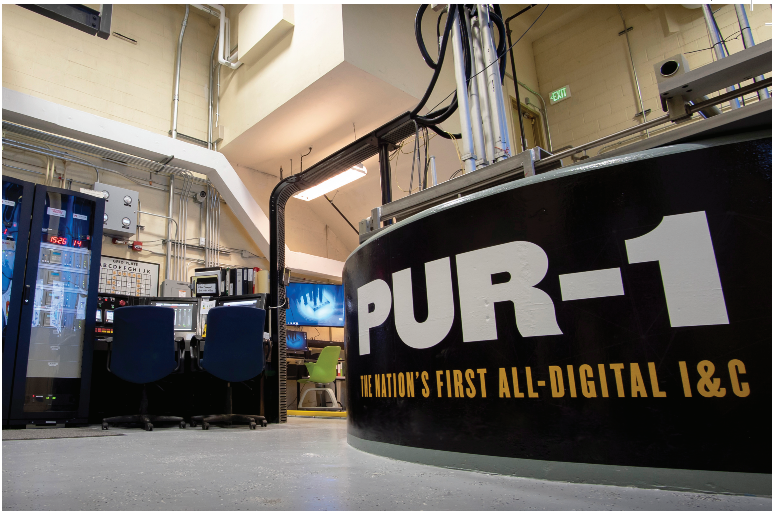
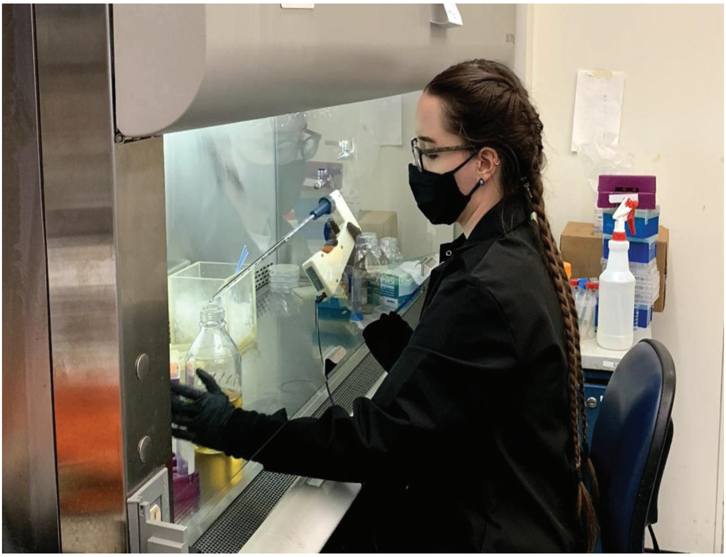


PURDUE UNIVERSITY®

School of Nuclear Engineering

NUCLEAR ENGINEERING UNDERGRADUATE PROGRAM

The world's increasing need for power is threatening fossil fuel sources and growing concerns about climate change, which is creating new demands for safe and sustainable energy sources. Our students are tackling these issues head-on with the tools to explore exciting advances in nuclear technologies.



PURDUE UNIVERSITY

School of Nuclear Engineering

UNDERGRADUATE

JOBS FOR BSNEs

Nuclear energy is one of the most viable resources for the future and the world needs nuclear engineers. This demand creates excellent job opportunities in a wide variety of fields.

- Nuclear Industries
- Graduate Career
- Government Agencies
- National Laboratories
- Academia
- Military Services
- Consulting Firms

STUDENT ORGANIZATIONS

- American Nuclear Society (ANS)
- Alpha Nu Sigma
- Fusion Awareness Organization (FAO)
- Institute of Nuclear Materials Management (INMM)
- Minorities in Nuclear Engineering & Science (MINES)
- Society of Applied Spectroscopy
- Women in Nuclear (WIN)

SMALLER CLASS SIZES

UNDERGRADUATE EMPHASIS ON RESEARCH

LARGE JOB PLACEMENT

For more information on our undergraduate program, please visit:

http://bit.ly/neundergrad

GRADUATE

RESEARCH & TEACHING AREAS

- Applied Intelligent Systems
- BioElectrics and ElectroPhysics (BEEP)
- Materials Under Extreme Environment
- Cybersecurity and Analytics for Industrial Control Systems (Cynics)
- Materials Innovation in Nuclear Engineering (MINE)
- Nuclear Fusion and Fusion Technology
- Fuel Cycle and Waste Management
- Hydrogen and Fuel Cell
- Nuclear Materials
- Nuclear Systems Simulation
- Nuclear Radiation Sensors and Instrumentation
- Radiation and Neutron Detection and Interrogation
- Reactor Physics
- Renewable and Hybrid Nuclear Systems
- Thermal Hydraulics and Reactor Safety
- Advanced Reactor Thermal Hydraulics Laboratory

JOBS

Graduates work in a number of exciting fields; many who have an inclination for research find positions as university faculty members or work in national laboratories. Some choose to work for vendors, consulting firms or electric utilities, while others choose to devote their careers to national security and defense.

