NICP SANI 2025 Host Faculty List

Massachusetts Institute of Technology Faculty   **Department of Nuclear Science and Engineering**

	Name	Research Fields	Web URL	Web URL 2	E-mail address
1	**Benoit Forget**	Advanced deterministic transport methods Advanced stochastic transport methods Algorithms for high performance computing Acceleration/multiscale methods Multi-physics methods Quantification	https://web.mit.edu/nse/people/faculty/forget.html		bforget@mit.edu
2	**Emilio Baglietto**	Computational Fluid Dynamics Turbulence modeling Multiphase flow and boiling Virtual reactor modeling	https://web.mit.edu/nse/people/faculty/baglietto.html		emiliob@mit.edu
3	**Matteo Bucci**	Boiling heat transfer Micro- and Nano-technologies for nuclear reactors Advanced experimental diagnostics Nuclear safety	https://web.mit.edu/nse/people/faculty/bucci.html		mbucci@mit.edu
4	**Jacopo Buongiorno**	Nuclear Batteries Reactor design and safety Boiling heat transfer Offshore floating nuclear power plant Nanofluids for nuclear applications	https://web.mit.edu/nse/people/faculty/buongiorno.html		jacopo@mit.edu
5	**Paola Cappellaro**	Quantum Engineering	https://web.mit.edu/nse/people/faculty/cappellaro.html		pcappell@mit.edu
6	**Areg Danagoulian**	Nuclear security Nuclear detection and nuclear forensics Treaty verification Nonproliferation	https://web.mit.edu/nse/people/faculty/danagoulian.html		aregjan@mit.edu
7	**Jack Hare**	High Energy Density Laboratory Astrophysics Magnetic Reconnection Magnetohydrodynamic Turbulence Magnetized Heat Transport	https://web.mit.edu/nse/people/faculty/hare.html		jdhare@mit.edu
8	**Zachary Hartwig**	Accelerator-based nuclear science and fusion diagnostics Monte Carlo particle transport and fusion neutronics Magnetic fusion energy reactor design Digital pulse processing and data acquisition systems for radiation detectors	https://web.mit.edu/nse/people/faculty/hartwig.html		hartwig@mit.edu
9	**Ericmoore Jossou**	Radiation damage 3D/4D defects imaging High throughput nuclear fuel and alloy design Materials informatics and atomic scale simulations	https://web.mit.edu/nse/people/faculty/jossou.html		ejossou@mit.edu

NICP SANI 2025 Host Faculty List

10	**R. Scott Kemp**	Nuclear security Nuclear proliferation Arms control and verification Nuclear energy policy	http://lnsp.mit.edu/r-scott-kemp/		
11	**Richard K. Lester**	Innovation, productivity, and competitiveness Nuclear technology management, control, and innovation Science, technology, and economic policy Energy innovation	http://web.mit.edu/nse/lester/		
12	**Ju Li**	Nanomaterials for energy In situ electron microscopy Physical metallurgy and mechanics Computational materials science	https://web.mit.edu/nse/people/faculty/li.html		liju@mit.edu
13	**Mingda Li**	Quantum materials for energy Neutron and x-ray scattering New characterization techniques design	https://web.mit.edu/nse/people/faculty/mli.html		mingda@mit.edu
14	**Nuno F. Loureiro**	Magnetic Reconnection Confinement and Transport in Fusion Plasmas Magnetized plasma dynamics Plasma turbulence	https://web.mit.edu/nse/people/faculty/loureiro.html		nflour@mit.edu
15	**Ethan Peterson**	Fusion reactor design and analysis Radiation transport methods Fusion neutronics validation Uncertainty quantification	https://web.mit.edu/nse/people/faculty/peterson.html		peterson@psfc.mit.edu
16	**Koroush Shirvan**	Fission energy Nuclear fuel cycle and waste management Advanced reactor design and innovation Nuclear safety	https://web.mit.edu/nse/people/faculty/shirvan.html		kshirvan@mit.edu
17	**Michael Short**	Mesoscale nuclear materials science Nuclear alloy development Non-contact radiation damage quantification CRUD/fouling deposition and prevention	https://web.mit.edu/nse/people/faculty/short.html		hereiam@mit.edu
18	**Curtis Smith**	Applied engineering applications within the nuclear & aerospace industries Risk-informed decision making Nuclear systems analysis Aerospace risk analysis	https://web.mit.edu/nse/people/faculty/csmith.html		curtis@mit.edu

NICP SANI 2025 Host Faculty List

19	**Haruko Murakami Wainwright**	Nuclear contamination Nuclear waste disposal Environmental monitoring Contaminant transport modeling Uncertainty quantification	https://web.mit.edu/nse/people/faculty/wainwright.html		hmwainw@mit.edu
20	**Anne White**	Plasma diagnostics Turbulent transport in plasmas Experimental plasma physics Transport model validation	https://web.mit.edu/nse/people/faculty/white.html		whitea@mit.edu
21	**Dennis G. Whyte**	Magnetic fusion energy Plasma-surface interactions Accelerators and surface analysis	https://web.mit.edu/nse/people/faculty/whyte.html		whyte@mit.edu
22	**Bilge Yildiz**	Surface science on ionic-electronic solids Advanced materials for solid oxide fuel cells, electrolyzers, corrosion and computing Materials behavior in harsh conditions	https://web.mit.edu/nse/people/faculty/yildiz.html		byildiz@mit.edu

