



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

NSF 24-026

Dear Colleague Letter: Improving Undergraduate STEM Education – Adaptation, Implementation, and Dissemination (IUSE-AID)

December 04, 2023

Dear Colleagues:

This Dear Colleague Letter (DCL) encourages STEM education communities to submit proposals to the Directorate for STEM Education's Improving Undergraduate STEM Education (IUSE:EDU) program ([NSF 23-510](#)) that focus on Adaptation and Implementation, and/or Dissemination of proven teaching strategies and learning materials reflecting advances in what is known about undergraduate STEM teaching and learning. Proposals that develop faculty expertise, implement educational innovations, adapt existing educational innovations for specific teaching and learning environments, and disseminate teaching and learning innovations beyond the scale of the efforts that created them are encouraged.

POTENTIAL PROJECT EMPHASES

Adaptation and Implementation of Existing Instructional Strategies: Teaching and learning environments are diverse, often exhibiting significant differences related to institutional characteristics and student demographics. While previously proven effective teaching and learning strategies may have contributed to improved undergraduate STEM education at the institution where they were developed, they may benefit from adaptation to be effective at a different institution, in a different discipline, or for a different demographic group of students. Therefore, these projects should adapt or connect evidence-based teaching and learning strategies to optimize them for learning environments that differ significantly from those in which they were developed, and then test them in those new environments. Proposals with this goal in mind should describe the difference between the learning environments in which the strategy or strategies were developed and in which they will be used and tested, and how that difference justifies the proposed adaptation. Instrumentation and equipment requests are appropriate based on their impact on student learning, provided a convincing case is made that the planned acquisition contributes to

understanding how to achieve widespread adoption of the approach they support. Adaptation and Implementation projects should contribute to the community's understanding about how successful strategies are transferred to diverse settings and about how they impact student learning.

Dissemination of Existing Instructional Strategies: These projects should provide avenues for propagation of evidence-based STEM teaching practices. This may be accomplished using a variety of approaches. Propagation efforts may include, but are not limited to, training and mentoring future and current faculty in the use of proven open-access teaching resources, organizing conferences and workshops focused on evidence-based practices, supporting the development of faculty networks and communities of practice, faculty professional development, or other methods to expand adoption and adaptation of best practices in STEM teaching and learning. Projects may focus on propagating a particular instructional strategy or coordinating among multiple strategies and should discuss how the strategy or strategies are appropriate to the student populations served as well as how the project's activities support instructor or institutional uptake of the strategy or strategies. Projects on a national scale that include the participation of disciplinary or education-focused scientific societies are particularly invited. Dissemination projects can act as both a complement and stimulant to Adaptation and Implementation projects.

SUBMISSION GUIDELINES:

Before submission, proposers are encouraged to discuss their ideas with relevant program officers, available on the [IUSE site](#).

When responding to this DCL, please include "AID DCL:" at the beginning of the proposal title. AID DCL proposals may be submitted to either the Engaged Student Learning (ESL) or Institutional and Community Transformation (ICT) track of the IUSE program. Proposers are reminded that proposals submitted to the ICT track should include a Theory of Change to guide project efforts. Proposers are also reminded that all projects supported by IUSE: EDU must include efforts to measure project progress and achievement of project goals.

Conferences and workshops will be considered under this DCL; proposers must consult with an IUSE: EDU program officer before submitting a conference or workshop proposal.

NSF encourages proposals that include the participation of the full spectrum of diverse talent in Science, Technology, Engineering and Mathematics (STEM).

Proposals should be prepared and submitted in accordance with the requirements specified in the [NSF Proposal & Award Policies & Procedures Guide](#) (PAPPG) and also must adhere to the deadline dates and guidance specified in the program solicitation. Proposals should be submitted via the regular proposal submission process and will be reviewed via the NSF Merit Review process.

Principal investigators with questions pertaining to this DCL may contact:

Ellen Carpenter, Program Director, elcarpen@nsf.gov

Jennifer Lewis, Program Director, jenlewis@nsf.gov

Eleanor Sayre, Program Director, esayre@nsf.gov

Keith Sverdrup, Program Director, ksverdru@nsf.gov

Sincerely,

James L. Moore, III

Assistant Director

Directorate for STEM Education (EDU)