For more information on our graduate program, please visit:
http://bit.ly/negradu

SMALL MODULAR REACTOR
FOR SAFE AND ECONOMIC
POWER PRODUCTION

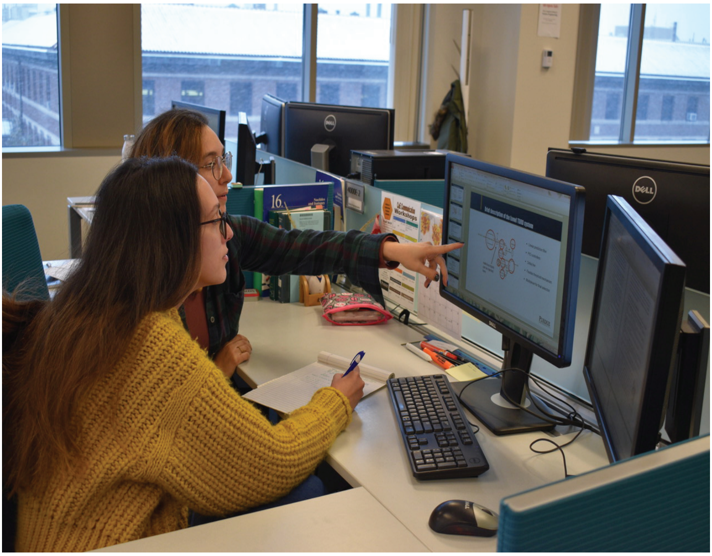
STEWARD NATIONAL SECURITY EFFORTS

APPLY RADIATION TO DIAGNOSE & COMBAT
CANCER

DESIGN POWER SYSTEMS FOR CLEAN ENERGY AND DEEP-SPACE
MISSIONS

NUCLEAR ENGINEERING GRADUATE PROGRAM

Our students come from a variety of undergraduate preparations which include other branches of engineering, various fields of science, and mathematics. Our faculty members represent a broad range of academic disciplines. This diversity enables us to accommodate the interests of our graduate students in exploring new opportunities and challenges in the rapidly broadening field of nuclear engineering.

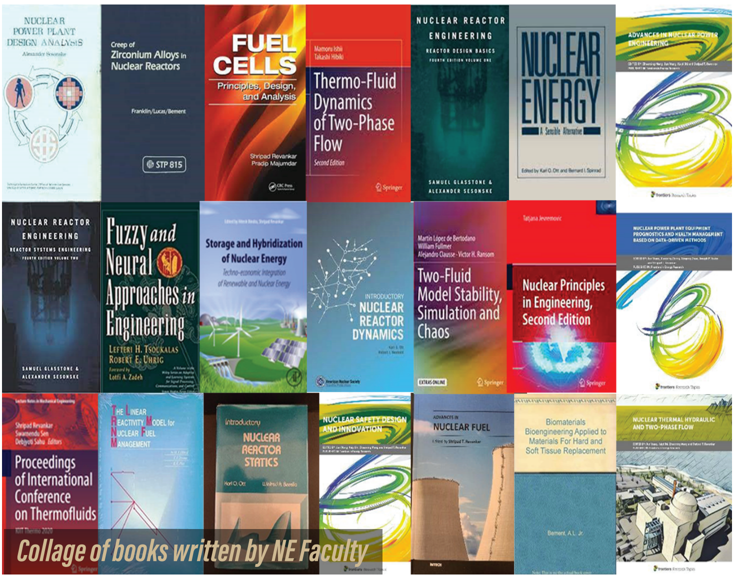


PURDUE UNIVERSITY

School of Nuclear Engineering

NUCLEAR ENGINEERING FACULTY

Our world-renowned faculty members help shape the future of nuclear engineering and its community through their exceptional research activities.



Collage of books written by NE Faculty

PURDUE UNIVERSITY
School of Nuclear Engineering

FACULTY

Hany Abdel-Khalik
Professor
Ph.D. Nuclear Engineering, North Carolina State University, 2004
abdelhalik@purdue.edu | 765-496-9718
Research Interests: Validation and Uncertainty Quantification, Big Data Analytics and Data Assimilation, Cyberattack-resilient Control Systems, LWR Computational Reactor Physics

Hitesh Bindra
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Ph.D. Nuclear Engineering, University of Illinois at Urbana-Champaign, 2010
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Research Interests: Nuclear reactor safety, Thermal-fluid science, Statistical learning and energy storage

Stylianos Chatzidakis
Assistant Professor, Associate Reactor Director & Director of NE Radiation Laboratory
Ph.D. Nuclear Engineering, Purdue University, 2016
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Research Interests: Computational radiation imaging and cosmic ray muon tomography, Embedded sensors and nuclear sensing, Aerosol jet printing and functional metamaterials, Quantum key distribution, Instrumentation and control, Spent nuclear fuel storage, transportation, and disposal, Scientific machine learning, convolutional neural networks, Bayesian learning theory

