



# GAIN

Gateway for Accelerated  
Innovation in Nuclear

## New year, new innovations in nuclear

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Happy New Year! I'm Rita Baranwal, the director of GAIN, the Gateway for Accelerated Innovation in Nuclear. I've always been passionate about innovation, from conducting "mad-scientist" experiments that eventually led to me developing advanced nuclear fuel materials to leading a department that I pushed to exploit non-nuclear innovations (such as additive manufacturing) to benefit the nuclear industry.



You may already know that nuclear energy is a proven baseload, zero-emission power source. It's a resource that is capable of meeting the world's energy and environmental needs. In my current role, I have the privilege of leading nuclear innovators to think differently; I get to direct an initiative that helps innovators resolve their technical, cost, and security barriers through research, development and demonstration (RD&D).

I'm thrilled to launch my blog, where I'll share the exciting work being conducted under the auspices of GAIN. If you're wondering what GAIN is, I'll tell you: it's a U.S. DOE initiative that connects nuclear technology innovators with state-of-the-art national laboratories, all in an effort to commercialize innovative nuclear energy technologies faster and more cost-effectively. It's an innovation matchmaker!

Check out the [new GAIN website](#)! Please explore it and poke around. I look forward to your feedback!

Before I sign off, I wanted to share with you **5 Things that GAIN did in 2016 to revolutionize Advanced Nuclear Innovation in the USA:**

1. On December 12, 2016, GAIN and EPRI brought together advanced reactor developers to discuss their modeling and simulation (M&S) needs. Three technology groups (Molten Salt Reactor, Fast Reactor, and High Temperature Gas Reactor) shared the tools they are currently using, their needs of the DOE, and M&S gaps that they feel currently exist. GAIN's next step is to share DOE's capabilities and plans to address these needs and gaps.

2. On November 10, 2016, we established a Memo of Understanding (MOU) between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) on GAIN, specifically to the part of the GAIN initiative wherein DOE works with prospective applicants for new or advanced nuclear technology to understand and navigate the regulatory process for licensing such technology.

3. Nuclear innovators asked for easier access to Applied Technology (AT) documentation. Efforts are underway to increase the accessibility of existing AT documents; we have initiated a list of AT documentation for Molten Salt Reactor (MSR) technology and Fast Reactor (FR) technology. AND, we went one step further: on October 3, 2016, John Kotek, DOE Acting Assistant Secretary for Nuclear Energy (NE) signed a memo ceasing the use of the AT label on new NE-sponsored work!

4. In July 2016, GAIN co-sponsored, with NEI and EPRI, three Technology Workshops to solicit advanced nuclear technology developer needs of the DOE complex. These workshops brought together competing companies, and resulted in the formation of Technology Working Groups (TWGs) for the MSR, FR, and High Temperature Gas Reactor (HTGR) technologies, aimed at resolving cross-cutting challenges within each technology community.

5. In June 2016, GAIN announced that eight businesses had been selected to win the first GAIN Nuclear Energy Vouchers, totaling \$2M. The goal of the voucher program is to assist new entrants into the nuclear field as they build the collaborations necessary to accelerate the development and deployment of innovative nuclear technologies by granting them access to the extensive nuclear research capabilities available at DOE's national laboratories and Nuclear Science User Facilities (NSUF) partners. Our next voucher call will be launched in a few days!

Thank you for reading to this point. I welcome your comments and feedback!

Innovate differently,  
Rita