

URL: <https://infuse.ornl.gov>
Email: infuse@ornl.gov

INFUSE FY2024 Workshop

A. Lumsdaine & E. Gilson

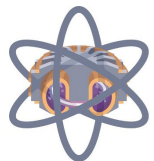
INFUSE Program Updates
February 27, 2024

INFUSE Overview

The mission of INFUSE is to provide private-sector fusion companies access to the expertise and facilities of DOE's national laboratories and (since FY2022) U.S. academic institutions to overcome critical scientific and technological hurdles in pursuing development of fusion energy.

AWARDS

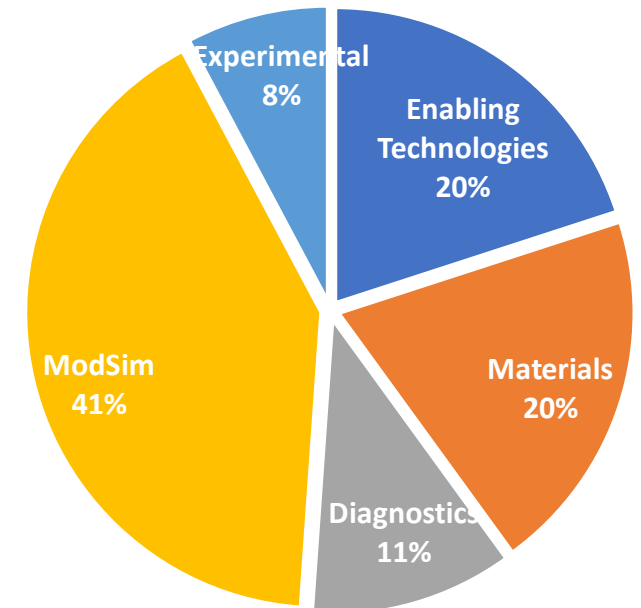
- **90** projects funded since 2019 with a total value of **\$19.3M**
- Awards were made to **28** private companies partnering with **10** DOE labs and **11** U.S. Universities.
- Detailed list: https://infuse.ornl.gov/wp-content/uploads/2023/11/Cumulative_AwardList_wAbstracts_thru2023.pdf



PARTICIPATING LABORATORIES



Awarded Topical Areas



TOPICAL AREAS

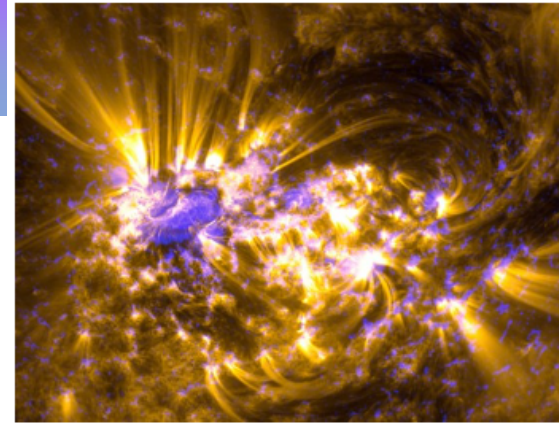
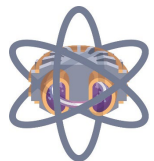
- 1) Enabling Technologies
- 2) Materials Science
- 3) Plasma Diagnostics
- 4) Modeling and Simulation
- 5) Unique Fusion Experimental Capabilities
- 6) Paths to Commercialization

INFUSE Web Site - Rebuilt

<https://infuse.ornl.gov/>

Any issues?

Email infuse@ornl.gov



Innovation Network for Fusion Energy

The INFUSE program will accelerate fusion energy development in the private sector by reducing impediments to collaboration involving the expertise and unique resources available at DOE laboratories and universities. This will ensure the nation's energy, environmental and security needs by resolving technical, cost, and safety issues for industry.

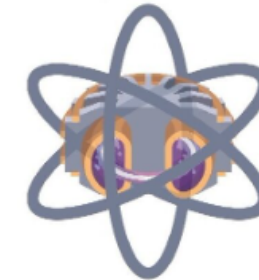
[Read more](#)



FY2024 Applications due on February 16, noon (EST).

