

Research Areas and Graduate Courses

- **Economic Geology**
 - Metallogenesis; Ore Petrology
- **Geochemistry and Petrology**
 - Igneous Petrological Systems; Advanced Geochemistry; Advanced Petrology
- **Geomorphology, Hydrogeology, and Geologic Hazards**
 - Ground Failure in the Tropics; Problems in Engineering Geology; Hydrogeology; Geological Hazards; Environmental Geology
- **Regional Geological studies of Puerto Rico and the Circum-Caribbean Region**
- **Remote Sensing and GIS**
 - Advanced Geological Remote Sensing
- **Sedimentology, Stratigraphy, and Paleontology**
 - Marine Geology; Sedimentation; Paleontology; Carbonate Geology; Sequence Stratigraphy
- **Tectonics, Geophysics, and Structural Geology**
 - Tectonics; Geophysics; Earthquake Seismology; Geology and Tectonics of the Caribbean; Structural Analysis of Deformed Terrains; Advanced Seismology
- **Volcanology**
 - Volcanic Hazards; Volcanic Processes and Deposits; Volcanic Petrogenesis

**University of Puerto Rico
Mayagüez Campus
College of Arts and Sciences
Geology Department**

Master of Science in Geology



Call Box 9000
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(787) 832-4040
Exts. 2709 o 3845

Updated: June-2026

Master in Geological Sciences

Geology Department

The aim of our Master's Degree program is to develop a firm general knowledge in the geosciences' principles and modern techniques, in the different fields of specialization. Current research interests in the Department emphasize geophysical, geochemical, and geobiological problems of the circum-Caribbean region, including Caribbean seismicity and volcanology. A wide range of research and computational facilities and equipment are available for pursuing degree programs across the spectrum of the earth and environmental sciences. A complete description of the program requirements is available at:

<https://www.uprm.edu/asuntosacademicos/catalogos-academicos/>

Overview of Program

Our Master's is a 2- to-3-year program of coursework and faculty supervised research. Expectations are that the student's research aligns with the interest of their faculty mentor. The nature of the research is the decision of the student and their mentor. Research results are presented in a thesis that is defended in the student's final semester.



Graduate student, professor and former professor at GSA Annual Meeting in Colorado, September 2016.

Graduate Faculty and Research Interests

Faculty

Fernando Gilbes - (PhD, University of South Florida) Environmental Remote Sensing

Thomas R. Hudgins - (PhD, University of Michigan) Geochemistry, Petrology

Víctor A. Huérfano - (PhD, University of Puerto Rico) Seismology, Tsunami Hazards; Director of Puerto Rico Seismic Network

Kenneth S. Hughes - (PhD, North Carolina State University) Structural Geology, Field Geology, Geochronology

James Joyce - (PhD, Northwestern University) Engineering Geology, Structural Geology

Alberto M. López - (PhD, Northwestern University) Seismology, Tectonics, Geodesy

Raiza R. Quintero - (PhD, Curtin University) Mineralogy, Geochemistry

Wilson R. Ramírez - (PhD, Tulane University) Carbonate Sedimentology, Petrology and Diagenesis, Coral Reefs, Coastal Processes

Lizzette A. Rodríguez - (PhD, Michigan Technological University) Volcanology, Volcanic Hazards; Dept. Director

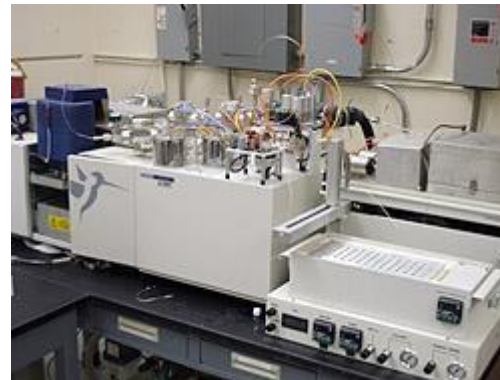
Hernán Santos - (PhD, University of Colorado) Paleontology, Caribbean Biostratigraphy, Regional Geology

Elizabeth A. Vanacore - (PhD, Rice University) Geophysics, Seismology

Facilities and Laboratories

- ✓ **Earth X-Ray Analysis Center**
 - Siemens D-5000 X-Ray diffractometer

- ❖ **Gas Analysis Stable Isotope Laboratory**



- Micromass IsoPrime Magnetic Sector Isotope Ratio Mass Spectrometer
- Micromass MultiFlow/Multiprep sample preparation system
- Eurovector elemental analyzer

- ❖ **Geology Computer Lab**
- ❖ **Geology Map Lab**
- ❖ **Geophysics Laboratory**
 - Field magnetics, gravity, ground penetration radar, seismic refractions and reflection
- ❖ **Landslide Hazard Mitigation Office (Slides PR)**



- ❖ **Sample and Thin Section Preparation Facilities**

Entrance Requirements

- ✓ B.S. Degree in Geology (or its equivalent in Natural Sciences or Engineering)
- ✓ 2.80 of higher GPA
- ✓ 2.50-2.79 GPA may be considered for admission
- ✓ Applicants are strongly encouraged to contact faculty members in their areas of interest

Degree Requirements

- ✓ 32 credits (7-8 classes + 2 seminars and 6 credits of research)
- ✓ Supervised research, including proposal
- ✓ Thesis and defense

Funding and Support

- ✓ Departmental teaching assistantships and tuition waivers
- ✓ Research assistantships from supervising faculty



Students and Faculty at Lago Enriquillo, Dominican Republic



Students and Faculty at a mine in Costa Rica, April 2023

Brochure available at:
<https://www.uprm.edu/geology/department-and-degree-information/>