NSF EPSCoR
ADVANCING GEOGRAPHIC DIVERSITY IN STEM

Informational Session on **NSF 24-573**: EPSCoR Research Infrastructure Improvement – Focused EPSCoR Collaborations Program (RII FEC) and **NSF 24-091**: Dear Colleague Letter for Announcement of Topic for FY2025 and 2026 RII FEC Competitions

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Webinar Outline

- RII-FEC general Information
- Overview of New Solicitation
- Overview on Use-Inspired Research
- Merit Review Criteria
- Q&A

RII-FEC General Information:

- Builds inter-jurisdictional collaborative teams of EPSCoR investigators in areas aligned with NSF (see DCL NSF 24-091).
- RII-FEC has a vision to drive discovery and build sustainable STEM capacity that exemplifies individual, institutional, geographic, and disciplinary diversity.
- Broaden participation through the strategic inclusion and integration of all individuals, institutions, and sectors.
- Development of early-career faculty from backgrounds that are traditionally underrepresented in STEM fields is critical to sustaining and advancing research capacity.
- Encourages the integration and inclusion of Minority-Serving Institutions (MSIs), women's colleges, Primarily Undergraduate Institutions (PUIs), and two-year colleges as a critical component of this sustainable STEM capacity.

RII-FEC General Information:

To ensure maximum impact of programmatic funds, requests for RII-FEC funding must:

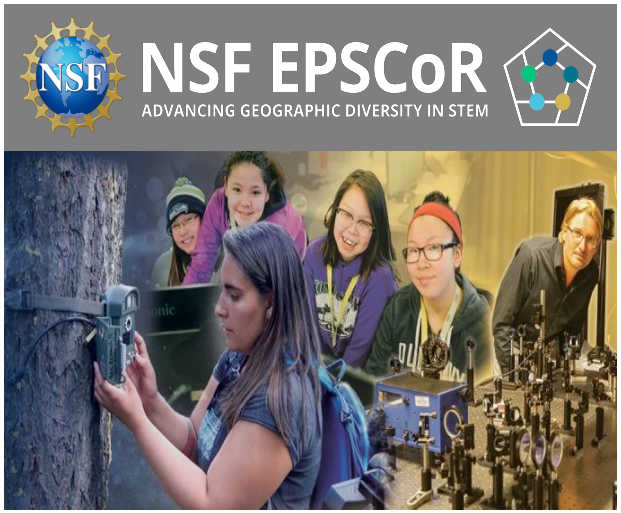
- Add significantly to the research capacity of the participating jurisdictions in the focus area (see DCL);
- Contribute to the advancement of research and innovation;
- Illustrate how the participating jurisdictions' research capacities will be positively impacted by the collaborative effort; and
- Outline clear plans for the recruitment and/or development of diverse talent in STEM such as early-career faculty.

Also, requests for RII-FEC funding must:

- Engage the full diversity of the participating jurisdictions' resources including higher education institutions, local and state organizations , and industries;

- Include social and economic expertise to understand and assess the societal implications of the focus area, as detailed in the Dear Colleague Letter (DCL); and

- Present a sustainability plan for obtaining subsequent, sustained non-EPSCoR funding from federal, jurisdictional, or private sector sources.



New Important Information And Revision Notes for NSF 24-573

- Only jurisdictions that meet the EPSCoR eligibility criteria may submit proposals to the RII-FEC competition. ✓
- The EPSCoR Research Infrastructure Improvement Program: Track-2 (RII Track-2 FEC) has been renamed to the EPSCoR Research Infrastructure Improvement-Focused EPSCoR Collaboration Program (RII-FEC).
- Proposals may be submitted either as (i) a collaborative proposal from multiple organizations or (ii) a proposal from one organization with support from collaborating organizations requested as subawards. ✓
- An organization may only submit one proposal to the RII-FEC competition as lead. However, an organization may serve as a non-lead in a collaborative submission, or as a subawardee, on any number of additional proposals. ✓
- For proposals from one organization with subawards, each submission must have at least one Principal Investigator (PI) or Co-PI from each of the different participating EPSCoR jurisdictions. ✓
- An investigator may serve as PI or Co-PI on only one RII-FEC award / submission at any given time. However, the investigator may serve as other Senior/Key Personnel on any number of RII-FEC submissions or awards. ✓
- The focus area for the RII-FEC program is announced via a Dear Colleague Letter (DCL) found at this link: EPSCoR Program links.

