypercube. Distributive lattices. Discrete Optimization.*

Raúl Figueroa. *Combinatorics; Finite Geometries; Algebraic Geometry.*

Guihua Gong. *Functional Analysis; Index Theory; Global Analysis; Noncommutative Differential Geometry.*

Puhua Guan. *Combinatorics; Symbolic computation; Hypercube Structure.*

Heeralal Janwa. *Coding Theory; Cryptography; Algebraic Geometry; Information Theory.*

Alexander K. Kelmans. *Graph Theory; Matroid Theory; Combinatorial Optimization; Algorithm Complexity, Linear Algebra and Combinatorics, Random Structures.*

Liangqing Li. *Functional Analysis; Operator Algebras*

Valentin Keyantuo. *Semigroups of Linear Operators; Partial Differential Equations.*

Luis A. Medina. *Combinatorics; Number Theory, Information Theory, Integer Sequences, p-adic analysis.*

Son Luu Nguyen. *Numerical Analysis, Stochastic Differential Equations, Stochastic Games and Stochastic Optimal Control*

Maria-Eglée Pérez. *Bayesian Statistics; Applications of Statistics to Life Sciences.*

Luis Raúl Pericchi. *Mathematical Statistics and Decision Analyses; Bayesian Statistics-Theory and Practice, Biostatistics, Econometrics, Extremes.*

Ana Helvia Quintero. *Mathematical Education*

Lin Shan. *Functional Analysis; Operator Algebras; Index Theory; Coarse Geometry; Geometric Analysis.*

Mahamadi Warma. *Local and Nonlocal Partial Differential Equations; Control Theory of Partial Differential Equations; Potential Theory.*

Department of Computer Science

Carlos Corrada Bravo. *Applied Machine Learning; Coding Theory.*

Mariano Marcano. *Mathematic modeling; Numerical methods; Computational and mathematical physiology*

Rémi Mégret. *Computer Vision; Machine Learning*

Edusmildo Orozco Salcedo. *Applications of Finite fields; Finite models of discrete dynamical systems and the design of algorithmic solutions.*

José Ortiz-Urbarri. *Cybersecurity; High Performance Computing; Coding Theory.*

Humberto Ortiz Zuazaga. *Bioinformatics; Computational and Networked Cyberinfrastructure.*

Ivelisse Rubio. *Computational Algebra; Finite fields.*

Affiliated Faculty

Pablo Negrón (UPR– Humacao). *Numerical methods; bifurcation theory; partial differential equations and their applications to problems in continuum mechanics.*

For more information, visit <http://math.uprrp.edu/people/professors> and <https://ccom.uprrp.edu/2016/wordpress/index.php/personnel/>