



Nuclear Engineering Program

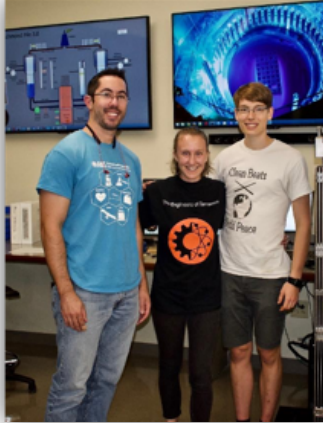
Nuclear Engineering (Graduate Program) Ranks 22th in U.S. News & World Report

Degrees Offered:

- **M.S. & Ph.D.**
Mechanical and Nuclear Engineering
- **B.S. (ABET Accreditation)**
Mechanical Engineering with a Nuclear Concentration

Degrees Awarded (2018-2019):

- **Bachelors - 10**
- **Masters - 23**
- **Doctorates - 6**



Nuclear Reactor Simulator Lab

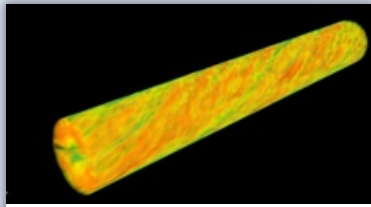
Enrollment:

- **Graduate Students**
59 full time & 50 part-time
- **Undergraduate Students - 56**
- **Faculty Profile:**
27 full time faculty with 7 NE Program faculty
*6 tenure-track
1 non-tenure track*

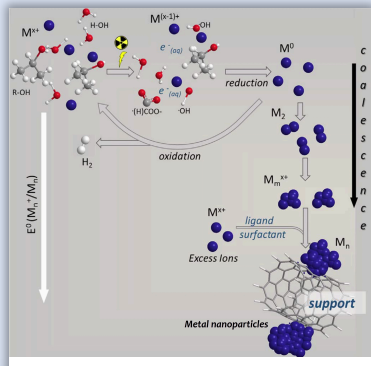
Research

Focus areas:

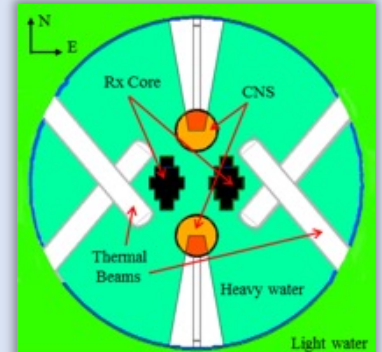
- **Radiation Processing & Nuclear Materials**
 - **Reactor Physics and Multiphysics**
- **Thermal Hydraulics & Advanced Reactor Design**
 - **Nuclear Security and Non-Proliferation**
- **Nuclear Fuel Cycle, Reprocessing and Salt Chemistry**
- **Material Properties in Extreme Environments produced by Effects of Nuclear Weapons.**



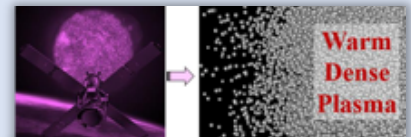
Flow visualization in Molten Salt Reactor Heat Exchanger Tubes.



Gamma and X-ray irradiation for the synthesis of nanomaterials.



An advanced research reactor design for neutron sources.



Warm Dense Plasma (WDP) produced on the surface of satellite's solar panels by the irradiation with high-intensity X-rays released from a high-altitude nuclear burst. Maybe, "X-ray induced WDP on the satellite's surface due to a nuclear detonation.

Sponsored by:

Nuclear Regulatory Commission, U.S. Department of Energy, Defense Threat Reduction Agency, Industry (Dominion Energy & Newport News), U.S. National Laboratories

Nuclear Engineering Educational & Research Laboratories

- Computational Applied Reactor Physics Lab
- Computational Energy-Material-Interaction Lab
- Fluids in Advanced Systems and Technology Research Group
- NanoNuclear Engineering Lab
- Nuclear Security and Nonproliferation Lab
- Nuclear Reactor Simulator Lab
- Radiation Detection and Measurement Lab
- Radiochemistry Lab & Laser Spectroscopy Lab (Molten Salt Research Group)

Fellowship and Scholarship Opportunities

- ✓ *Nuclear Energy University Programs*
- ✓ *National Nuclear Security Administration*
- ✓ *American Nuclear Society*
- ✓ *Dominion Energy Scholarships*

Awards

- *2019 DOE-IUP Scholarship*
- *2020 ANS National Scholarships*
- *2020 Roy G. Post Foundation Scholarship*

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