

Research Areas

**Department of Mathematics, Faculty of Natural Sciences
University of Puerto Rico, Río Piedras Campus**

Algebra and Number Theory:

Francis N. Castro, Professor	Algebraic Geometry; Number Theory; Coding Theory.
Italo J. Dejter, Professor	Graph Theory; Combinatorial Designs; Error-correcting Codes; Algebraic Combinatorics, Algebraic and Differential Topology.
M. Reza Emamy-K, Professor	Convex and Discrete Geometry; Combinatorics.
Raúl Figueroa, Professor	Combinatorics; Finite Geometries; Algebraic Geometry.
Heeralal Janwa, Professor	Coding Theory; Cryptography; Algebraic Geometry; Information Theory.
Alexander K. Kelmans, Professor	Graph Theory; Matroid Theory; Combinatorial Optimization; Algorithm Complexity, Linear Algebra and Combinatorics, Random Structures.
Luis A. Medina, Assistant Professor	Discrete and Experimental Mathematics; Number Theory.

Functional Analysis and Operator Theory:

Guihua Gong, Professor	Functional Analysis; Index Theory; Global Analysis; Noncommutative Differential Geometry
Valentin Keyantuo, Professor	Semigroups of Linear Operators; Partial Differential Equations.
Liangqing Li, Professor	Functional Analysis; Operator Algebras
Lin Shan, Assistant Professor	Functional Analysis; Operator Algebras; Index Theory; Coarse Geometry; Geometric Analysis.
Mahamadi Warma, Associate Professor	Partial Differential Equations; Linear and nonlinear Potential Theory; Semigroups of Operators.

Discrete Mathematics, Combinatorics:

Francis N. Castro, Professor	Algebraic Geometry; Number Theory; Coding Theory.
Italo J. Dejter, Professor	Graph Theory; Combinatorial Designs; Error-correcting Codes; Algebraic Combinatorics, Algebraic and Differential Topology.
M. Reza Emamy-K, Professor	Convex and Discrete Geometry; Combinatorics.
Raúl Figueroa, Professor	Combinatorics; Finite Geometries; Algebraic Geometry.
Puhua Guan, Professor	Combinatorics; Symbolic computation; Hypercube Structure.
Heeralal Janwa, Professor	Coding Theory; Cryptography; Algebraic Geometry; Information Theory.
Alexander K. Kelmans, Professor	Graph Theory; Matroid Theory; Combinatorial Optimization; Algorithm Complexity, Linear Algebra and Combinatorics, Random Structures.
Luis A. Medina, Assistant Professor	Discrete and Experimental Mathematics; Number Theory.

Geometry and Topology:

Italo J. Dejter, Professor	Graph Theory; Combinatorial Designs; Error-correcting Codes; Algebraic Combinatorics, Algebraic and Differential Topology.
M. Reza Emamy-K, Professor	Convex and Discrete Geometry; Combinatorics.
Guihua Gong, Professor	Functional Analysis; Index Theory; Global Analysis; Noncommutative Differential Geometry
Lin Shan, Assistant Professor	Functional Analysis; Operator Algebras; Index Theory; Coarse Geometry; Geometric Analysis.

Partial Differential Equations

Valentín Keyantuo, Professor	Semigroups of Linear Operators; Partial Differential Equations.
Mahamadi Warma, Associate Professor	Partial Differential Equations; Linear and nonlinear Potential Theory; Semigroups of Operators.

Computational Mathematics:

Heeralal Janwa, Professor	Coding Theory; Cryptography; Algebraic Geometry; Information Theory.
Mariano Marcano, Professor (Department of Computer Science)	Mathematical Biology.
Son Luu Nguyen, Assistant Professor	Numerical Analysis, Stochastic Differential Equations, Stochastic Games and Stochastic Optimal Control
María Eglée Pérez, Associate Professor	Bayesian Statistics; Biostatistics.
Luis Raúl Pericchi, Professor	Mathematical Statistics; Applications of Bayesian Statistics; Computational Statistics. Statistics in Medicine.

Optimization, Mathematical Modeling:

M. Reza Emamy-K, Professor	Convex and Discrete Geometry; Combinatorics.
Alexander K. Kelmans, Professor	Graph Theory; Matroid Theory; Combinatorial Optimization; Algorithm Complexity, Matrix Theory and Combinatorics, Random Structures.
Mariano Marcano, Professor (Department of Computer Science)	Mathematical Biology.
Son Luu Nguyen, Assistant Professor	Numerical Analysis, Stochastic Differential Equations, Stochastic Games and Stochastic Optimal Control

Probability and Statistics:

<i>Alexander K. Kelmans, Professor</i>	Graph Theory; Matroid Theory; Combinatorial Optimization; Algorithm Complexity, Matrix Theory and Combinatorics, Random Structures.
<i>Son Luu Nguyen, Assistant Professor</i>	Numerical Analysis, Stochastic Differential Equations, Stochastic Games and Stochastic Optimal Control, Mathematical Finance.
<i>María Eglée Pérez, Associate Professor</i>	Bayesian Statistics; Biostatistics.
<i>Luis Raúl Pericchi, Professor</i>	Mathematical Statistics; Applications of Bayesian Statistics; Computational Statistics. Statistics in Medicine.