

# STARFIRE Workshop Visit

*July 22–23, 2024*

**Objective:** to facilitate a comprehensive exchange of knowledge and ideas in space fission power between INL and leading experts from national laboratories and academia.

**Attire:** Business casual, long pants and sturdy shoes with closed-toe and closed-heel required for tours.

## Academia Students

Kayvaan Adrangi  
Camden Eck  
Felicity Griffin  
Luke Hansen  
Eric Hudec  
Emily Hutchins  
Jonas Kessing  
Karina Madrigal  
Kirsty Meakins  
Katherine Miller  
Zachary Miller  
Eleni Mowery  
Alex Nadermaann  
Bailey Oteri  
Ethan Payne  
Corey Smith  
Benjamin Stroup  
James Suthon  
Kylee Swanson  
Zane Tucker  
Mary Woodrough  
W. Madison Yates

## Lecturers

Yan Cao (ANL)  
Sebastian Corbisiero (INL)  
Kathleen Doty (PNNL)  
Mohamed El Genk (UNM)  
Dianne Ezell (ORNL)  
Jess Gehin (INL)  
Jackson Harter (INL)  
T. Jay Harrison (PNNL)  
Michael Houts (NASA)  
Dan Kotlyar (GT)  
Alex Levinsky (LANL)  
Lee Mason (INL)  
Vedant Mehta (INL)  
DV Rao (INL)

## External Observers

Jeffrey King (CSM)  
Cole Kostelac (LANL)

## INL Participants

Isaac Napa Aguire  
Riley Akos  
Brandon Bloss  
Joe Cox  
Michael Clark  
Ethan Drost  
Jonathon Geymer  
Davis Golden  
Hikaru Hiruta  
Matthew Johnson  
Alex Kaforey  
Katherine Kucik  
Travis Lange  
Wafaa Ossman  
Bailey Painter  
Luis Carillo-Rodriguez  
Dempsey Rogers  
Troy Unruh  
Patience Yockey

Host Mark DeHart  
Admin. Assistant: Holly Bergeson

Revision Number:4  
Date agenda revised: 07/17/2024

## Monday, July 22, 2024

0630 Bus to pick up students from hotel .....Students

### Willowcreek Building, (WCB), 1955 Fremont Street, Idaho Falls

0700 Badging (Bus to take students to EROB after badging) ..... INL Security

### Engineering Research Office Building, (EROB), 2525 Fremont Street, Idaho Falls

#### Conference Room 181D

0830 Welcome and logistics ..... Mark DeHart

0845 Nuclear Science and Technology at INL ..... Jess Gehin

0900 Space Nuclear Reactor Power Systems Design Dev. ABC's & Rules of Thumb ..... Mohammed El Genk

0945 DOE Labs and NASA Space Fission .....Sebastian Corbisiero

1015 Break.....All

1030 VALKRE: An Approach for Rapid Prototyping of Space Reactors ..... DV Rao

1100 Multiphysics Simulation of a Nuclear Thermal Propulsion System..... Mark DeHart

1130 Space Nuclear I&C Development and Gaps .....Dianne Ezell

1200 Working Lunch The MCNP & Abaqus-based Reactor Multiphysics (MARM) Framework ..... Vedant Mehta

1245 Space Nuclear Program at LANL: Past, Present, and Future .....Alex Levinsky

1315 Multiphysics Simulations using reduced order tools: Benefits and Challenges ..... Dan Kotlyar

1345 Space Nuclear Propulsion Development and Applications..... Michael Houts

1415 Reactor Power Systems Development: Lessons Learned over last 20 years ..... Lee Mason

1445 Break.....All

1515 Multiphysics Modeling of KRUSTY..... Yan Cao

1530 The Need for Empirical Test Data for Space Nuclear Applications ..... T. Jay Harrison

1600 Space Nuclear Law and Policy..... Kathleen Doty

1630 Wrap-Up, Q&A .....All

1715 Adjourn (bus to take students back to hotel) .....All

## Tuesday, July 23, 2024

Engineering Research Office Building, (EROB), 2525 Fremont Street, Idaho Falls  
*Conference Room 181D*

- 0800 Bus to pick up students from hotel .....Students
- 0830 Welcome Back and Opening Comments ..... Mark DeHart
- 0840 Lightning Talks .....Students
- 1030 Break.....All
- 1045 Lightning Talks Continued.....Students
- 1230 Working Lunch: Quantifying the Uncertainty & Sensitivity of NTP Control Drums.....Jackson Harter
- 1315 Facility Tours of ESL, EIL, C3 .....All

<b>Group 1 Hikaru Hiruta</b>	<b>Group 2 Jackson Harter</b>	<b>Group 3 Travis Lange</b>
Adrangi	Eck	Griffin
Hansen	Meakins	Oteri
Madrigal	Hudec	Hutchins
Z. Miller	Kessing	K. Miller
Mowery	Nadermaann	Suthon
Aguire	Osman	Bloss
Geymer	Payne	Yates
Smith	Stroup	Tucker
Woodrough	Akos	Cox
Drost	Golden	Kucik
Painter	Swanson	Smith

Time	Group 1	Group 2	Group 3
1315 - 1330	Walk to EIL	Walk to ESL	Walk to C3
1330 - 1400	Tour EIL	Tour ESL	Tour C3
1400 - 1415	Walk to ESL	Walk to C3	Walk to EIL
1415 - 1445	Tour ESL	Tour C3	Tour EIL
1445 - 1500	Walk to C3	Walk to EIL	Walk to ESL
1500 - 1530	Tour C3	Tour EIL	Tour ESL
1530 - 1545	Walk to EROB	Walk to EROB	Walk to EROB

**ESL: Energy Systems Laboratory** Tour guide is Michael Clark

**EIL: Energy Innovation Center-** Tour guide is Troy Unruh

**C3: Collaborative Computing Center-** Tour guides are: Patience Yockey, Dempsey Rogers, and Alex Kaforey

- 1545 Reconvene, Closing Comments.....All
- 1615 Adjourn: (Bus to take students back to hotel).....All

