PennState College of Earth and Mineral Sciences

Fact Sheet 2016-17

www.ems.psu.edu

MISSION

The vision of the College of Earth and Mineral Sciences (EMS) is to develop new discoveries about how the Earth's systems interact with one another and with people and their institutions and to use the knowledge gained from those discoveries to inspire students to become new generations of leaders.

VISION

EMS is a recognized leader in all of its disciplines. Not only is it known for ground-breaking research and high-quality teaching, but, increasingly, as an adviser to industry and government on important but still contentious matters like climate change and energy security. To that end, the college proposes a bold new vision that recognizes its role as a leading source of discovery, pedagogy, and sound advice:

The College of Earth and Mineral Sciences is where the field manual for the Earth and its resources is created by pioneers and learned by new generations of leaders.

ACADEMIC DEPARTMENTS

John and Willie Leone Family Department of Energy and Mineral Engineering
Department of Geography
Department of Geosciences
Department of Materials Science and Engineering
Department of Meteorology and Atmospheric Science

OUR INSTITUTES

John A. Dutton e-Education Institute
Earth and Environmental Systems Institute
EMS Energy Institute

RANKINGS

Elements of all five academic departments in EMS have been or are ranked in the top ten nationally. In the most current rankings, EMS has 5 fields in the top ten:

- Geology, 1st[1]
- Geochemistry, 2nd[1]
- Environmental Sciences, 2nd[1]
- Petroleum Engineering, 5th[1]
- Earth Sciences, 6th[1]
- Materials, 10th[2]

EMS SNAPSHOT:

2,564 undergraduate students

646 graduate students

~21,000 living alumni

~200 invention patents

~125 appointments to peer-reviewed journal boards

~$65 million in research funding

237 faculty members total

134 tenure track-faculty

14 members of the National Academies

10 Fellows of the American Association for the Advancement of Science (AAAS)

~75 Fellows of professional associations

16 undergraduate programs

2 online undergraduate certificate programs

10 master's degree programs

7 doctoral degree programs

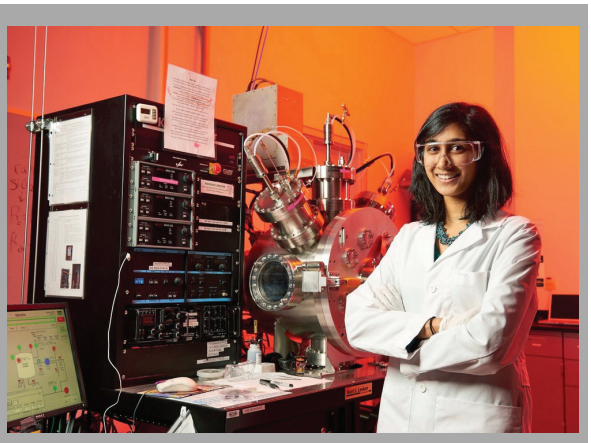
10 online graduate certificate programs

18 minors offered

4,000 students reached annually through general education courses

[1]*U.S. News & World Report*, America's Best Graduate Schools, [2]*U.S. News & World Report* "Best Colleges" Rankings

STUDENT SUCCESSES



- Materials Science and Engineering student, Ramya Gurunathan received a prestigious Churchill Scholarship, a highly sought-after program that allows American college students to pursue graduate studies at the University of Cambridge. She is only the second Penn State student to win the Churchill Scholarship since its inception in 1963.
- The Penn State Society of Petroleum Engineers was named a 2016 Outstanding Student Chapter by the international SPE organization. They were recognized for excellence in industry engagement, operations and planning, community involvement, professional development and innovation.
- For the fifth straight year, a team of Penn State meteorology students took the top honors at WxChallenge, a North American collegiate weather forecasting competition. The team won first place, competing against nearly 2,000 participants from more than 50 institutions.

OUR FACULTY

237 Faculty members total
134 Tenure-track faculty
14 Members of the National Academies
10 Fellows of the American Association for the Advancement of Science
9 Distinguished Professors
11 Faculty Scholar Medals
3 Evan Pugh University Professors
~75 Fellows of professional associations
5 Authors contributing to the Intergovernmental Panel on Climate Change (IPCC) report that received the 2007 Nobel Peace Prize jointly with Vice President Albert (Al) Gore Jr.

STUDENT ENROLLMENT

Undergraduate
2083 Resident
481 World Campus/other locations
2,564 Total

Graduate
500 Resident
146 World Campus/other locations
646 Total

RESEARCH EXPENDITURES

In the most recent institutional rankings released by the National Science Foundation of total research expenditures for science and engineering, Penn State stands second in the nation in the number of fields in which it is ranked in the top ten. EMS fields and sub-fields ranked in the top fifteen are:

- Metallurgical and Materials Engineering, 2nd[3]
- Total Engineering, 5th[3]
- Earth Sciences, 7th[3]
- Atmospheric Sciences, 9th[3]
- Environmental Sciences, 13th[3]

[3]National Science Foundation Total S&E Research Expenditure Rankings (For FY2015, released Nov. 2016)

UNDERGRADUATE PROGRAMS

Resident (B.S.)

- Earth Science and Policy
- Earth Sciences
- Energy Business and Finance
- Energy Engineering
- Environmental Systems Engineering
- Geobiology
- Geography (B.S. & B.A.)
- Geosciences (B.S. & B.A.)
- Materials Science and Engineering
- Meteorology
- Mining Engineering
- Petroleum and Natural Gas Engineering

Online Undergraduate Programs

- Earth Sustainability (Certificate)
- Energy and Sustainability Policy (B.S. & B.A.)
- Weather Forecasting (Certificate)

GRADUATE PROGRAMS

Resident (Ph.D.)

- Astrobiology
- Biogeochemistry
- Energy and Mineral Engineering
- Geography
- Geosciences
- Materials Science and Engineering
- Meteorology

Resident (M.S.)

- Energy and Mineral Engineering
- Geography
- Geosciences
- Materials Science and Engineering
- Meteorology

Online (Master's Degree Programs)

- Education in Earth Sciences (M.Ed.)
- Geodesign (M.P.S.)
- Geographic Information Systems
- Homeland Security, Geospatial Intelligence Option (M.P.S.)
- Renewable Energy and Sustainability Systems (M.P.S.)

Online Graduate Certificate Programs

- Bioenergy
- Earth Science Education
- Geodesign
- Geographic Information Systems
- Geospatial Intelligence Analytics
- Geospatial Intelligence Applications
- Remote Sensing and Earth Observations
- Solar Energy
- Sustainability Management and Policy
- Wind Energy