



Agenda

NEAMS Annual Review Microreactors

May 12, 2025

11:00 AM-4:00 PM (Eastern Time)

11:00 **Opening remarks and meeting objectives** *David Henderson, DOE/ David Andersson, LANL*

11:05 **NEAMS overview and Microreactors research plan** *David Andersson, LANL*

Research presentations on Microreactors by NEAMS Technical Areas

11:15 **Multiphysics Applications**

Introduction of Multiphysics Applications Technical Area *Emily Shemon, ANL/Cody Permann, INL*
(5 min)

Multiphysics Simulation for Microreactors *Yinbin Miao, ANL*
(9 min)

Multiphysics Simulation of control drum rotation in HP-MR *Ahmed Abdelhameed, ANL*
(8 min)

Multiphysics simulation of KRUSTY reactivity insertion tests *Yan Cao, ANL*
(8 min)

Q & A
(15 min)

12:00 **Reactor Physics**

Introduction to Reactor Physics Technical Area *Matthew Jessee, ORNL*
(5 min)

Overview of Griffin R&D activities for Microreactors *Olin Calvin, INL*
(15 min)

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Overview of Shift R&D activities for Microreactors
(15 min)

Tara Pandya, ORNL

Q & A
(10 min)

12:45 **Thermal Fluids**

Introduction to Thermal Fluids Technical Area
(5 min)

Elia Merzari, PSU/Rui Hu, ANL

Overview of heat pipe modeling capabilities
(20 min)

Joshua Hansel, INL

Modeling of MARVEL microreactor using NEAMS tools
(10 min)

Lise Charlot, INL

Q & A
(10 min)

13:30 **Break**

14:15 **Fuel Performance**

Introduction to Fuel Performance Technical Area
(5 min)

Stephen Novascone, INL

NEAMS fuels modeling for microreactors-
FY24 accomplishments and outlook for FY25
(30 min)

Topher Matthews, LANL/Jake Hirschhorn, INL

Q & A
(10 min)

15:00 **Structural Materials and Chemistry**

Introduction to Structural Materials and Chemistry Technical Area
(5 min)

Benjamin Spencer, INL /Ted Besmann, USC

Graphite Thermo/Mechanical modeling capability development in Grizzly
(10 min)

Parikshit Bajpai, INL

Incorporating irradiation effects in predictive models of Grade 91 alloy
(10 min)

Laurent Capolungo, LANL

Release of NEML2 high-performance constitutive modeling library
(10 min)

Gary Hu, ANL

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Q & A
(10 min)

15:45 ***Feedback and conclusion***

16:00 ***Adjourn***