U.S. NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 24-133

Dear Colleague Letter: Use-Inspired Creativity Extension for the Bioeconomy (UICREX-Bioeconomy)

September 19, 2024

Dear Colleagues:

America's leadership in the bioeconomy is vital to the global competitiveness, security, and economic growth of the United States. Through strategic investments in foundational and use-inspired research, technology translation, research infrastructure, and training, the U.S. National Science Foundation (NSF) works to secure America's standing in the bio-economy now and well into the future.

NSF has supported discoveries in biotechnology for decades, leading to the development of novel biopolymers, green fluorescent proteins, gene editing techniques, and other innovations that have advanced fields from bio-manufacturing to health care to food production. In response to the CHIPS and Science Act of 2022[1] as well as an Executive Order on Advancing Biotechnology and Bio-manufacturing Innovation for a Sustainable, Safe and Secure American Bioeconomy[2], NSF provides opportunities for existing awardees in fundamental research to translate their biotechnology and bioeconomy-related research programs to society.

With this Dear Colleague Letter (DCL), NSF invites existing awardees in selected clusters/programs/divisions within the Directorates for Biological Sciences (BIO) and Mathematical and Physical Sciences (MPS) to explore the **Use-Inspired Creativity Extension for the Bio-economy** (UICREX-Bioeconomy) to extend funding for research awards that have the potential to be translated into commercial activities in the U.S. bio-economy This opportunity is offered in collaboration with the Directorate for Technology, Innovation and Partnerships (TIP). The use-inspired nature of these activities should demonstrate clear implications for the foreseeable benefits to society. The UICREX-Bioeconomy adds up to two years to the initial award period to offer the most creative concepts an extended opportunity to pursue adventurous, "high-risk" opportunities that are not necessarily covered by the original/current award.

By some estimates, the U.S. bio-economy could be worth more than $3.4 trillion by 2030[3]. Through UICREX-Bioeconomy, NSF can enable investigators with an interest and whose science has use-inspired and/or translational potential to more readily progress at speed and scale to develop products, services, and processes that will become part of the U.S. bio-economy After participation in an UICREX-Bioeconomy award, Principal Investigators (PIs) are strongly encouraged to take advantage of additional opportunities such as NSF's Innovation Corps (I-CorpsTM), an entrepreneurial training program that facilitates the transformation of invention to impact through an immersive, experiential training program and the NSF Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) programs, which offer more than $2 million in non-dilutive funding for small business concerns that are developing novel technologies.

SUMMARY OF OPPORTUNITY

An NSF program director may recommend the extension of funding for certain research awards for a period of up to two years by utilizing the Extensions for Special Creativity outlined in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG), Chapter VI.D.3.d. For this DCL, NSF program directors will consider those research projects that are adventurous, high-risk, and have the potential for commercial translation or widespread adoption. The use-inspired / translational potential should be documented in the annual reports of the current award. Use-inspired activities may include patents/patent applications, licensing, prototyping, and/or reported findings with a clear potential for further commercial development. The additional funding should be used to transition the foundational research activities associated with the project into use-inspired / translational efforts, creating pathways to, or prototypes of, minimal viable products. Outcomes associated only with policy, workforce development, or incremental research are not appropriate for this DCL opportunity.

This opportunity is specifically for Use-Inspired Creativity Extensions of awards that will contribute to the bio-economy The following Divisions and Programs are participating in this opportunity:

BIO Division of Environmental Biology (all Programs)
BIO Division of Biological Infrastructure

- Infrastructure Innovation for Biological Research
- Infrastructure Capacity for Biological Research

BIO Division of Integrative Organismal Systems (all Programs)
BIO Division of Molecular and Cellular Biosciences (all Programs)
MPS Division of Chemistry (all Programs)
MPS Division of Materials Research (all Programs)

ELIGIBILITY

UICREX-Bioeconomy is a highly competitive funding opportunity targeting the most cutting-edge, use-inspired / translational research. Only active NSF-funded researchers within the participating divisions are eligible for consideration. Awardees must have submitted at least one annual project report that demonstrates significant progress towards milestones on the project. If not selected for UICREX-Bioeconomy funding, PIs are encouraged to contact the cognizant NSF program directors to learn about other funding opportunities.

INSTRUCTIONS FOR A USE-INSPIRED CREATIVITY EXTENSION FOR THE BIOECONOMY

Special Creativity Extensions are normally initiated by the cognizant NSF program director based on research progress. **PIs who believe that their projects have promising translation-ready outcomes related to the bio-economy are welcome to identify themselves and the use-inspired / translational potential of their projects by contacting their cognizant NSF program director and/or NSF directorate contact listed below.**

Upon receiving program director approval via an email invitation, PIs will be provided additional information about the submission of their UICREX in Research.gov. PIs should not submit any additional documentation or requests for funding related to a UICREX Special Creativity Extension unless directed by the cognizant program director.

Activities that could be supported during the UICREX include a continuation of research in a translation direction. Other activities that could be support could include but are not limited to, the following:

- Collaborations with industry;
- Student or postdoc internships with industry;
- Prototyping of minimum viable products; and
- Activities needed to support patent application(s).

Use-Inspired Creativity Extensions for the Bio-economy will be considered at any time. For consideration of funding in the fiscal year 2025, PIs should contact their cognizant NSF program director or NSF directorate contact **prior to May 1, 2025**.

POINTS OF CONTACT

Questions about this DCL should be directed to the following cognizant NSF program directors:

- Henry Ahn (TIP/TI), hahn@nsf.gov;
- José Almirall (MPS/CHE), jalmiral@nsf.gov;

- Debasis Majumdar (MPS/DMR), dmajumda@nsf.gov;
- David Liberles (BIO/DBI), dliberle@nsf.gov;
- Theodore J. Morgan (BIO/IOS), tmorgan@nsf.gov;
- Marcia Newcomer (BIO/MCB), mnewcome@nsf.gov; and
- Catherine O'Reilly (BIO/DEB), coreilly@nsf.gov.

Sincerely,

Susan Marqusee
Assistant Director for BIO

C. Denise Caldwell
Acting Assistant Director for MPS

Erwin Gianchandani
Assistant Director for TIP

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[1] H.R.4346 – Chips and Science Act, 117th Congress (2021-2022)

[2] Executive Order on Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bio-economy, September 2022, The White House

[3] The U.S. Bio-economy: Charting a Course for a Resilient and Competitive Future: A Bio-economy Strategy, April 2022, Schmidt Futures.