https://new.nsf.gov/funding/initiatives/epscor/epscor-investment-strategies

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Focused EPSCoR Collaborations (FEC)

Dear Colleague Letter
Announcement of Topic for the Fiscal Y
Infrastructure-Focused EPSCoR Collabo

The RII-FEC program (formerly known as "E
collaborative teams of EPSCoR investigato
Mathematics (STEM) focus areas consisten
Strategic Plan. Projects are investigator-dr
EPSCoR eligible jurisdictions with complen
challenges, which neither party could addr
projects have a comprehensive and integr
STEM capacity that exemplifies individual,
projects' STEM research and education act
strategic inclusion and integration of all in
EPSCoR recognizes that the development
traditionally underrepresented in STEM fie
capacity. The integration and inclusion of I
Primarily Undergraduate Institutions (PUIs
sustainable STEM capacity.

Letter of Intent

Letter of Intent due date(s) (required) (due by

Due Date

Full Proposal due date(s) (due by 5 p.m. subn

EPSCoR Interagency Coordinating

Dear Colleague Letter

Announcement of Topic for the Fiscal Year 2025 and 2026 EPSCoR Research Improvement Infrastructure-Focused EPSCoR Collaborations (RII-FEC) Program

May 21, 2024

Encourages the submission of proposals from EPSCoR interjurisdictional teams who have historically conducted foundational research to extend their work by pursuing related, use-inspired research questions in any STEM area that NSF supports.

Dear Colleagues:

The Focused EPSCoR Collaborations (FEC) program (NSF 24-573) is an EPSCoR Research Infrastructure Improvement (RII) program within the Research Capacity and Competitiveness (RCC) Section of the Office of Integrative Activities. A primary driver of the RII-FEC program is the need to build STEM-driven, interjurisdictional research collaborations with the potential to be nationally and internationally competitive in focus areas consistent with U.S. National Science Foundation (NSF) priority program investments and high-priority national challenges (National Science Foundation 2022-2026 Strategic Plan).

With the enactment of the CHIPS and Science Act of 2022, national key critical and emerging technologies, NSF's key technology focus areas, and the establishment of the NSF Directorate for Technology, Innovation, and Partnerships (TIP), NSF EPSCoR recognizes that entry into the use-inspired space from foundational research requires significant partnerships and infrastructure that

This DCL contains information about a Funding Opportunity

Document number: NSF 24-091

Share

Published: May 21, 2024

NSF 24-091: Dear Colleague Letter

Announcement of New Topic for FY 2025 and 2026 Competitions

“Building capacity towards use-inspired research”

