

National University Consortium Newsletter



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Questions or comments?

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Meet INL's Laboratory Director for Science & Technology, and Chief Research Officer



Dr. Kelly Beierschmitt
Deputy Laboratory Director

With more than 31 years of experience in engineering, nuclear and materials-related research & development, production, and operations management, Dr. Beierschmitt is the deputy laboratory director for Science and Technology and chief research officer at INL. He is responsible for providing strategic leadership, direction, and integration for research, science and technology at INL. He served as INL's deputy for Nuclear and Laboratory Operations since January 2014. Previously, he was the associate lab director for neutron sciences at Oak Ridge National Laboratory, where he was responsible for the management of ORNL's neutron sciences R&D portfolio, including the operation of the Spallation Neutron Source, the world's most powerful pulsed neutron source, and the High Flux Isotope Reactor. He also was ORNL director of Environment, Safety, Health and Quality. He has worked at the Pantex Plant and Pacific Northwest National Laboratory. He holds a doctorate in industrial engineering (risk, reliability engineering) from Texas Tech University and a bachelor's degree in engineering mathematics from West Texas A&M University. He is a registered professional engineer and a member of the American Nuclear Society and other professional societies.

Third Way Summit includes GAIN Initiative in Good News



On Wednesday, INL Director, Mark Peters spoke at the Third Way Summit and Showcase held in Washington, D.C. The event brought together policymakers, innovators and investors who are developing advanced nuclear technology. Third Way, in partnership with INL, Argonne National Lab and Oak Ridge National Laboratory hosted the first ever [Advanced Nuclear Summit](#).

In November 2015, the Obama administration announced its 2017 budget plan includes \$900 million in new funding to support the federal research, development and demonstration efforts in nuclear energy technologies.

Much of this work will be conducted under the U.S. Dept. of Energy Gateway for Accelerated Innovation in Nuclear or GAIN initiative. The Idaho National Laboratory will serve as private industry's main point of access to federal experts and facilities.

"There are several different concepts and classes of advanced reactors being pursued and the GAIN initiative helps to create a thriving ecosystem for innovation that fosters private investment and activates the government's investment in our national labs," said Peters.

INL has been designated the nation's lead nuclear energy laboratory for the Gateway for Accelerated Innovation in Nuclear (GAIN) initiative which will build upon our distinctive capabilities, expertise and facilities.

Dr. Kemal Pasamehmetoglu, INL associate laboratory director for Nuclear Science & Technology has been named the director of GAIN. Kemal's leadership will support the integration and utilization of expertise and capabilities at INL, Argonne National Laboratory, Oak Ridge National Laboratory, other national laboratories and universities to enable future nuclear reactors.

Through GAIN, DOE is making its state-of-the art and continuously improving re-search, development and demonstration (RD&D) expertise, capabilities and infra-structure available to industry and other stakeholders to achieve faster and more cost-effective development, demonstration and ultimate deployment of innovative nuclear energy technologies. The capabilities accessible through GAIN include:

- Experimental capabilities in nuclear and radiological facilities and other non-nuclear testing facilities (e.g., thermal-hydraulic loops, control systems testing, etc.).
- Irradiation capabilities through test reactors and other scientific user facilities.
- Computational capabilities and state-of-the art modeling and simulation tools.
- Information and data through our knowledge and validation capability.
- Land use and site information for demonstration efforts.
- Assistance through the regulatory process. The Nuclear Regulatory Commission will provide regulatory expertise and guidance through GAIN.

GAIN will advance the development and ultimate commercialization of safer, more efficient nuclear reactor technologies in support of an all-of-the-above energy strategy. The nuclear energy R&D test bed and demonstration platform, integral parts of GAIN, integrate and facilitate efforts by private industry, universities and national laboratories to test, develop and demonstrate new nuclear reactor technologies.



About Third Way: Third Way is a think tank that answers America's challenges with modern ideas aimed at the center. It is comprised of Democrats and Independents who share the conviction that government plays an essential role in keeping the nation's promises – for equal opportunity, individual liberty, stewardship of resources and lasting security. It advocates for private-sector economic growth, a tough and smart centrist security strategy, a clean energy revolution, and progress on divisive social issues, all through moderate-led U.S. politics.



University Partnerships

Idaho National Laboratory hosts students in an effort to help train the nation's next generation of scientists and engineers.

INTERN PROGRAM

INL annually hosts students in an effort to help train the nation's next generation of scientists and engineers. The largest concentration of internships occurs during the summer months. Involvement in world-class research provides participants with a set of experiences that support their education and career goals. Internship participants make genuine contributions to program goals. They may publish or co-author papers as well as present their research at INL, at conferences or their institutions. Additional benefits include providing a pipeline to employment, strengthening collaborations with academia and other DOE laboratories and creating opportunities for collaborative research. Interns participate in a wide range of enrichment activities during their assignment.

