



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 21-102

Dear Colleague Letter: Call for Ideas and Proposals for GEO-themed Industry University Cooperative Research Centers (IUCRCs)

July 8, 2021

Dear Colleagues:

This call for proposals by the National Science Foundation's (NSF) Directorate for Geosciences (GEO) is for planning grants for Industry-University Cooperative Research Centers (IUCRC) that transform the results of cutting-edge, use-inspired/purpose-driven, fundamental research on Earth processes into concepts, tools, utilities, and research products of collective interest to entities in the private sector, government, and other interested parties. The NSF IUCRC Program is a nationally recognized vehicle that provides funding to institutions of higher education to help their faculty build public-private partnerships in areas that advance sectors of the economy impacted by solid earth, atmospheric, oceanographic, polar, geospace, and other geoscience related topics. IUCRCs provide significant funding to support students and postdocs that work on Center-related projects, all of which are jointly agreed upon by Center faculty and Center membership.

With the release of the IUCRC solicitation ([NSF 20-570](#)), GEO has committed to building a portfolio of GEO-centered IUCRCs. As GEO builds its portfolio, periodic Dear Colleague Letters (DCLs) will be released, identifying one or more areas of interest in which GEO will entertain IUCRC submissions. Through this DCL, GEO encourages proposals for planning grants for IUCRCs that address strategic minerals, climate change, sea level rise, water resources, and earth-sun interactions.

IUCRC PROGRAM OVERVIEW

IUCRCs are public-private partnerships that catalyze breakthrough, cutting-edge, fundamental/pre-competitive research by enabling close and sustained engagement between industry, academic teams, and government agencies. These Centers have three primary goals: (1) conducting high-impact research to meet the critical and shared needs of

commercial and governmental entities that require better fundamental understandings of processes, mechanisms, and problems that they are unable to carry out internally; (2) moving fundamental research results to society and/or the marketplace via innovation and technology development; and (3) mentoring and developing a diverse, highly skilled, science and engineering workforce that understands how to work with industry and translate research results into understandings, products, and technologies that benefit society and the economy.

The IUCRC program provides a structure for academic researchers to constructively interact with industry and government organizations who pay membership fees to the Center. These program funds are used to support faculty/student consortia who propose cutting-edge fundamental research projects designed to address their collective member's needs. Dues paying Center members consider proposals initiated by faculty and students and provide resources to target those they feel are most critical to addressing their collective needs.

Successful IUCRCs require:

- A capable, dedicated, 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 expand their respective research activities and become independently sustainable by the end of the NSF support period (i.e., up to 10 years).

STARTING AN IUCRC

To start an IUCRC, a group of faculty from one or more institutions who want to conduct cutting edge research that is publishable in peer-reviewed literature and have knowledge of the pressing needs of a commercial sector and an interest in addressing those needs, convene, along with their university administrators, to organize an IUCRC. The first formal step consists of submitting an IUCRC Planning Grant proposal which, if awarded, provides up to one year for Center planning. This period includes training on customer discovery, interaction with NSF, and time for Center faculty to identify and engage prospective members from the private sector and other areas with the potential to become dues paying members of their Center. After a successful planning phase, a Phase I Center proposal is submitted. If awarded, this grant is the official start of an IUCRC whose first phase runs for five years. Upon successful completion of Phase I, the Center can compete for Phase II which runs another five years. During the 10-year run, IUCRC leadership and faculty work to bring in additional members so, at the end of NSF support, the Center is self-supporting and sustainably operating with private sector and other non-NSF funding.

Planning Grant proposals require the submission of a preliminary proposal. For the purposes

of this DCL, the deadlines for Planning Grant preliminary proposals are the second Wednesday in September and the second Wednesday in March. (see [NSF 20-570](#) for more details on the IUCRC Program, its structure, and requirements).

Interested parties are encouraged to contact Barbara Ransom (bransom@nsf.gov) in the Directorate for Geosciences.

Sincerely,

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