

Welcome!

GAIN Innovative Materials Research Workshop

**Lori Braase, INL Industry Engagement
GAIN Program Manager**

June 15, 2022

Purpose

Introduce a potential new DOE Program on advanced and innovative materials research for fuel cladding for advanced reactors. This workshop will provide the opportunity to inform program objectives and gather supplier, developer, university researcher, and national laboratory input in the following areas:

- Innovative cladding materials research, including core materials that provide structure (e.g., grid plates, materials that are removed from the core along with refueling activities)
- Innovative characterization and testing methods
- Innovative new methods of qualifying material "quicker"
- Research needs spanning the next 20 years

Introductions

- Name
- Title
- Company

Agenda

PT	Topic	Presenter
1:00 p.m.	Welcome, Introductions, Purpose, Agenda	Lori Braase, GAIN
1:15 p.m.	DOE <i>Tentative New</i> Program Objectives	Stephen Kung, DOE
1:30 p.m.	Innovative Cladding Materials for Advanced Reactors / Q&A	Stuart Maloy, PNNL
Advanced Nuclear Industry Gaps and Needs (10 Minute Presentations)		Lori Braase, GAIN
2:00 p.m.	Aurora Reactor	Ryan Webster, Oklo
2:15 p.m.	Westinghouse Lead Fast Reactor	Emre Tatli, Westinghouse
2:30 p.m.	Molten Chloride Fast Reactor (MCFR)	Matt Wargon, TerraPower
2:45 p.m.	<i>Discussion</i>	Stuart Maloy, PNNL
National Laboratory Capability and Methods (15 Minute Presentations)		
3:00 p.m.	Summary of the “Capability Needs for Irradiated and Radioactive Materials Research Study”	Simon Pimblott, INL/NSUF
3:20 p.m.	Probing Nanoscale Damage Gradients in Irradiated Metals	Siddhartha Pathak, Iowa State
3:40 p.m.	Properties of Advanced ODS Alloys and Routes for Application	TS Byun, ORNL
4:00 p.m.	High Dose Ion Irradiation Testing of Materials	Kevin Field, U of Michigan
4:20 p.m.	Gaps and Needs Discussion	
5:00 p.m.	Identify Path Forward and Actions	Stuart Maloy, PNNL
5:30 p.m.	Adjourn	

Housekeeping

- Please silence your cell phones.
- Presenters, please try to stay on time. I am here to help.
- Presentations will be posted on the GAIN Website.
- 5 minutes (ish) Q&A after each presentation.
- We are very interested in gaps, needs, issues, ideas, etc., that would benefit potential new research.

Timeline

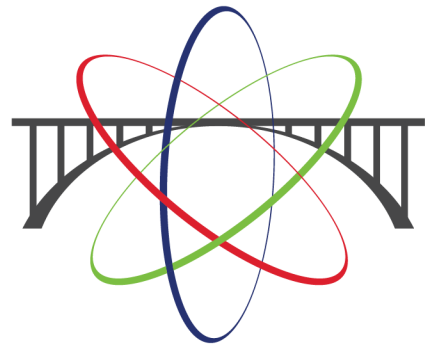
June 15: GAIN Innovative Materials Research Workshop

- Engage with industry, universities, and national labs
- Embedded in ANS Annual Meeting

June 30: GAIN Innovative Materials Research Webinar (Virtual)

- Summarize the outcome of this workshop
- Collect additional gaps and needs
- Gain.inl.gov/workshops
- 10am to 1pm MDT

July 30: Summary Report to DOE



GAIN

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