

NSF GLOBAL CENTERS

Use-Inspired Research Addressing Global Challenges through the Bioeconomy



NSF 24-556



NATIONAL
ENDOWMENT
FOR THE
HUMANITIES



SSHRC
CRSH



Biotechnology and
Biological Sciences
Research Council



BUSINESS
FINLAND



NSF Global Centers FY24 Funding Opportunity

NSF-led in partnership with NEH & International Funders

USA



Canada



Finland



Japan



Korea



UK



- National Science Foundation (NSF) & National Endowment for the Humanities (NEH)
- Natural Sciences and Engineering Research Council of Canada (NSERC) & Social Sciences and Humanities Research Council of Canada (SSHRC)
- Innovation Funding Agency Business Finland (BF) & Research Council of Finland (RCF)
- Japan Science and Technology Agency (JST)
- Republic of Korea - Ministry of Science and ICT (MSIT) & National Research Foundation of Korea (NRF)
- United Kingdom Research and Innovation (UKRI)



Cross-Foundation: OISE Partnership with all Directorates



Karen Lips (OISE)



Paul Raterron (OISE)



Wenda Bauchspies (OISE)



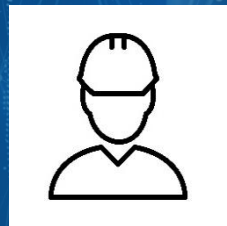
Clifford Weil (BIO)



Sorin Draghici (CISE)



Elsa Gonzalez (EDU)



TBA (ENG)



Lina Patino (GEO)



Yurena Yanes (GEO)



Yulia Gel (MPS)



Jeremy Koster (SBE)



Michael Reksulak (TIP)



Key Elements of NSF Global Centers

**International
Partnerships to
Address
Global Challenges**

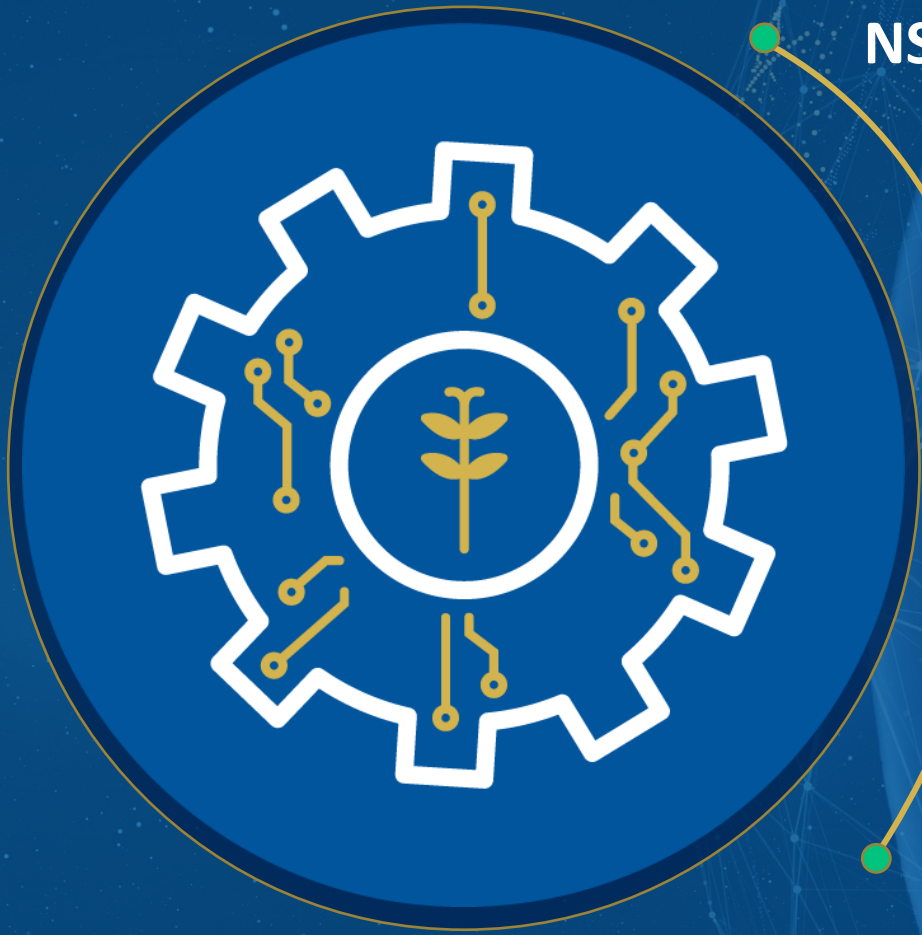
- Multidisciplinary
- Use-Inspired research
- Foreseeable benefit to society
- Stakeholders beyond academia
- Workforce development
- Focus on engaging diverse talents





NSF Global Centers FY24 Competition (NSF 24-556)

Addressing Global Challenges through the Bioeconomy



NSF-led Multilateral funding opportunity

NSF funds US side, Foreign partners their side

5 to 7 Implementation (4 to 5-year) awards

No Design awards in FY24

\$5M each for US teams

Use-inspired research

Multidisciplinary / Multi-stakeholder

Workforce development



NSF Global Centers FY24 Solicitation (NSF 24-556)

