

John and Willie Leone Family

Department of Energy and Mineral Engineering







GRADUATE PROGRAM RESEARCH FOCUS AREAS



ENERGY SCIENCE & ENGINEERING

fuel science, advanced conversion methods, carbon capture, solar ecology, materials for energy, electrochemistry conversion, fuel cells and batteries, solar systems engineering, biofuels, catalysis



ENERGY SYSTEMS ENGINEERING & ENERGY ECONOMICS

electricity and natural gas markets, grid optimization and simulation



TA:

PETROLEUM/GAS & SUBSURFACE ENGINEERING

unconventional production, stimulation, reservoir characterization and simulation, digital rock physics, multiphase flow & transport phenomena in porous media, subsurface coupled processes



MINING, INDUSTRIAL SAFETY & HEALTH, AND **GEOENVIRONMENTAL ENGINEERING**

ground control, ventilation, dynamic optimization of production systems, mine electrical systems, occupational safety & health systems, exposure assessment, risk characterization & mitigation, regulatory & minerals policy analysis, coal preparation, mineral processing, rare earth extraction from secondary sources, environmental management, pollution control, waste management and environmental sustainability





WHY EME @ PENN STATE?

The graduate program in EME reflects the diversity of our research by providing a flexible program for M.S. and Ph.D. degrees that facilitates the specialization in one area to become a leadingedge researcher while at the same time developing the complementary breadth across scientific disciplines and engineering technologies necessary to become a next generation leader in academia or industry.

Graduate research and education utilizes our many state-of-the-art research labs, and characterization and computational facilities. Research programs and projects are generally supported by centers and institutes at Penn State, including the EMS Energy Institute, the Earth and Environmental Systems Institute, the Institutes for Energy and the Environment, and Institute for Natural Gas Research. Many faculty are affiliated with and collaborate closely with other departments across Penn State, such as Chemical Engineering, Industrial and Manufacturing Engineering, Geosciences, Statistics, and Agricultural and Environmental Resource Economics.

If you are looking for a graduate education grounded in rigorous science, engineering, and economics, not limited by historical boundaries around disciplines, and want to emerge as a leader equipped with tools and skills to tackle big energy and resource challenges in the 21st Century, the EME graduate program may be the place for you.

OMPANIES WHO EMPLOY OUR GRADS

ADNOC Anadarko Aramco Albemarle **Argonne National Laboratory Baker Hughes** Bettis Atomic Power Laboratory Dong-A University, Korea **Bloomenergy**

Charles River Associates Chesapeake Chevron **China University of Petroleum CMG Oil & Gas**

Compass Minerals ConocoPhillips **Consol Energy Cummins Dalian University of Technology Intel** Devon Ehime University, Japan **Environment Canada Equitable ExxonMobil Ford Corporation FuelCell Energy Golder Associates**

Halliburton Hess **Inpetro Energy IHRDC Johnson Matthey Kuwait Oil Company Lehigh Hanson** Marathon **Monitoring Analytics National Energy Technology Laboratory National Fuel Gas National Renewable**

Energy Laboratory New York Independent System Operator Newfield **Newmont Mining Corporation** South China University **Noble Energy** PJM Interconnection Petramina **Petroleum Development** Oman **Petronas PTT Thailand Qatar Oil and Gas Range Resources**

Sasol Schlumberger **Seneca Resources** of Technology Stanford **Turkish Petroleum Company U.S. Department of Energy U.S. National Institute for Occupational Safety and Health University of Kentucky University of Texas at Austin University of Texas Bureau**

of Economic Geology **University of Utah USGS** Virginia Polytechnic Institute and **State University Wuhan University of Science and** Technology, Wuhan, China **XTO Energy**

www.eme.psu.edu/**emegrad/apply**

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