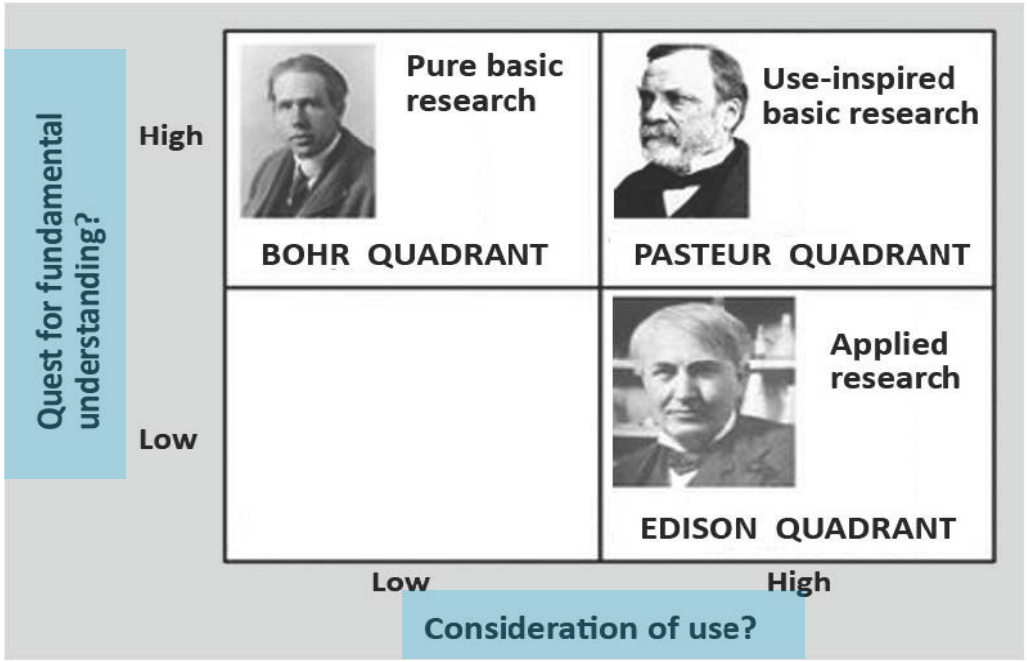
Flexibility in disciplinary focus , as no technical topic is required.

FEC accepts proposals in any areas supported by NSF.

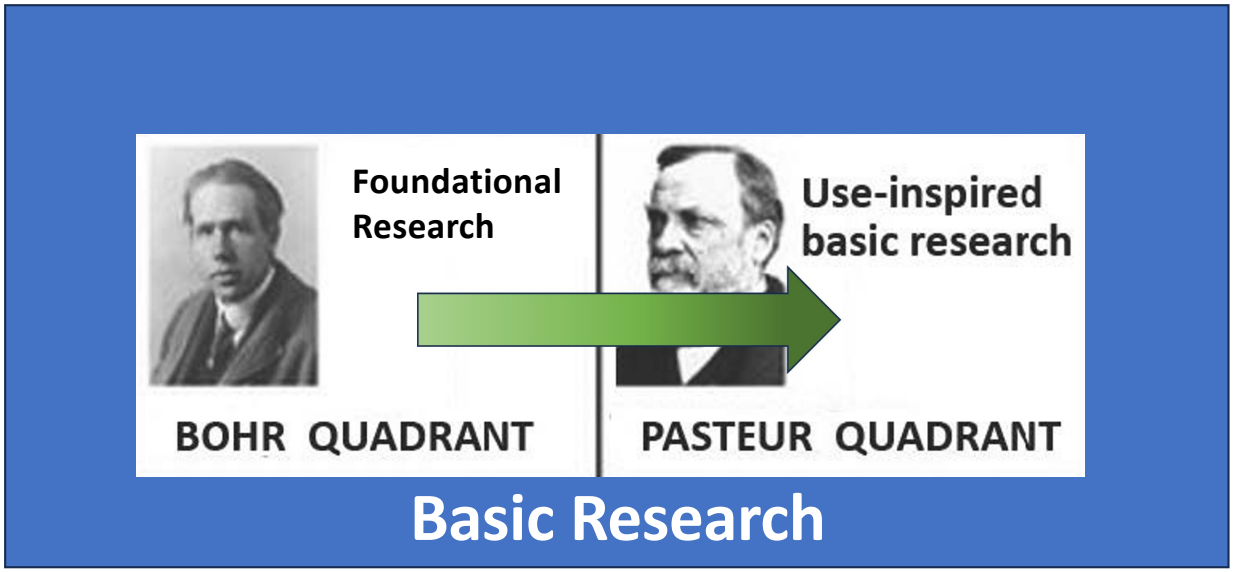
Use-inspired research- Stokes, *Pasteur's Quadrant*

-Use-inspired research, also known as "Pasteur's Quadrant," refers to research that seeks to both advance fundamental understanding and address practical problems (Stokes 1997).

-Use-inspired science consists of scientific investigation whose rationale, conceptualization, and research directions are driven by the potential use to which the knowledge will be put (Stokes, 1997).



The idea is that research can be driven by the quest for fundamental understanding while simultaneously being inspired by considerations of use.



