

ISS National Laboratory

CENTER FOR THE ADVANCEMENT OF SCIENCE IN SPACE

NSF/CASIS 2021 TRANSPORT PHENOMENA NSF 21-525

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ISS NATIONAL LAB MISSION

We manage the International Space Station National Laboratory as a public service in order to benefit the U.S. taxpayer and to foster a scalable and sustainable low Earth orbit economy.

We leverage our core competencies, facilitate public-private partnerships, and utilize the platform capabilities and unique operating environment of the space station.

We create demand, incubate in-space business ventures, provide access for and awareness of fundamental science and technological innovation, and promote science literacy of the future workforce.

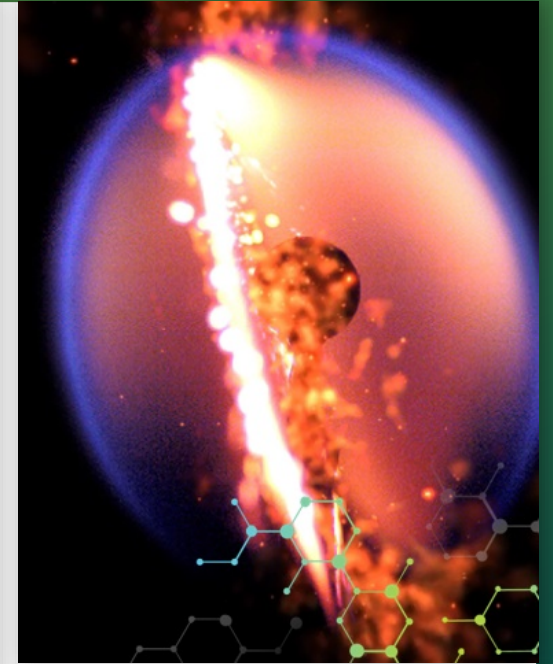


WHY SPACE?

In the free fall environment of low Earth orbit, gravity-dependent forces are minimized to enable insight into fundamental physics

Unique user facility → additional considerations

- Hardware
- Research support team:
Implementation Partner, CASIS
Operations, ISS crew

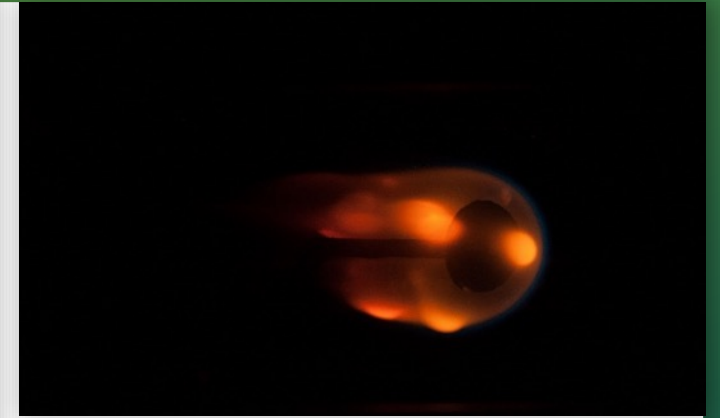
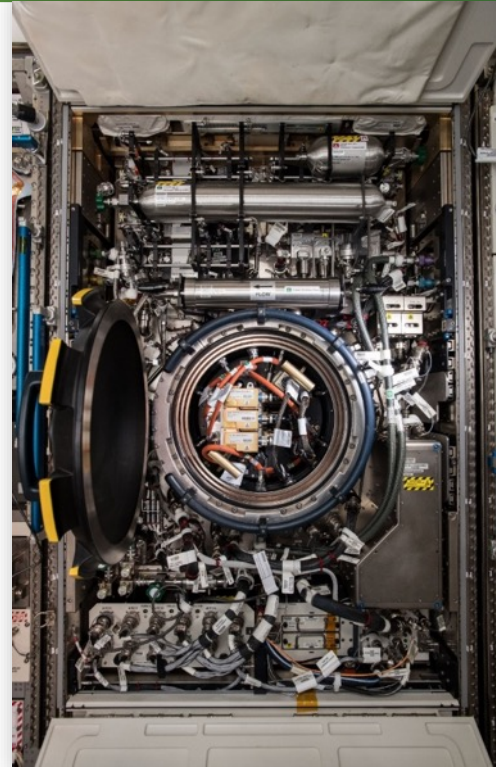


HARDWARE

Many hardware options exist on station. For more information:

- View the ISS Hardware Information Document (see the link in the solicitation)
- Contact the ISS National Lab Operations Team (Ops@ISSNationalLab.org)

Please note that new hardware and significant modifications to existing hardware are out of the scope of this solicitation.



IMPLEMENTATION PARTNERS

Implementation Partners are third-party organizations with expertise in translating ground-based research to research on the ISS.

Investigators need to identify an Implementation Partner for their project and obtain a Statement of Work (SOW) and estimated budget.

Cap of \$350K total for Implementation Partner budget. This is an additional cost outside of the NSF solicitation budget.

To identify and choose an Implementation Partner:

- Visit www.issnationallab.org/implementation-partners/
- Contact the CASIS Operation Team: Ops@ISSNationalLab.org

NSF SOLICITATION 21-525

Two-Step Process

1. Feasibility Review Form: January 11, 2021 – Submit via CASIS
 - www.issnationallab.org/research-on-the-iss/solicitations/rfp2021-1/
 - Includes Feasibility Summary and Compliance Form
 - CASIS will provide a letter of invitation to submit a full proposal
2. Full Proposal: March 2, 2021 – Submit via NSF
 - Must provide CASIS letter of invitation
 - Implementation Partner SOW and budget

FEASIBILITY REVIEW

Feasibility Review Form: no more than 3 pages

- Project summary: hypothesis, success criteria, overview of ISS operations, why the ISS is necessary
- Operational approach
 - Spaceflight experiments: hardware, Implementation Partners, experiment requirements, sample return requirement
 - Ground-based experiments

Compliance Form: 1 page

FEASIBILITY REVIEW CRITERIA

CASIS will lead the feasibility review with assistance from NASA, as necessary. Criteria include:

- Hardware availability, suitability, and required modifications
- Operation logistics, hazards, crew time, data and power requirements
- “U.S. Persons” status of the institution, PI, and co-PIs

Submit the Feasibility Review Form (by Jan. 11th)

CASIS will respond within 4 weeks (by Feb. 8th)

FINAL NOTES

Budget:

- Implementation Partner costs do not need to be in your NSF budget
- Launch and crew time are provided by CASIS through a Cooperative Agreement with NASA and are not part of the NSF budget
- Talk with Implementation Partners early in the process to understand what is feasible
- If you need help, contact us: Ops@ISSNationalLab.org or RReeves@ISSNationalLab.org

THANK YOU!

Discover the unique advantages of conducting research in microgravity with the ISS National Laboratory.



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Uluru, or Ayers Rock, a sandstone monolith in the heart of Australia's Northern Territory's arid "Red Centre" as seen from the ISS.



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