

GEOSCIENCES

Geography and the Office for Remote Sensing of Environmental Resources have remote sensing facilities.

Graduate Program Head	Mark Patzkowsky
Program Code	GEOSC
Campus(es)	University Park (Ph.D., M.S.)
Degrees Conferred	Doctor of Philosophy (Ph.D.) Master of Science (M.S.) Dual-Title Ph.D. in Geosciences and Astrobiology Dual-Title Ph.D. in Geosciences and Biogeochemistry Dual-Title Ph.D. in Geosciences and Climate Science Dual-Title Ph.D. and M.S. in Geosciences and Operations Research Integrated B.S in Geosciences and M.S. in Geosciences
The Graduate Faculty	View (https://secure.gradsch.psu.edu/gpms/?searchType=fac&prog=GEOSC)

The Department of Geosciences offers M.S. and Ph.D. degree programs that provide students with a broad background in any of the major areas of geological sciences and intensive research experiences culminating in the preparation of a formal thesis. The goal of the programs is to prepare students for scientific careers in academia, government, or industry.

A wide range of faculty interests and exceptional laboratory and other support facilities provide an extensive variety of areas of specialization in which students may choose their course work and research topics, which include:

- aqueous geochemistry
- chemistry and physics of rocks and mineral
- geodynamics
- global change and earth history
- sedimentary geology and paleobiology
- solid earth and applied geophysics
- surficial processes

The research of faculty and students is facilitated through the Biogeochemical Research Initiative for Education (BRIE, an NSF-sponsored graduate program in microbial biogeochemistry), the Petroleum Geosystems Initiative (an industry-sponsored, team-based M.S. program) linking the Department of Geosciences and the Department of Energy and Geo-Environmental Engineering and the Penn State Astrobiology Research Center (PSARC, an NSF-sponsored interdisciplinary program in the origin and evolution of life in the universe, aimed at understanding the connections between the environment and the biota on Earth, especially during the stages of its evolution) as well as the Environment Institute of the College of Earth and Mineral Sciences, including the Earth System Science Center, and the Center for Environmental Chemistry and Geochemistry.

In addition to extensive computing and supercomputing facilities developed in association with the Earth System Science Center, students have access to a wealth of analytical, experimental, and field equipment. State-of-the-art analytical equipment is maintained by the department and the Material Characterization Laboratory. The Department of