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".....use-inspired research. It emphasizes using the outcomes of fundamental and other research for solving problems or developing new processes, products, or techniques that have practical value for a specific application or purpose. Often this purpose is linked directly to societal value or economic or business benefit."

RII FEC is specifically looking to build capacity from foundational research toward use-inspired research (higher consideration of use)

NSF Directorate for Technology, Innovation, and Partnerships (TIP) Glossary

- "**Use-inspired research**: Work whose rationale, conceptualization, and directions are inspired by potential use cases".
- Expanding: The research is derived from specific practical problems, applications, or use cases.
- Practical research problems: focus on addressing real-world challenges and generating practical solutions to improve various aspects of society, technology, health, and the environment

Use-inspired research is basic research strongly motivated by the need to create knowledge or know-how to help develop practical solutions to address societal challenges.

https://www.nsf.gov/pubs/2020/nsf20080/nsf20080.jsp#q3

Why use-inspired research?

- As codified in the "CHIPS and Science Act of 2022" the TIP Directorate advances use-inspired and translational research in all fields of science and engineering, giving rise to new industries and engaging all Americans — regardless of background or location — in the pursuit of new, high-wage jobs in STEM
- Through a wide range of programs, NSF has historically invested in fundamental research in all fields of science and engineering, delivering foundational and use-inspired outcomes, for seven decades.
- At this moment, NSF is amplifying its historic support for fundamental science and engineering with a particular focus on use-inspired research to develop critical technologies inspired by pressing national, societal, and economic challenges (TIP under the CHIPS and Science Act of 2022).
- RII FEC provides the opportunity for EPSCoR jurisdictions to move along their research spectrum, by creating the capability to expand their research ecosystem by integrating use-inspired research and enhancing their competitiveness.

- NSF Regional Innovation Engines (NSF Engines) | NSF 24-565
- NSF Convergence Accelerator Phases 1 and 2 for the 2023 Cohort - Tracks K, L, M | NSF 23-590
- Centers of Research Excellence in Science and Technology (CREST Centers) in Social, Behavioral and Economic Sciences Research | NSF 23-158
- Gen-4 Engineering Research Centers (ERC) | NSF 24-576
- Science and Technology Centers: Integrative Partnerships | NSF 22-521

Existing NSF programs led by other directorates focus on use-inspired, solution-oriented research in key technology areas.

NSF Search of Current Funding Opportunities:

- 64 – “use-inspired”
- 386 – “societal Impact”

Is my project use-inspired? (Guide for reference Swiss National Science Foundation, not NSF Criteria)

- **Aim**: produce scientific insights and solve practical problems;
- **Cognitive/Conceptual**: is primarily concerned with basic science, it might help to resolve practical problems or issues;
- **Source of the research question**: was defined by scientists in collaboration with a user/practitioner community;
- **Implementation**: the project has the potential to be implemented in the near future;
- **Types of output**: produce academic and non-academic publications;
- **Target audience**: the results will be made accessible to the public outside academia;
- **People involved**: the research team is composed of scientists and practitioners;

If several of the above-mentioned criteria are met, the project is likely to be use-inspired.

REF: https://www.snf.ch/media/en/oNV3aq4DikuO6vhK/SNSF_UIBR_Final_Report_by_Technopolis_May2017.pdf

Example

- Remote rural Communities are affected by a lack of clean water and electric power after a natural disaster.
- Need for low-cost energy and clean water without reliance on external resources and/or skilled expertise
- To develop Mobile Energy- Water Reuse Systems (MEWRS)
- New class of perovskite solar cells (PSCs) with excellent stability and high-power conversion efficiency promoted by the involvement of waste-derived carbon quantum dots (CQDs) and phase stabilization molecules, and (2) designing, fabricating, and testing an energy-efficient, water purification treatment train with an innovative and synergistic combination of sonochemical and electrochemical advanced oxidation process (SEAOP) without costly and unsafe added chemicals.

