



NATIONAL SCIENCE FOUNDATION
2415 Eisenhower Avenue
Alexandria, Virginia 22314

NSF 18-064

Dear Colleague Letter: Catalyzing Rapid Creation of New Industry-University Cooperative Research Centers (IUCRC) with a Direct Submission Option for Phase I Centers

April 13, 2018

Dear Colleagues:

For over 40 years, the National Science Foundation's (NSF) Industry-University Cooperative Research Centers (IUCRC) program has fostered long-term partnerships among academia, industry, and government in various technology sectors through multi-university, industry-focused research centers. These partnerships, developed through the cooperative execution of precompetitive research, strengthen the U.S. innovation ecosystem and the Nation's overall economic competitiveness. Precompetitive research conducted by IUCRCs addresses application-inspired fundamental topics that industry recognizes as longer-term challenges and needs; industry members benefit from collaboration with academic partners in the definition and execution of the corresponding research. NSF provides catalyzing investment to the centers, which are primarily supported by industrial members and other stakeholders. The research carried out at each center is of interest to both the center faculty and the center's members. IUCRCs contribute to the Nation's research infrastructure base and enhance the intellectual capacity of the science and engineering workforce through the integration of research and education. As appropriate, IUCRCs establish international collaborations to advance these goals within the global context. IUCRC Centers are funded in three distinct five-year phases (Phase I, Phase II and Phase III). Currently and historically, the creation of NSF IUCRCs is spearheaded by university researchers/faculty seeking to create new centers in areas of anticipated or perceived strong industrial need. In essence, NSF evaluates the intellectual merit and broader impacts of the proposed center at the concept stage and then provides a small grant (a Planning Grant) to each university seeking to be a part of the proposed center. These grants allow the awardees (as a team) to engage in an exploration of fit with industry and assessment of the level of financial commitment that industry is willing to make. Awardees of a planning grant then have the option to return to NSF seeking funding for a Phase 1 center through a second merit review process.

From concept to Phase I center creation, the process involves numerous activities spanning several distinct stages requiring multiple years, namely, ideation; planning grant proposal submission; NSF merit review and planning grant award; workshop planning and execution; identification of research areas of strong industrial interest/need; realization of industrial support commitments; submission of a Phase I center proposal; and NSF merit review followed by a Phase I center award to support creation of an NSF IUCRC. The critical stage that needs to be achieved prior to submission of a Phase I center proposal is securing industrial financial commitments to join the center.

Emerging areas of technology (derived from new research results in physics, chemistry, biology, engineering, and computer and information sciences) promise to have significant impacts on practically every industry sector, including manufacturing, finance, transportation, communications, urban design, energy, healthcare, and pharmaceuticals. Industry, academia, and government stakeholders recognize the need for robust partnerships to catalyze the rapid advances, with the goal of realizing truly transformative innovations (e.g., smart and connected communities, AI-based manufacturing, breakthroughs in genomics and quantum computing). This goal combined with the rapid pace of technology development and the increasing demand for highly trained engineers and scientists, industry technology leaders, academic researchers, and policymakers are poised to come together quickly to establish formal partnerships that allow collaboration and innovation across an industry sector.

To facilitate rapid IUCRC center creation, with this Dear Colleague Letter (DCL), NSF's Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE) seek to highlight a proposal submission pathway that allows teams to go directly to submitting a Phase I center proposal for a single stage of merit review, if the requirements laid out by NSF in this DCL are met. This DCL encourages industry and university stakeholders to come together to accelerate the process described above to permit submitting a Phase I Proposal to NSF. Teams are encouraged to build truly collaborative industry-academia partnerships that explore use-inspired basic research ideas of direct value to the industry sector being served and that leverage the expertise of academic researchers. Given that IUCRCs are substantially industry-funded, an industry-driven effort has the high potential to drive rapid creation of collaborative research centers that address emerging industrial basic research needs.

REQUIREMENTS TO OBTAIN A PLANNING GRANT WAIVER

To be eligible for a waiver of the planning grant proposal submission phase and to directly submit a Phase I center proposal, each proposing university site seeking to be a part of such a center must first obtain firm financial commitment letters from prospective industry members as described further below. In addition, the industry members seeking to join the proposed center must provide a statement of commitment to accept the IUCRC membership agreement framework provided by NSF for IUCRCs. Please refer to the section PROPOSAL PROCESS for a full list of required submission documents.

Proposers who intend to seek a waiver are encouraged to contact any of the cognizant program directors listed in this DCL in advance.

DESCRIPTION OF THE IUCRC PROGRAM

Relevant details about the IUCRC program are provided in [NSF solicitation 17-516](#). In particular, please refer to these sections in [NSF 17-516](#) to learn more about various important aspects of an NSF IUCRC: **Requirements of an IUCRC, Center Management and Operation, Industrial Support, Other requirements of an IUCRC include reporting and evaluation.**

PROPOSAL PROCESS

To seek a direct submission option for Phase I center creation, the sites seeking to form the center must submit a preliminary proposal for review by NSF to solicitation [NSF 17-516](#) via Fastlane ([Fastlane.nsf.gov](#)). The preliminary proposal for Phase I center creation must consist of the following elements: Cover Sheet, project description, biographical sketches and supplementary documents as described in [NSF 17-516](#). In addition to the list of documents described, the sites must also provide a

"Request for a Planning Grant Waiver." This document should be uploaded as an additional supplementary document in FastLane.

The **Request for a Planning Grant Waiver** supplementary document should present the following items:

1. Describe the relevant center planning events/workshops/activities involving active industry engagement that helped facilitate research project selection for inclusion in the full proposal for Phase I center creation; and
2. Provide a list of organizations (detailing the minimum annual financial commitment and the period, in years, of this initial commitment) committing to join the proposed center if NSF funding for a Phase I center is obtained.

SUBMISSION DEADLINES

Submission deadlines are described in [NSF 17-516](#) and are summarized below for convenience.

Preliminary Proposal Due Date(s) (required) (due by 5 p.m. submitter's local time):

Third Wednesday in April, Annually
Third Wednesday in October, Annually

Full Proposal Target Date(s):

Third Wednesday in June, Annually
Third Wednesday in December, Annually

REVIEW PROCESS

Preliminary proposals submitted in response to this DCL will be assessed against the requirements set forth in this DCL to determine if a waiver of the Planning Grant phase can be provided on the strength of the submitted preliminary proposal. If a waiver is granted, the submitters will receive an Encourage recommendation to submit a full proposal for a Phase I center. If the preliminary proposal is considered non-responsive to this DCL, the submitting team will not be provided a waiver and will be Discouraged from submitting a full proposal for a Phase I center. Proposers who receive a Discourage recommendation will be afforded the opportunity to submit a proposal for a Planning Grant per the process described in [NSF solicitation 17-516](#).

Preliminary proposals responsive to this DCL will be reviewed internally by NSF Program Directors.

Cognizant Program Officer(s):

For further information, please contact:

- Prakash Balan, IUCRC Program Director, ENG, telephone: (703) 292-5341, email: pbalan@nsf.gov
- Andre Marshall, IUCRC Program Director, ENG, telephone (703) 272-2257, email: awmarsha@nsf.gov
- Dmitri Perkins, IUCRC Program Director, CISE, telephone: (703)292-7096, email: dperkins@nsf.gov

Please note that the above information is current at the time of publishing. See program website for any updates to the points of contact.

Sincerely,
Dawn Tilbury
Assistant Director,
Engineering Directorate

James Kurose
Assistant Director,
Computer & Information Science & Engineering Directorate