



National Science Foundation
4201 Wilson Boulevard
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NSF 14-028

Dear Colleague Letter: Dear Colleague Letter: STEM-C Partnerships

January 15, 2014

Dear Colleagues:

The purpose of this Dear Colleague Letter is to alert former and current NSF Math and Science Partnership (MSP) Comprehensive, Targeted and Institute Partnership awardees to a new funding opportunity. The MSP and the Computing Education for the 21st Century (CE21) programs have joined together to offer the Computer Science Education Expansion (CSE-Expansion) track, which may be accessed through two different solicitations, the STEM-C Partnerships: MSP ([NSF 14-522](#)) and the STEM-C Partnerships: CE21 ([NSF 14-523](#)). These two solicitations represent a joint effort of the Directorate for Education and Human Resources (EHR) and the Directorate for Computer and Information Science and Engineering (CISE) to coordinate and advance the efforts of the current MSP and CE21 programs towards one combined Science, Technology, Engineering, and Mathematics, including Computing, Partnerships (STEM-C Partnerships) endeavor.

This letter is also intended to announce other new opportunities within the STEM-C Partnerships effort to the broader education community that is interested in improving student outcomes in STEM at the K-12 level.

The STEM-C Partnerships endeavor addresses both the need for advances in K-12 STEM education, as well as the need to elevate the inclusion of computer science education. It focuses on maintaining a competent, competitive and creative STEM workforce, including teachers. It aims to inspire and motivate the future workforce while ensuring that the workforce has the skills, competencies and preparation to be successful in a global, knowledge-based economy. Since aspiring teachers acquire a depth of understanding in mathematics, the sciences, engineering, and computer science during their undergraduate years, the STEM-C Partnerships effort is also a K-16 effort seeking innovations in policies, pedagogies, programs, and/or in STEM disciplinary courses that support STEM teachers.

Through the STEM-C Partnerships: MSP solicitation, NSF seeks to support two types of awards: **Computer Science Education Expansion** awards and **Targeted Partnership** awards.

Computer Science Education Expansion (CSE-Expansion) awards are open **only** to NSF MSP Partnerships that have been previously funded to work at the high school level and who seek to expand their work to increase the number of qualified computer science teachers and the number of high schools with rigorous computer science courses incorporated into the academic program. The CSE-Expansion is intended to help advance the CS 10K ^{1, 2} through the development of partnerships that support, disseminate and, through research, improve high school computer science courses and curricula. Attention to pedagogical practices, teacher methods courses, teacher professional development for high school computer science teachers, as well as to promising practices for increasing the participation of students from underrepresented groups, are all appropriate activities which may be supported.

Current and previously funded MSP Comprehensive, Targeted and Institute awardees seeking CSE-

Expansion funding may consider implementation of one or both of the following CS 10K supported computer science courses: Exploring Computer Science (<http://exploringcs.org/>) and CS Principles, an entirely new Advanced Placement (AP) course (<http://collegeboard.org/csprinciples>) that will be officially launched starting in 2016. Proposers may choose to focus on other academic high school computer science courses, but must demonstrate how their work can be expected to have comparable sustainable, national significance to these two courses in terms of both increasing and broadening participation. Proposals for CSE-Expansion funding must include a research question(s) and research design with appropriate methodology. Inclusion of computer scientists in the Partnership is required.

Targeted Partnership proposals, which require no prior NSF funding, focus on new innovations in K-12 mathematics, computer science, engineering, or science education, linked to a strong educational research agenda, in one of five focal areas. Targeted Partnerships study and solve issues of importance to STEM education related to teaching and learning within a specific grade range or at a critical juncture in education, and/or within a specific disciplinary focus of mathematics, computer science, engineering, or the natural sciences. All Targeted Partnership proposals include a research question(s) and research design with appropriate methodology. See the STEM-C Partnerships: MSP solicitation for a list of eligibility information.

MECHANISMS OF SUPPORT

MSP awardees with currently active awards may request Supplemental funding for the **Computer Science Education Expansion** under their existing award. Supplemental work must advance objectives of the **Computer Science Education Expansion** as indicated in the STEM-C Partnerships: MSP solicitation. Proposers may wish to discuss their intentions related to the CSE-Expansion supplemental request with their MSP cognizant Program Officer. Proposers may request up to \$500,000 for a duration of up to three years and must submit a request for **supplemental** funding for their existing awards by prefixing the title with “CSE-Expansion.” Supplemental funding requests should be submitted via Fastlane no later than the date for submissions indicated in the STEM-C Partnerships: MSP solicitation to ensure consideration in the current fiscal year.

Information about preparation of Supplemental Funding Requests is contained in Part II Section I.E.4 of the NSF Proposal and Award Policies and Procedures Guide (PAPPG) available online at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp

MSP awardees who no longer have active MSP awards may submit only one proposal for the CSE-Expansion award through either the STEM-C Partnerships: MSP solicitation or the STEM-C Partnerships: CE21 solicitation. Proposers may request up to \$500,000 for a duration of up to three years.

Proposers interested in support for STEM-C: MSP Targeted Partnerships projects must submit a full proposal through the STEM-C Partnerships: MSP solicitation, which welcomes innovative endeavors in any of the STEM disciplines. In addition, proposers interested in advancing the teaching and learning of computer science at the high school level may also be interested in the Broadening Participation and Education in Computing and CS 10K funding opportunities found in the STEM-C Partnerships: CE21 solicitation.

Questions: Inquiries should be addressed to one of the following program directors: Kathleen Bergin (kbergin@nsf.gov), Jan Cuny (jcuny@nsf.gov), or Arlene de Strulle (adestrul@nsf.gov).

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¹ Briggs, A., & Snyder, L. (Eds) (2012) Computer Science and the CS 10K Initiative [Special Section]. *ACM Inroads*, 3, 2 (June 2012), 29-85. <http://dl.acm.org/citation.cfm?id=2189847>.

² <http://cs10kcommunity.org>.