To be considered for an INL internship, students must:

- Be enrolled in an U.S. accredited college or university and have completed a minimum of 12 credits; graduated from college within six months; or graduated and are applying to a graduate program
- Pass a background check
- Have at least a 3.0 cumulative GPA
- Complete an application

Foreign national students may be eligible for internships if they can obtain a U.S. work authorization.

APPLICATION PROCESS

To apply, go to www.inl.gov/careers

Click on the "INL current career openings" link, locate posting 9244 and upload a single PDF file containing:

1. Current resume or curriculum vitae
2. Unofficial transcripts for all current and past degrees
3. Current class schedule, including number of credits

POSTDOC PROGRAM

Postdoctoral appointments are reserved for individuals that have recently received their qualifying doctorate degree and are provided a mentored research experience that enables these individuals the opportunity to gain hands-on laboratory research and development experience and the highest quality of training to prepare for transition to research independence.

Selected through a competitive bid process, INL postdoctoral research associates complete a one-to-three-year research experience that supports INL's science-based, applied engineering missions in nuclear and energy research. Science and national defense. As a result, INL postdoctoral research appointees contribute to national priorities for the U.S. Department of Energy's missions. These positions are full-time paid appointments and generally range from six to 37 months.

REQUIRED QUALIFICATIONS

- Ph.D. requirements must be completed by commencement of appointment and within the previous 5 years
- Demonstrated oral and published written communication skills
- A developing publication record

To apply for open POSTDOC positions:

[Postdoctoral Research Associate](#)

JOINT APPOINTMENTS

Joint appointees contribute to the mission of both their home and host institutions by developing or conducting research. Through the program, laboratory employees may teach courses and conduct research at partner universities or professors can work with INL on collaborative research projects.

The Joint Appointment Program strengthens INL's strategic objectives by increasing opportunities for research and development collaboration with universities.

Joint Appointees:

- Actively engage and align universities with the INL Research and Development mission and strategic objectives
- Bring recognized, meaningful and productive engagement of university capabilities to bear on the broader spectrum of INL research and development activities
- Extend the external visibility and recognition of the INL Joint Appointment Program to the relevant research communities
- Provide for joint INL and university participation in proposals that might otherwise exclude the involvement of federally funded research and development centers as lead applicants
- Further strategic relationships between INL and another research institution designed to help attract and retain top notch scientists and engineers

FACT SHEETS

[University Partnerships Fact Sheet](#)

[Internships Fact Sheet](#)

[Joint Appointment Fact Sheet](#)

[Russell L. Heath Distinguished Postdoctoral Appointment](#)



Carol S. Smidts

Professor in the Department of Mechanical and Aerospace Engineering, Nuclear Program at Ohio State University

Carol S. Smidts is a professor in the Department of Mechanical and Aerospace Engineering, Nuclear Engineering Program, at The Ohio State University since 2008. Prior to this appointment, she was an associate professor in the Reliability Engineering Program at the University of Maryland at College Park, and the director of the Software Reliability Engineering curriculum. She is an expert in software reliability, software safety, instrumentation and control, and probabilistic risk assessment. Her research interests include software reliability modeling, software test automation, probabilistic dynamics for complex systems, and human reliability, and she has to her credit more than 140 refereed publications, multiple awards, such as the NASA Rotary Award and two commercialized patents.

She was the conference program committee co-chair of the International Symposium on Software Reliability Engineering (2006 and 2013), and of the High Assurance Systems Engineering Symposium (2008), and is a regular member on multiple technical review panels (DOE, AFOSR, NSF, FDA, ISSRE, HASE, and DSN). She is an associate editor of the IEEE Transactions on Reliability, and a member of the editorial board of Software Testing, Verification, and Reliability. She is a senior member of the IEEE, a member of ANS, a member of the executive committee of the Human Factors, Instrumentation, and Control Division of ANS, and the current Nuclear University Consortium (NUC) representative for the Ohio State University.

Professor Smidts is currently engaged in various projects including the development of a method for quantifying the dependability attributes of software-based safety critical instrumentation and control systems in nuclear power plants (DOE NEET), developing methods for robust software design for multi-core platforms (AFOSR), severe accident management guideline (SAMG) validation within the context of severe accident uncertainties (NRC), development of on line monitoring algorithms and distributed test capabilities for NHES (INL NUC LDRD), integration of HIL capabilities in the MOOSE framework (INL NUC LDRD) and the development and demonstration of a generalized model-based mutation assessment approach for embedded digital devices in nuclear power applications (DOE NEET with collaborators from University of Tennessee, Virginia Commonwealth and AMS Corporation).