The two Subtopics are informed by the White House *Bioeconomy Executive Order* & *Bold Goals For U.S. Biotechnology And Biomanufacturing*

1. *Leveraging Biodiversity Across the Tree of Life to Power the Bioeconomy*

- Put biodiversity to use in new applications for the bioeconomy
- Enhance discovery of novel function from diverse organisms across the tree of life
- Prepare for the bioeconomy's next digital leap in which data provides added value
- Socio-Economic Impact Assessment, Indigenous Knowledge, Historical and Cultural Ecology

2. *Biofoundries using the Design-Build-Test-Learn process in biology*

- Expand capabilities for building novel forms and functions, *as well as* measuring, sensing, actuating, and controlling biological systems
- Ethical Considerations, Governance, and Social Impact



NSF Global Centers FY24 Solicitation (NSF 24-556)

Two Crosscutting Themes:

A. Public engagement and co-generation of research activities to strengthen the global science and technology enterprise

- Develop social, behavioral, and economic drivers of a strong, sustainable and inclusive bioeconomy sector
- Enhance the evidentiary basis of ensuring the safety of products and processes of the bioeconomy.

B. Workforce Development and Education

- Engage stakeholders in innovative and meaningful ways that benefit individuals, communities, society, and STEM disciplines by fostering participation of the full spectrum of diverse talent in STEM.
- Enhance diversity and equity within biotechnology and biomanufacturing R&D
- Develop educational and training materials and curricula



NSF Global Centers FY24 Solicitation (NSF 24-556)

Proposals are welcome across a wide range of research projects within the general theme of bioeconomy. Appropriate **research themes** include, but are not limited to:

- Microbial biodiversity and interactions
- Plant genomic biodiversity
- Metabolomic biodiversity
- Developing a green economy
- Intersection of AI and biotech
- Quantum sensing in biotech
- Bio-inspired design of materials and structures
- Use-inspired study of life adapted to extreme environments
- Predictive modeling and decision making under uncertainties
- Novel metabolic pathways
- Engineering design of biological systems
- Circular bioeconomy for food, feed, energy, and products
- Biomass refining, and integrated biorefineries
- Natural, modified, and synthetic materials from plant resources

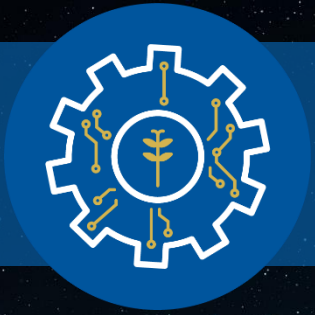


NSF Global Centers FY24 Solicitation (NSF 24-556)

Proposals are welcome across a wide range of research projects within the general theme of bioeconomy. Appropriate **research themes** include, but are not limited to:

- Biocomputing
- Computational methods and data sciences for bioeconomy
- Cyberinfrastructure and data architectures for the bioeconomy
- Technology co-generation
- Enhancing precision agriculture
- Food and water security through the bioeconomy
- Nature based solutions through the bioeconomy
- Greenhouse gas mitigation through the bioeconomy
- Waste valorization for the bioeconomy
- Economic, Human, Social, and policy ramifications of bioeconomy
- Ethics and values of the bioeconomy, including biosecurity
- Economic analysis of bioeconomy systems





Who May Submit Proposals

No restrictions on who may serve as Principal Investigator (PI)

An individual may be listed as PI or co-PI on no more than one proposal

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US.
- Non-profit, non-academic organizations: Independent museums, observatories, research laboratories, professional societies and similar organizations located in the U.S. that are directly associated with educational or research activities.

Program Timeline

- **Due date for all full proposal submission: June 11, 2024**
- **June – July:** NSF Merit Review Process for all proposals
- **July - August:** ranking completed, funding partners finalize portfolio
- **August – September:** First FY24 awards



Upcoming Office Hours

(all times are Eastern times)

- | | | | |
|---|------------------|------------------|------------------|
| 1. 29 March 2024 | 1.00 – 2.00 p.m. | 5. 12 April 2024 | 1:00 – 2:00 p.m. |
| 2. 1 April 2024 | 1:00 – 2:00 p.m. | 6. 15 April 2024 | 1:00 – 2:00 p.m. |
| <i>Special focus on non-R1 institutions</i> | | 7. 23 April 2024 | 1:00 – 2:00 p.m. |
| 3. 4 April 2024 | 2:00 – 3:00 p.m. | 8. 1 May 2024 | 1:00 – 2:00 p.m. |
| 4. 8 April 2024 | 1:00 – 2:00 p.m. | 9. 10 May 2024 | 3:00 – 4:00 p.m. |
| <i>Special focus on MSI institutions</i> | | 10. 22 May 2024 | 2:00 – 3:00 p.m. |



Thank you!
Questions?

Contact

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Scan to Global Centers website

