NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 23-139

Dear Colleague Letter: Special Guidelines for Submitting Collaborative Proposals under U.S. National Science Foundation (NSF) and the Ministry of Electronics and Information Technology (MeitY) of India Collaborative Research Opportunities

August 18, 2023

The U.S. National Science Foundation (NSF) and the **Ministry of Electronics and Information Technology (MeitY)** of the Government of India have signed an Implementation Arrangement on research cooperation. The Implementation Arrangement provides a framework to encourage collaborations between U.S. and Indian research communities and sets out the principles by which joint activities might be supported. Through this research agency partnership, U.S. researchers may receive funding from NSF and India researchers may receive funding from MeitY.

This NSF-MeitY collaborative opportunity focuses on research and technological development in areas of mutual interest listed through the participating NSF programs that develop new knowledge in all aspects of semiconductor research, next generation communication systems, cyber-security, sustainability and green technologies, and intelligent transportation systems. Technology development/demonstrations may be in terms of development of prototypes, pilot scale demonstrations, field deployment, and other efforts to accelerate technology transfer. Proposing teams of U.S. and India investigators are strongly encouraged to develop appropriate partnerships with testbed providers, local communities, and industry partners to ensure that necessary resources and expertise are available for the success of their project.

Research agency partnership between NSF and MeitY will allow investigators from both countries to develop a single proposal that will undergo a single review process at NSF, the Coordinating Agency. The collaborative opportunity described in this Dear Colleague Letter (DCL) remains in effect until archived.

Proposals will be accepted for collaborative research in program areas within the following NSF research divisions.

- Directorate for Computer and Information Science and Engineering (CISE)
  - Division of Computing and Communication Foundations
  - Division of Computer and Network Systems
  - Division of Information and Intelligent Systems
  - Office of Advanced Cyberinfrastructure

- Directorate for Engineering (ENG)
  - Division of Chemical, Bioengineering, Environmental and Transport Systems
  - Division of Civil, Mechanical and Manufacturing Innovation
  - Division of Electrical, Communications and Cyber Systems

- Directorate for Mathematical and Physical Sciences (MPS)
  - Division of Materials Research

- Multi-directorate Programs
  - Cyber-Physical Systems (CPS)
  - Secure and Trustworthy Cyberspace (SaTC) program

A list of specific participating NSF programs can be found on the NSF Office of International Science and Engineering (OISE) website at:
https://www.nsf.gov/od/oise/IntlCollaborations/India.jsp.

PROPOSAL PREPARATION AND SUBMISSION

Proposals must represent the collaborative effort describing the integrated efforts of the U.S. and Indian investigators including roles and responsibilities and means of collaboration. Proposals are expected to adhere to the proposal page limitations, research areas, funding limitation, and award durations for the participating NSF programs from which funding is sought. Investigators should review the NSF and MeitY programs for further information on what areas of research are eligible for support through this activity. Investigators are advised that all documents submitted to NSF or MeitY may be shared with the other agency in order to implement the two-way agency activities.

The budget submitted by the U.S. proposer must be within the limitation specified in the NSF program from which funding is sought and will reflect the U.S. research activities only. U.S. proposers submitting to CISE Core, CPS and SaTC programs, must submit their proposals to the **Small Project class**. For U.S. Investigators, involvement in a joint international proposal will count towards the limitation on the number of submissions, as specified in the NSF program webpage or program solicitation to which the proposal is submitted.

There are no separate NSF funds available for this effort; proposals must compete with all other proposals submitted to the participating NSF programs from which funding is sought.

REVIEW PROCESS

Proposals are to be submitted to NSF by NSF proposers, with a separate copy of the same proposal submitted by MeitY proposers to MeitY. The proposals will be reviewed by experts selected by NSF, the Coordinating Agency. The submitted proposals may be reviewed individually, as part of a standalone review panel process, or in competition with other proposals received for the same funding round of the program to which the proposal is submitted. MeitY will check that the Indian investigators have active and appropriate roles and confirm their eligibility at the onset of the process.

MeitY officials may attend and observe (without joining or participate in) any discussions by expert review panels of U.S.-India collaborative proposals submitted in response to this opportunity but will not conduct a parallel review. MeitY officials will have access by secure means to unattributed reviews and panel summaries, where applicable. Such information is to be treated as nonpublic and confidential, is not to be shared with others, and any actual or suspected breach of such information is to be reported immediately to NSF. NSF intends to make awards to the U.S. organizations participating in the recommended collaborative proposals, and MeitY intends to make awards to the Indian institutions participating in the recommended collaborative proposals.

WHEN TO SUBMIT

U.S. proposers are encouraged to submit to NSF by the target date of January 5, 2024. Subsequent target dates will be listed on the OISE website: https://www.nsf.gov/od/oise/IntlCollaborations/India.jsp. Proposals submitted late in a given U.S. fiscal year (FY) may be held over for consideration to the following Fiscal Year.