Published: February 6, 2024

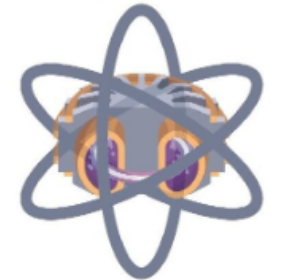
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Frequently Asked Questions Updated

Published: January 22, 2024

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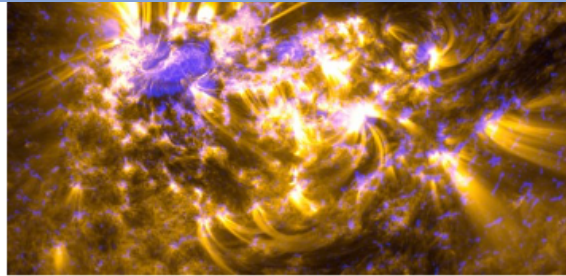
INFUSE 2024 Workshop Registration Available

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<http://eepurl.com/iBeZiM>



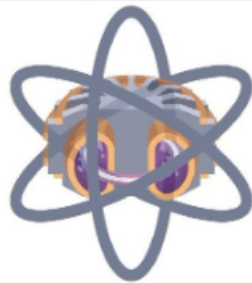
Enter information below to be informed of INFUSE program funding calls and other news. You will be able to unsubscribe at any time.

Email Address

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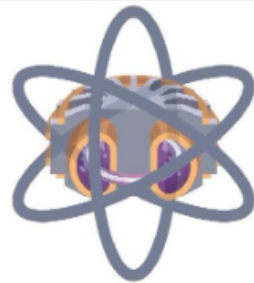
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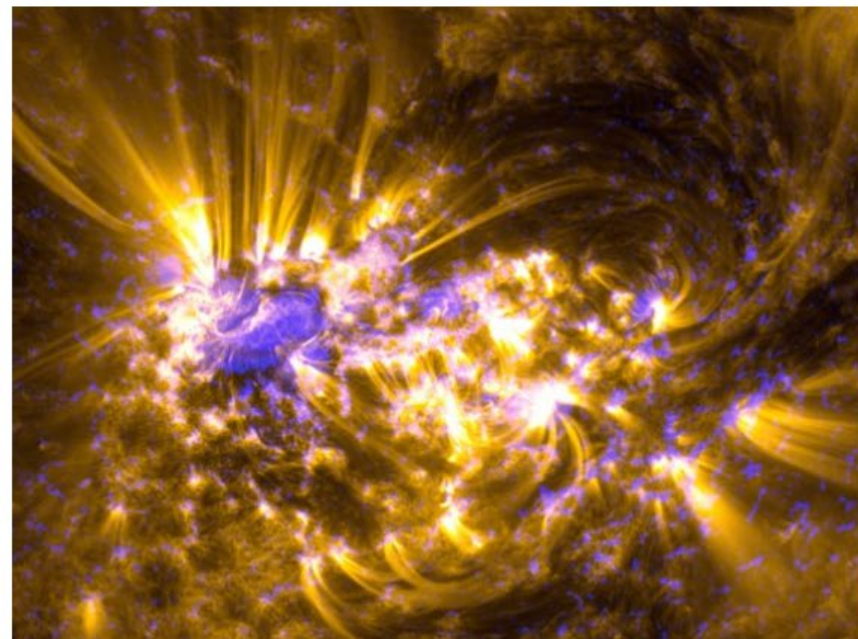
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INFUSE Web Site – Meetings