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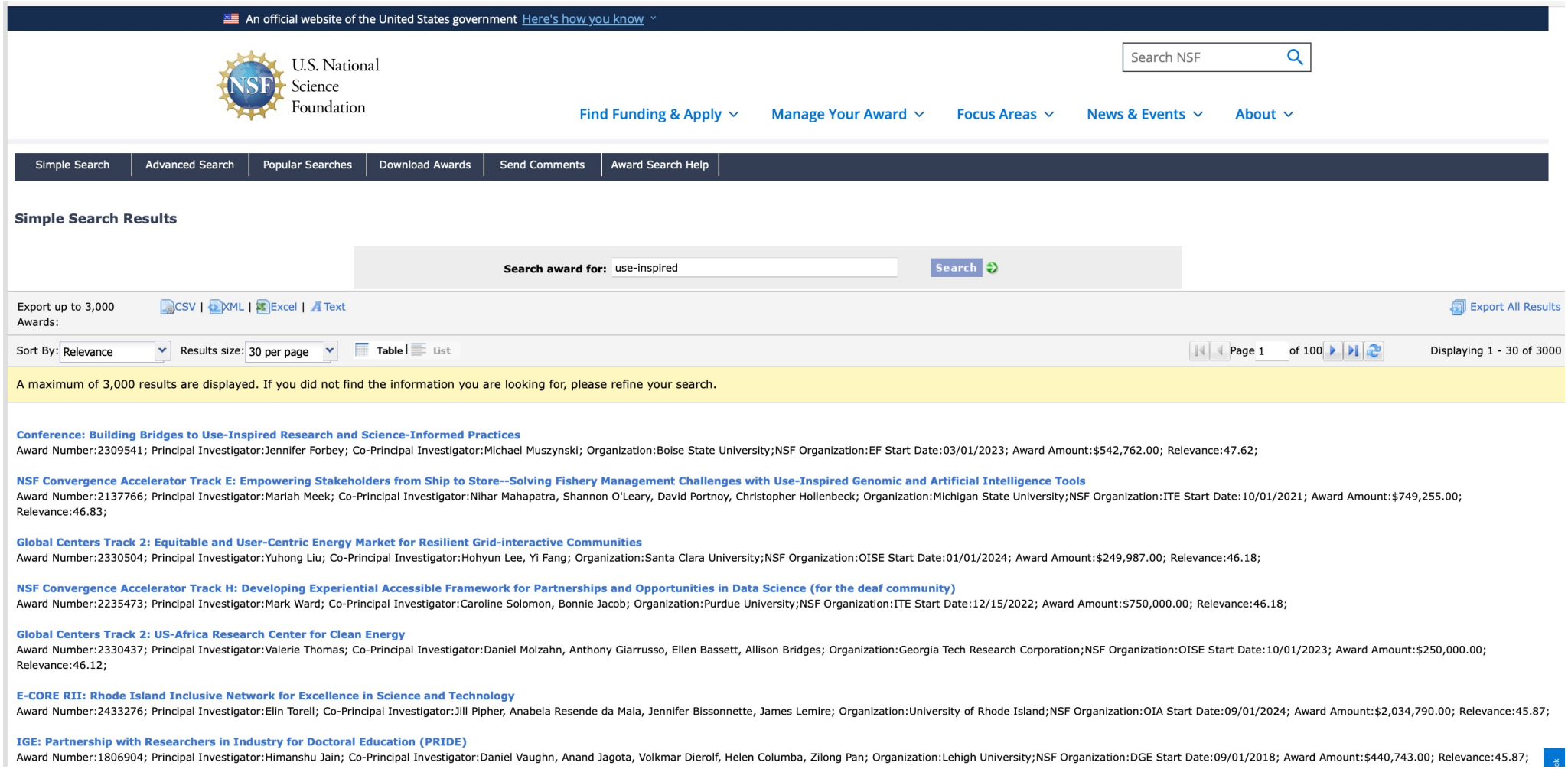
Award OIA-#2418390

NSF Awards Search Engine:



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Page 1 of 100 Displaying 1 - 30 of 3000

