

Research disciplines 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 an 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 & Sciences
Geology Department*

Master of Science in Geology



*Call Box 9000
Mayagüez, PR 00681-9000
Phone: (787) 265-3845
(787) 832-4040
exts. 2709 or 3845*

Updated: June 2024

Master in Geological Sciences

Geology Department

The aim of our Master's Degree program in the Geology Department 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

The Master of Science in Geology is a 2-3 year program of coursework and faculty supervised research. Expectations are that the student's research aligns with the interest of their faculty supervisor. The nature of the research is the decision of the student and faculty supervisor. 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

Victor 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

- Puerto Rico Seismic Network
- Gas Analysis Stable Isotope Laboratory
 - ⇒ Micromass IsoPrime Magnetic Sector Isotope Ratio Mass Spectrometer
 - ⇒ Micromass MultiFlow/Multiprep sample preparation system
 - ⇒ Eurovector elemental analyzer



Puerto Rico Seismic Network



Gas Analysis Stable Isotope Lab

- Landslide Hazards Laboratory (Slides PR)
- Sample and Thin Section preparation facilities
- Geophysics Laboratory
 - ⇒ Field magnetics, gravity, ground penetration radar, seismic refractions and reflection
- Geology Computer Lab
- Earth X-Ray Analysis Center
 - ⇒ Siemens D-5000 X-Ray diffractometer
- Geology Map Lab

Entrance Requirements

- B.S. Degree in Geology (or its equivalent in Natural Sciences or Engineering)
- 2.80 or 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



Professor and graduate students at Lago Enriquillo, Dominican Republic.

Funding and Support

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

For more information go to:

<https://www.uprm.edu/geology/graduate-studies/>



Professor and graduate students at Fuego volcano in Guatemala, January 2016.