GUIDELINES

1. The proposed work submitted under an NSF-MeitY collaboration must represent an integrated collaborative effort. The Project Summary and Project Description of the proposal must include a description of the collaboration, including an explanation of the role(s) of the India collaborator(s) and an explanation of how the team will work together.
2. The proposal must describe the intellectual merits of the proposed research, including the value of the international collaboration and the anticipated broader impacts (including societal benefits) of the effort. As broader impacts are a review criterion for both NSF and MeitY, the proposal should describe relevant societal benefits as well.
3. The proposal should describe the full proposed research program, including the total U.S. and Indian resources that will be part of the project. NSF proposers should indicate only the NSF requested funding, by category, in the NSF budget. MeitY proposers

should indicate only the MeitY requested funding on the MeitY budget form. **The MeitY budget and budget justification must be included in the NSF proposal as a Supplementary Document**. The Budget Justification section of the NSF proposal should clearly differentiate the funds requested from NSF from any similar funds requested by the India team and fully justify the NSF project budget. Proposals that request duplicative funding may be returned without review.

4. MeitY proposers must submit their full proposal as per MeitY guidelines to MeitY that will be available at https://www.meity.gov.in/content/schemes-policies.

5. NSF proposers must submit their proposal to a participating NSF program or program solicitation by an eligible U.S. organization, through use of Research.gov (https://www.research.gov), or Grants.gov (https://www.grants.gov/). Proposals must be submitted in accordance with the standard requirements described in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) and comply with requirements specified in the relevant program solicitation or program description provided on the NSF-India Participating Programs webpage. Where programs have a solicitation, the requirements in the solicitation take precedence over those listed in the PAPPG.

6. By submitting, Principal Investigators (PIs), co-PIs and their organizations agree that NSF may share unattributed reviews and information pertaining to the review process with MeitY.

7. For NSF investigators, involvement in a joint international proposal will count towards the limitation on the number of submissions in which an individual may participate as a PI, co-PI, or senior personnel, as specified in the NSF program page or program solicitation to which the proposal is submitted.

   For MeitY investigators, the number of proposal submissions as Chief Investigator (CI) is limited to one per call while they may be involved as Co-CIs in a maximum of two proposals. Note: MeitY's Chief Investigator or CI is similar to Principal Investigator or PI at NSF. Indian scientists who are in any way involved in the implementation of two or more projects that were previously supported by MeitY under the MeitY-NSF Research Collaboration are also ineligible to be a member of the research team.

8. The title of the proposal should be prefixed with "NSF-MeitY:", after any solicitation specific title requirements if applicable, to indicate that the document is to be considered by both NSF and MeitY.

9. For proposals submitted to NSF, the full names and affiliations of MeitY funded Investigators should be listed in the Overview section of the Project Summary as "non-NSF funded collaborators". This listing is for administrative purposes and is not intended to characterize the level or value of the contribution of MeitY investigators to the project. Guidance on information to provide for "non-NSF funded collaborators" is below.
   - Biographical Sketch – Required. The biographical information submitted must be clearly identified as "non-NSF funded collaborators" biographical information and

uploaded as a single PDF file in the Other Supplementary Documents section of the proposal.
- Current and Pending (Other) Support – Not required for MeitY investigators.
- Results from Prior NSF Support – Not required for MeitY investigators.
- Collaborators and Other Affiliations (COA) information should be provided through the use of the NSF COA template, identified as "non-NSF funded collaborators" information, and uploaded as a PDF file in the Single Copy Documents section of the proposal.

10. The Data Management Plan must include mechanisms for sharing and archiving data including experimental data, results, and software developed and their associated privacy and security aspects.
11. Letters of collaboration may be included; however, they **must** comply with the guidance specified in PAPPG II.D.2.i(iv).
12. For projects involving human subjects/participants or vertebrate animals, proposers should follow both NSF and MeitY policies, submitting documentation to each, as appropriate.
13. Prior to award issuance, the collaborating organization of the proposal recommended for potential funding will be notified. The recommended teams must submit to NSF and MeitY, a copy of the signed agreement between the organizations and/or industry partners on protection and distribution of intellectual property (IP), copyrights, and rights of use resulting from the recommended NSF-MeitY project. Note: This signed agreement is NOT needed at the time of proposal submission.

POST AWARD CONSIDERATIONS

Recipients will be expected to comply with the award conditions and reporting requirements of the agencies from which they receive funding.

Recipients will be required to acknowledge both NSF and MeitY in any reports or publications resulting from the award. Requests for changes in awards (for example, changes in objectives or scope) will be discussed by NSF and MeitY before a joint decision is made.

Recipients are reminded that compliance with all federal laws, including the entire suite of export controls laws, sanctions or other national security-related requirements, rests fully with the recipient organization.

Questions about this DCL may be directed to india-collaboration@nsf.gov. Additionally, the NSF Office of International Science and Engineering helps to coordinate the overall engagement between NSF and MeitY. The current OISE program manager for India is listed at: https://www.nsf.gov/od/oise/country-list.jsp.

Sincerely,

Margaret Martonosi
Assistant Director, Directorate for Computer and Information Science and Engineering

Susan Margulies
Assistant Director, Directorate for Engineering

Sean Jones
Assistant Director, Directorate for Mathematical and Physical Sciences

Kendra Sharp
Office Head, Office of International Science and Engineering