NICP SANI 2025 Host Faculty List

North Carolina State University   **Department of Nuclear Engineering**

	Name	Research Fields	Web URL	Web URL 2	E-mail address
1	Jason Hou	Multi-physics reactor simulation, advanced reactors, fuel cycle analysis, uncertainty quantification, machine learning in engineering applications, and nuclear power plant simulator	https://www.ne.ncsu.edu/people/jasonhou/		jason.hou@ncsu.edu
2	Xu Wu	Scientific Machine Learning, Calibration, Validation and Uncertainty Quantification	https://www.ne.ncsu.edu/people/xwu27		xwu27@ncsu.edu
3	Igor A. Bolotnov	Thermal hydraulics, High resolution simulations of two-phase flows with interface captiring methods, simulations of boiling flows	https://www.ne.ncsu.edu/people/iabolotn/		igor_bolotnov@ncsu.edu
4	Mohamed Bourham	Plasma-matter interaction, plasma propulsion and thrusters, fusion engineering, plasma surface modification, particle accelerators and electron beam irradiation systems, x-ray sources for medical and screening imaging, materials synthesis and coatings, shielding and radiation attenuation studies, nuclear and mixed waste disposal, drycasks and high-level waste packaging studies.	https://www.ne.ncsu.edu/people/bourham/		bourham@ncsu.edu
5	Robert B. Hayes	Health Physics, Nuclear Waste Management, Nuclear Nonproliferation, Nuclear Forensics, Nuclear Criticality Safety, Radiation Shielding, Radiation Detection, Novel Nuclear Reactor Designs and Radiological Air Monitoring	https://www.ne.ncsu.edu/people/rbhayes/	https://www.ne.ncsu.edu/rdna/	rbhayes@ncsu.edu
6	Mihai A. Diaconeasa	Theories, applications, and simulation-based techniques in risk sciences such as traditional and dynamic probabilistic risk assessment, reliability analysis, resilient systems design, probabilistic physics of failure modeling, and Bayesian inference	https://www.ne.ncsu.edu/people/madiacon/		madiacon@ncsu.edu
7	Benjamin Beeler	Computational Nuclear Materials Science: atomistic modeling; multiscale modeling, advanced reactor nuclear fuels, molten salts, advanced cladding materials, density functional theory, molecular dynamics	https://www.ne.ncsu.edu/cnmsg/		bwbeeler@ncsu.edu
8	Jacob Eapen	Materials theory (phonons, liquids and disordered materials) and multiscale modeling (atomistic, mesoscale), nuclear and energy materials (high performance alloys, graphite, SiC composites, molten salts, metal hydrides, superionic conductors, nuclear fuel)	https://www.ne.ncsu.edu/people/jeapen/		jacob.eapen@ncsu.edu

NICP SANI 2025 Host Faculty List

University of Michigan   **Nuclear Engineering & Radiological Sciences**

	Name	Research Fields	Web URL	Web URL 2	E-mail address	
1	Igor Jovanovic	Radiation detection, lasers and optics	https://ners.engin.umich.edu/people/jovanovic-igor/		ijov@umich.edu	
2	Xiaodong Sun	Thermal-hydraulics and reactor safety Flow boiling and post-CHF heat transfer (filming boiling) Thermal-hydraulics in gas-cooled and molten salt reactors High-temperature compact heat exchangers	https://ners.engin.umich.edu/people/sun-xiaodong/		xdsun@umich.edu	
3	Majdi Radaideh	The Artificial Intelligence and Multiphysics Simulations (AIMS) lab focuses on the intersection between reactor design, nuclear multiphysics modeling and simulation, advanced computational methods, and machine learning algorithms to drive advanced reactor research and improve the sustainability of the current reactor fleet. Students should have prior experience with Python programming, familiarity with Linux/bash systems, and/or have completed an AI/ML course or worked on a related project having AI/ML component Examples of ongoing AIMS projects are: 1- Advanced reactor design and safety analysis of high temperature gas-cooled microreactors. 2- Nuclear reactor control with hybrid deep reinforcement learning and model predictive control. 3- Multiobjective optimization of expensive simulations of small modular reactors with adaptive surrogates. 4- Development of Large Language Models for detection of public support of nuclear power on social media. 5- Fast data assimilation techniques for nuclear digital twins with variational Bayesian inference. 6- Model-agnostic explainable AI methods for black-box nuclear reactor codes and applications.	https://ners.engin.umich.edu/people/radaideh-majdi/		radaideh@umich.edu	September 2025-April 2026 only
4	Yang Zhang	**Matter** - Rare events and long timescale phenomena in complex material systems - Physics and chemistry of liquids, glasses, and complex fluids, especially under interfacial/extreme/non-equilibrium conditions (water, metallic liquids, molten salts, ionic liquids, electrolyte solutions) - Statistical mechanics and molecular fluid mechanics theories, accelerated molecular simulations, understandable AI methods Neutron scattering, sources, and instrumentation **Machine** - Soft robots and human-compatible machines - Swarm robots and collective intelligence - Robots in extreme environments	https://ners.engin.umich.edu/people/zhang-yang/	https://z.engin.umich.edu	yzyz@umich.edu	
5	Brendan Kochunas	Computational Reactor Physics Reactor Design and Analysis Numerical Methods for Neutron and Radiation Transport High Performance Computing and Parallel Computing Numerical Analysis of Iterative Methods	https://nuram.engin.umich.edu/		bkochuna@umich.edu	
6	Kimberlee Kearfott	Research: Radiation protection and detection. Radiation background and environmental dose rate mapping. Affordable radiation detection instruments for crowd-sourced measurement. Radiation monitoring networks. Measurements of environmental radioactivity in soil, water, air, and foodstuffs. Dosimetry (optically stimulated and thermoluminescent).	https://rhelab.engin.umich.edu		kearfott@umich.edu	