Chan Choi
Professor
Ph.D. Physics, Southern Illinois University, 1973
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Research Interests: Thermonuclear Fusion Plasma Engineering, Compact Tori Plasma/Reactor Studies, Inertial Confinement Fusion Beam Target Stability, Fusion Space Propulsion, Direct Energy Conversion, Nuclear Nonproliferation Enabling Capabilities

Allen Garner
Professor, Undergraduate Program Chairman
Ph.D. Nuclear Engineering, University of Michigan, 2006
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Research Interests: Plasma physics, High power microwaves, Pulsed power, Microscale gas breakdown, Biomedical and agricultural applications of electromagnetic radiation and plasmas

Ahmed Hassanein
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Ph.D. Nuclear Engineering, University of Wisconsin, 1982
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Research Interests: Plasma Material Interactions, Magnetic and Inertial Fusion Research, Computational Physics and Hydrodynamics, Extreme Ultraviolet Lithography, Laser and discharge produced plasma, Radiation and Particle Transport in Materials, Biomedical Engineering Applications

Mamoru Ishii
Walter Zinn Distinguished Professor
Ph.D. Mechanical Engineering, Georgia Institute of Technology, 1971
ishii@purdue.edu | 765-494-4587
Research Interests: Two-phase flow experiments and modeling research, 3-D two-fluid model and, interfacial area transport equation development, Interfacial transfer phenomena in multiphase flow systems, Advanced light water reactor safety code development, LWR and LMFBR safety analysis, Severe accident analysis

FACULTY (CONT.)

Seungjin Kim
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Ph.D. Nuclear Engineering, Purdue University, 1999
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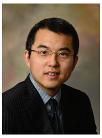
Research Interests: Thermal-hydraulics, Reactor Safety, Modeling of two-phase flow and fluid particle interactions, Interfacial area transport modeling, Two-phase flow experiment and instrumentation, Thermal-hydraulic systems analysis code

Martin Lopez-De-Bertodano
Associate Professor
Ph.D. Nuclear Engineering and Engineering Physics, Rensselaer Polytechnic Institute, 1992
bertodan@purdue.edu | 765-494-9169
Research Interests: Experimental Two-Phase Flow, Computational Fluid Dynamics, Turbulence, Thermal Hydraulics and Reactor Safety, Nuclear Systems Simulation



Xiaoyuan Lou
Associate Professor
Ph.D. Materials Science and Engineering, Georgia Institute of Technology, 2010
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Research Interests: Advanced manufacturing for nuclear, Structural alloys and composites, Material degradation in extreme environments, Irradiation effects of materials, Mechanical behavior of materials, Data analytics and machine learning

Shripad Revankar
Professor, Graduate Program Chairman
Ph.D. Physics, Karnatak University, 1983
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Research Interests: Two-Phase Flow and Heat Transfer, Advance Reactor Design and Testing, Advanced Nuclear Fuel Development, Reactor Safety and Thermal Hydraulics, Severe Accident Analysis, Nuclear Hydrogen Generation, Fuel Cell and Hydrogen Systems, Renewable Energy

Rusi Taleyarkhan
Professor
Ph.D. Nuclear Engineering and Science, Rensselaer Polytechnic Institute, 1982
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Research Interests: Novel radiation sensor systems for special nuclear material monitoring; dosimetry, safeguards-security, and nuclear energy applications, Novel green (voc free) tailored polymers for uses as coatings, adhesives, Nano-to-Macro scale applications of nuclear science, Nuclear reactor thermal-hydralics, Acoustic inertial confinement fusion, Metastable fluid, Radiation interactions with matter and surface modiciations, Materials synthesis and transmutation, Controlled hydrogen production

Valeryi Sizyuk
Research Associate Professor
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Research Interests: Integrated modeling and analysis of fusion reactors, Computational physics, New scientific codes development, Hydrodynamics, Plasma physics, Radiation transport, Laser and discharge plasma, EUV lithography, Monte Carlo simulations, Mulitprocessor calculations

FACULTY (CONT.)

Lefteri Tsoukalas
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Research Interests: Neurofuzzy methodologies for complex power systems modeling, diagnostics and control, Intelligent instrumentation systems and sensors, Man-machine interface, Autonomous systems and robotics

Yi Xie
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Research Interests: Advanced manufacturing technology development, Environmental degradation, Advanced nuclear fuel development, Corrosion in extreme environments, Sensor and sensor material, Advanced sintering technology, Geological repositories of radioactive waste

Yunlin Xu
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Research Interests: Nuclear reactor simulation method study, Nuclear reactor simulation code development, Multi-physics coupling, Nuclear reactor safety analysis, Nuclear reactor design and optimization, Nuclear reactor fuel cycle study, Methods for solving large scale linear and nonlinear system

DISCOVER OUR RESEARCH AREAS

The School of Nuclear Engineering conducts research in thermal hydraulics and reactor safety, reactor physics, nuclear systems simulation, materials and waste management, applied intelligent systems, fusion, nuclear medicine and radiation shielding for space applications, among other vital topics. More info: purdue.edu/ne/research

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