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Conference: Building Bridges to Use-Inspired Research and Science-Informed Practices
Award Number:2309541; Principal Investigator:Jennifer Forbey; Co-Principal Investigator:Michael Muszynski; Organization:Boise State University;NSF Organization:EF Start Date:03/01/2023; Award Amount:$542,762.00; Relevance:47.62;

NSF Convergence Accelerator Track E: Empowering Stakeholders from Ship to Store--Solving Fishery Management Challenges with Use-Inspired Genomic and Artificial Intelligence Tools
Award Number:2137766; Principal Investigator:Mariah Meek; Co-Principal Investigator:Nihar Mahapatra, Shannon O'Leary, David Portnoy, Christopher Hollenbeck; Organization:Michigan State University;NSF Organization:ITE Start Date:10/01/2021; Award Amount:$749,255.00; Relevance:46.83;

Global Centers Track 2: Equitable and User-Centric Energy Market for Resilient Grid-interactive Communities
Award Number:2330504; Principal Investigator:Yuhong Liu; Co-Principal Investigator:Hohyun Lee, Yi Fang; Organization:Santa Clara University;NSF Organization:OISE Start Date:01/01/2024; Award Amount:$249,987.00; Relevance:46.18;

NSF Convergence Accelerator Track H: Developing Experiential Accessible Framework for Partnerships and Opportunities in Data Science (for the deaf community)
Award Number:2235473; Principal Investigator:Mark Ward; Co-Principal Investigator:Caroline Solomon, Bonnie Jacob; Organization:Purdue University;NSF Organization:ITE Start Date:12/15/2022; Award Amount:$750,000.00; Relevance:46.18;

Global Centers Track 2: US-Africa Research Center for Clean Energy
Award Number:2330437; Principal Investigator:Valerie Thomas; Co-Principal Investigator:Daniel Molzahn, Anthony Giarrusso, Ellen Bassett, Allison Bridges; Organization:Georgia Tech Research Corporation;NSF Organization:OISE Start Date:10/01/2023; Award Amount:$250,000.00; Relevance:46.12;

E-CORE RII: Rhode Island Inclusive Network for Excellence in Science and Technology
Award Number:2433276; Principal Investigator:Elin Torell; Co-Principal Investigator:Jill Pipher, Anabela Resende da Maia, Jennifer Bissonnette, James Lemire; Organization:University of Rhode Island;NSF Organization:OIA Start Date:09/01/2024; Award Amount:$2,034,790.00; Relevance:45.87;

IGE: Partnership with Researchers in Industry for Doctoral Education (PRIDE)
Award Number:1806904; Principal Investigator:Himanshu Jain; Co-Principal Investigator:Daniel Vaughn, Anand Jagota, Volkmar Dierolf, Helen Columba, Zilong Pan; Organization:Lehigh University;NSF Organization:DGE Start Date:09/01/2018; Award Amount:$440,743.00; Relevance:45.87;

To be successful, projects must:

- **Have solid Intellectual Merit**
- **Have a clear focus on Broadening Participation**
  - seeks to create a significant and collective impact on targeted jurisdictions by advancing towards use-inspired research addressing practical problems.
- **Have a clear focus on Social Perspectives**
  - It is expected that projects include components that address understanding and assessing any specific societal impacts of the research.
  - The development of innovative educational plans to prepare a skilled technical workforce, at all levels.
- **Retain a focus on developing early career faculty**
- **Have a plan for sustainability beyond the award period**

Key Dates

Letter of Intent

December 17, 2024

Third Tuesday in December

Final Proposal

January 28, 2025

Fourth Tuesday in January

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Office Hour Dates & Times:

Sep 24, 2024 03:00 PM EST

https://nsf.zoomgov.com/meeting/register/vJItcemsqjouHgVVa4decqud2DT0sI0KLGc

Oct 23, 2024 03:00 PM EST

https://nsf.zoomgov.com/meeting/register/vJIsceyhqj8qGHMrR2QY1uH2UYwnCvWImws

Dec 5, 2024 10:00 AM EST

https://nsf.zoomgov.com/meeting/register/vJItdOmqqjkvGBbF9wbkk2XewDKQvIkMvXI

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Q&A