



**NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314**

NSF 22-121

Dear Colleague Letter: Directorate for Geosciences (GEO) Call for High Priority GEO-Themed IUCRCS (Industry-University Cooperative Research Centers)

September 19, 2022

Dear Colleague:

The National Science Foundation's (NSF) Directorate for Geosciences (GEO) encourages submission of proposals for Industry-University Cooperative Research Centers (IUCRCS) on geo-related themes in the following priority areas:

- Critical minerals and rare earth element prospecting, recovery, and green mining.
- The impact of changing climate and changing environments on human health.
- Greenhouse gas capture and sequestration.
- Non-carbon based, continuous, energy sources and their development (e.g., geothermal, tidal/wave energy, etc.).
- Water resources and conservation.

Information on IUCRCS, how they work, and other relevant information can be found in the [IUCRC program solicitation](#) and on the [IUCRC website](#). IUCRCS are powerful vehicles that provide funding to support cutting-edge, faculty/student-directed, university research focused on the needs of a sector of the US economy. They help faculty and students increase the impact of their research; develop an entrepreneurial mindset; and create robust, long-term relationships with companies in the private sector and interested government entities.

The IUCRC Program helps industry partners and government agencies connect directly and efficiently with university researchers to achieve three primary objectives:

1. Conduct high-impact research to meet shared and critical industrial needs in companies of all sizes.
2. Enhance U.S. global leadership in driving innovative technology development.
3. Identify, mentor and develop a diverse, highly skilled, science and engineering workforce

The NSF Directorate for Geosciences is committed to building a robust portfolio of geoscience themed IUCRCs. Periodically GEO will release a Dear Colleague Letter, such as this, identifying one or more priority areas of interest for the translation of fundamental research results to society and the economy.

IUCRC PROGRAM OVERVIEW

IUCRCs are consortia that catalyze breakthrough, fundamental research by enabling close and sustained engagement between universities, faculty teams, industry, and other interested parties. It provides a structure for Center-affiliated academic research teams to constructively interact with their members (i.e., industry and government organizations who form an Advisory Board and pay an annual membership fee to be a part of the Center). These fees are used to support fundamental, use-inspired, research projects that are proposed by faculty/student teams to the Board. The Board considers the proposals and recommends those they collectively feel are most critical to addressing sector needs. The final selection is made by Center leadership.

Successful IUCRCs require:

- A capable research/management team with an entrepreneurial mindset.
- Universities, faculty, and students interested in engaging in research of interest to industry.
- A community of industry partners seeking pre-competitive, use-inspired research projects.

Each IUCRC is expected to grow and become independently sustainable by the end of the NSF support.

IUCRC LIFE CYCLE

An IUCRC is initiated when a group of faculty and students from one or more universities, with an interest in conducting cutting edge, basic research, come together with the goal of addressing the pressing needs of a sector of the US economy. The faculty interview members of that sector to identify the most important issues holding it back, converge on a theme of high sector interest, and identify companies and other entities willing to sign on as founding members of the Center.

The first formal step to Center formation consists of submitting an IUCRC Planning Grant proposal that demonstrates interest in the proposed Center and its theme by private sector and other interested parties. If awarded, this provides up to one year of planning for Center faculty to identify and engage prospective members from the private sector and other entities with the potential to become dues paying members of their Center.

A successful planning phase is followed by a Phase I IUCRC proposal with the potential for 5 years of NSF support. Upon successful completion, the Center can compete for another 5 years (Phase II or II+). During the Center's run, its leadership and faculty continue to recruit dues paying members for their Advisory Board so by the end of NSF support, the Center is self-supporting via private sector and other non-NSF funding.

SUBMISSION INFORMATION

Planning Grant proposals require the submission of a preliminary proposal. Target dates for Planning Grant preliminary proposals are the second Wednesdays in September and March. Full proposal target dates are the second Wednesdays of December and June. See the [IUCRC program solicitation](#) for more details.

GEO POINT OF CONTACT

To discuss this opportunity or other GEO-innovation activities or funding options related to customer discovery, prototyping, or commercialization, please contact Barbara Ransom (bransom@nsf.gov - 703-292-7792) at the Directorate for Geosciences GEO Innovation Hub.

Sincerely,

Alexandra R. Isern
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