NICP SANI 2025 Host Faculty List

University of Wisconsin-Madison   **Department of Nuclear Engineering &Engineering Physics**

	Name	Research Fields	Web URL	Web URL 2	E-mail address
1	Paul Wilson	Computational methods for simulating complex nuclear energy systems	https://cnerg.engr.wisc.edu		paul.wilson@wisc.edu
2	Adrien Couet	Nuclear Materials Irradiation and Corrosion	https://madcor.labs.wisc.edu/		couet@wisc.edu
3	Ben Lindley	Reactor physics, advanced reactor design, integrated energy systems, safety analysis	https://reti.neep.wisc.edu		lindley2@wisc.edu
4	Kumar Sridharan	Materials processing testing and analysis	https://mat-research.engr.wisc.edu/		kumar.sridharan@wisc.edu
5	Yongfeng Zhang	Computational Nuclear Materials	https://zhang.ep.wisc.edu/		yzhang2446@wisc.edu
6	Juliana Pacheco Duarte	Experimental and Computational thermal-hydraulics and safety	https://heats.neep.wisc.edu		pachecoduarte@wisc.edu
7	Stephanie Diem	Experimental plasma physics	https://pegasus.ep.wisc.edu/		sjdiem@wisc.edu
8	Benedikt Geiger	Experimental plasma physics	https://turbulence.neep.wisc.edu/	https://hsx.wisc.edu/	benedikt.geiger@wisc.edu
9	Oliver Schmitz	Experimental plasma physics	https://3dpsi.engr.wisc.edu/staff/schmitz-oliver/		oschmitz@wisc.edu
10	Chris Hegna	Plasma theory and computation	https://directory.engr.wisc.edu/neep/faculty/hegna_chris		cchegna@wisc.edu
11	Adelle Wright	Computational plasms physics	https://wright-lab.notion.site/		adelle.wright@wisc.edu
12	Charlie Hirst	Experimental nuclear materials	https://directory.engr.wisc.edu/neep/Faculty/Hirst_Charles/		cahirst@wisc.edu

NICP SANI 2025 Host Faculty List

Texas A&M University   Department of Nuclear Engineering

	Name	Research Fields	Web URL	Web URL 2	E-mail address
1					
2	John Ford	Radiation safety; radiation detection or medical/research applications of radioisotopes; space radiation environment and countermeasures			thasl@tamu.edu
3	Karen Kirkland	Steam/water two-phase flow experiments, reactor safety systems, power engineering			vierow@tamu.edu
4	Jean Ragusa	Radiation transport simulation for reactor using deterministic methods, scientific machine learning, surrogate models and data assimilation. **Dr. Ragusa would like to interview suitable candidates before agreeing.**			jean.ragusa@tamu.edu
5	Carlo Fiorina	Multiphysics modeling and Simulation of advanced reactors			carlo.fiorina@tamu.edu
6	Yang Liu	Advanced reactor modeling and analysis using physics-informed machine learning			y-liu@tamu.edu
7	Tsvetkov, Pavel V.	Novel AI-enabled methods in advanced reactor design and applications, nuclear fuel cycle and energy sustainablity, nuclear waste minimization, novel instrumentation technologies, energy conversion, and nuclear power deployment.			tsvetkov@tamu.edu

University of California, Berkeley   Department of Nuclear Engineering

	Name	Research Fields	Web URL	Web URL 2	E-mail address
1	Massimiliano Fratoni	Advanced nuclear reactors design / Uncertainty quantification and sensitivity analysis / Multi-physics modeling and simulation / Accident tolerant fuel / Advanced fuel cycles analysis / Geological repository and far-field criticality / Fusion blanket design			maxfratoni@berkeley.edu
2	Jasmina Vujic	Advanced nuclear Reactor Physics/Design, Transport theory modeling and simulation, Application of radiation in medical diagnostics and therapy, Non-proliferation			vujic@nuc.berkeley.edu