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FY2024 Workshop

FY2024 Virtual Mini-Workshop

FY2023 Workshop

FY2022 Workshop

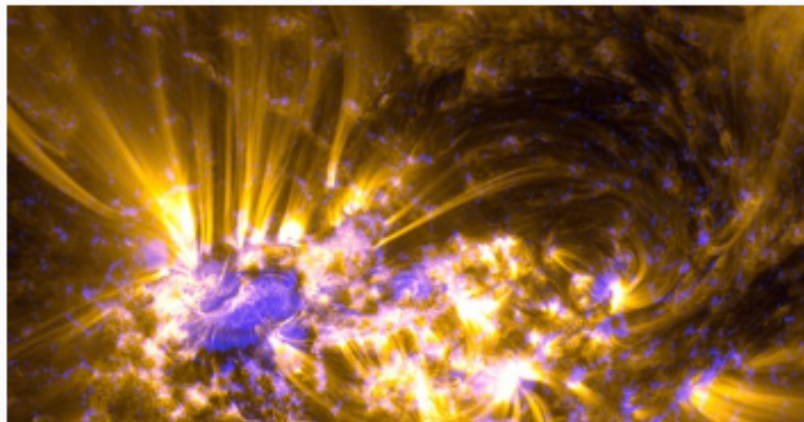
FY2021 Workshop



INFUSE Web Site – University Contacts Directory



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Innovation Network for Fusion Energy

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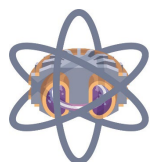
Library ▾ Submission ▾ Meetings ▾

- National Lab Capabilities
- University Contacts
- DOE and Fusion Community Reports
- INFUSE Project Final reports
- Previous RFA Information

Join the University Contacts Directory

Request a Profile

Manage Your Profile

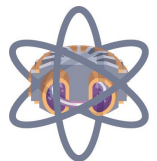


- The Library has been organized better into coherent informational areas.
- This includes National Lab Capabilities and University Contacts.
- If a University faculty member would like to be added to this directory, there is a link at the bottom of the contacts page.

INFUSE Schedule

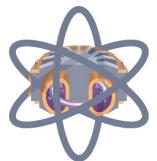
☐ FY2024

- Nov. 9, 2023 Mini-workshop
- Dec. 11, 2023 RFA posted
- Dec. 14, 2023 Webinar
- Jan. 3 RFA submission opened
- Feb. 16 RFA submissions closed
- **Feb. 27-28 In-person Workshop (PPPL)**
- **Mid-June Award Announcement Expected**
- Sep. 1 Work Start Date



What We Need From You

- In order to communicate INFUSE success stories to stakeholders . . .
 - Describe technical impact
 - Artifacts generated (papers, patents, etc.)
 - Technical readiness demonstrated / matured
 - Risks mitigated
 - Describe business impact
 - Progress towards company objectives
 - Input into other funding opportunities
 - Risks mitigated



Divertor Component Testing

Topic Area:
Experimental
Capabilities

Partner	Company
Oak Ridge National Laboratory	Commonwealth Fusion Systems
Dr. Travis Gray	Dr. Adam Kuang Dr. Matthew Reinke

Project Summary:

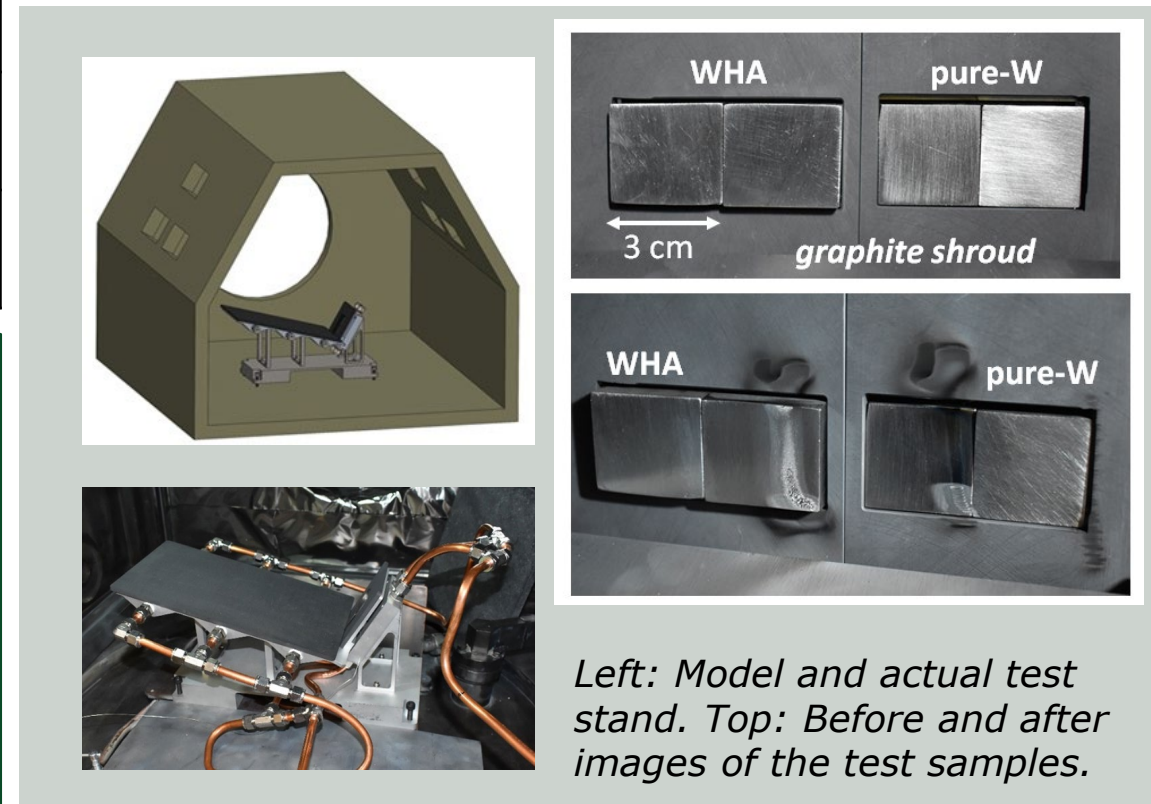
Execute high heat flux testing of the base material being considered for SPARC at representative loads.

Fusion Impact:

Qualified the use of tungsten heavy alloy (WHA) - 97% W, 2% Ni, 1% Fe by weight, for use in tokamaks under higher heat fluxes than previously assessed and documented failure mechanisms relative to pure tungsten.

Business/Market Impact:

Potential cost savings to future devices as tungsten heavy alloy has significantly lower machining cost relative to pure tungsten. Material properties also enable larger components, thus reducing part count.

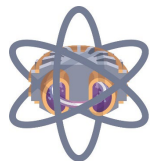
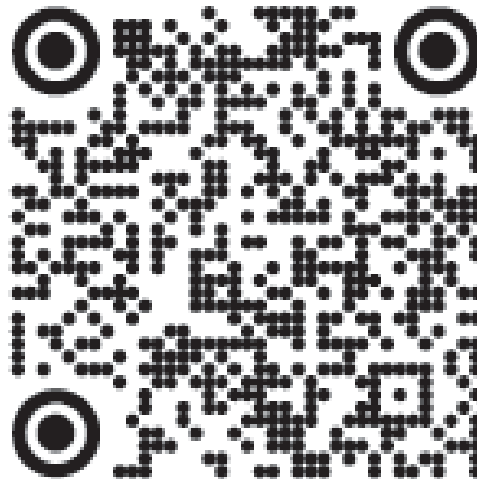


Period of Performance:

3/2020 - 3/2021

Some upcoming activities (1)

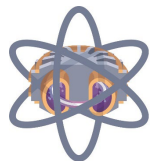
- Special issue of Fusion Science & Technology on public-private partnerships
 - GUEST EDITORS
 - Arnold Lumsdaine (lumsdainea@ornl.gov)
 - Ales Necas (anecas@tae.com)
 - To express interest, email the guest editors or fst@ans.org
 - Or to submit, scan the QR code and select “Public-Private Partnerships Special Issue”



Some upcoming activities (2)

- TechConnect World

- Special Symposium on Supply Chain Challenges for the Commercialization of Fusion Energy, June 17-19, 2024 in Washington, DC
- Abstract submission due date – March 6
- Confirmed participants:
 - Commonwealth Fusion Systems, Realta, Thea Energy, Focused Energy, SHINE
 - Pfeiffer Vacuum, Equans, CosyLab, Kyoto Fusioneering
 - STEP (UKAEA) Oak Ridge National Laboratory, US ITER, Fusion Industry Association, EPRI



Questions?

