NPRE 2016-17 Overview

Three Paths
Students choose from three concentrations:
• Plasma and Fusion Science and Engineering
• Power, Safety and the Environment
• Radiological, Medical and Instrument Applications

Enrollment, Fall 2016
142 Undergraduates - NPRE
91 Graduate Students - NPRE
24 Graduate Students - Master of Energy Systems

Degrees Granted
(August 2015-May 2016)
36 Bachelor of Science Degrees
11 Master of Science Degrees
8 Master of Engineering Degrees
5 Doctor of Philosophy Degrees

Graduate Student Support, Fall 2016
(numbers represent students with multiple sources of support)
52 Research Assistants
15 Fellows
20 Teaching Assistants

Faculty
16 FTE Faculty (8 Assistants, 3 Associates, 5 Full Professors)
2 Endowed Professorships
1 Research Professor
8 Affiliate Faculty
13 Adjunct Faculty
3 Emeritus

Research Expenditures
$5 million in FY 16
$200,000 gift expenditures (research related)

Major Research and Laboratory Facilities
• Beckman Institute, beckman.illinois.edu
• Blue Waters Sustained Petascale Computing, bluewaters.ncsa.illinois.edu
• Center for Plasma-Material Interactions, cpmi.illinois.edu
• Functional X-ray Imaging Lab (FXIL)
• Hybrid Illinois Device for Research and Applications (HIDRA)
• Institute for Genomic Biology, igb.illinois.edu
• Micro and Nanotechnology Laboratory, mntl.illinois.edu
• Multiphase Thermo-fluid Dynamics Laboratory
• National Center for Supercomputing Applications, ncsa.illinois.edu
• Radiation Surface Science and Engineering Laboratory rsel.engineering.illinois.edu
• Seitz Materials Research Laboratory, mrl.illinois.edu
• Virtual Education and Research Laboratory, verl.npre.illinois.edu

Instructional and Research Areas:
• Production, transport and interactions of radiation with matter
• Applications of nuclear processes
• Nuclear fission for power production, operations and control
• Reactor safety analysis
• Probabilistic risk analysis
• Plasma sciences, applied plasma physics, fusion
• Plasma modeling, code development
• Plasma/material interactions
• Engineering design for global social impact
• Radiation detection, advanced detector systems and analysis
• Radiological science, health physics, and medical applications
• Materials science, nuclear fuels and structural materials
• Global energy, arms control, disarmament and security
• Nuclear reactor thermal hydraulics
• Experimental two-phase flow and heat transfer
• Research, development of small modular reactors
• Reactor physics, kinetics, simulation
• Space propulsion, power systems
• Alternate energy systems, energy analysis
• Advanced nanostructured biointerfaces for regenerative medicine