



NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

NSF 16-057

Dear Colleague Letter: Computer Science for All

March 10, 2016

Dear Colleagues:

The National Science Foundation (NSF) is pleased to be part of the [Computer Science for All](#) (CS for All) initiative [announced](#) by the Administration on January 30, 2016. As the lead Federal agency for building the research knowledge base for CS education, NSF plans to make available \$120 million over the next five years to accelerate its ongoing efforts to enable rigorous and engaging CS education in schools across the nation. This acceleration could enable as many as 9,000 additional high-school teachers to be well prepared to teach CS and integrate computational thinking into their teaching over the next five years.

We wish to draw attention to existing NSF funding opportunities in Fiscal Year 2016 that are available to support the goal of providing opportunities **for all students** to participate in computer science (CS) and computational thinking (CT) in science, technology, engineering, and mathematics (STEM) learning in the elementary, middle, and high school grade levels. The Directorates for Computer and Information Science and Engineering (CISE) and Education and Human Resources (EHR) are interested in receiving proposals that advance [the CS for All initiative](#). NSF especially encourages the development or adaptation, piloting or full implementation, and testing of:

- models of preservice preparation for teachers who will teach CS and CT;
- scalable and sustainable models of professional development and ongoing support for teachers;
- tools and models for teaching and learning aimed at supporting student success and inclusion in computing within and across diverse populations, particularly those populations that have been traditionally underrepresented in CS and STEM fields;
- instructional materials and high-quality learning opportunities for teaching CS and, especially at the elementary and middle school levels, for integrating CT into STEM teaching and learning; and
- collaborations and partnerships that support integration of computing and CT within K-12 STEM curricula and instruction.

We expect that, as appropriate, proposals will explain the education research questions and issues that are being pursued in conjunction with the development, implementation, and testing, and what kinds of new knowledge about CS and CT teaching and learning will be built through the research to be conducted in the project.

Proposals responsive to this Dear Colleague Letter can be submitted in two ways:

- A full proposal submitted to the [STEM + Computing Partnerships \(STEM+C\) program](#) as described in the program solicitation [NSF 16-527](#) by the regular due date of March 28, 2016; or
- Submission as outlined in the [Proposal and Awards Policies and Procedures Guide](#) (PAPPG) for

EAGERs, Supplements, and Conferences or to the [Discovery Research PreK-12 \(DRK-12, NSF 15-592\)](#), [Innovative Technology Experiences for Students and Teachers \(ITEST, NSF 15-599\)](#), [Cyberlearning \(NSF 14-526\)](#), or the [EHR Core Research \(NSF 15-509\)](#) programs.

STEM+C FUNDING OPPORTUNITY

The STEM+C program seeks to significantly enhance the learning and teaching of STEM and computing by K-12 students and teachers through research on, and development of, courses, curriculum, course materials, pedagogies, instructional strategies, models, or pedagogical environments that innovatively integrate computing into one or more of other STEM disciplines, or integrate STEM content into the teaching and learning of computing. In addition, STEM+C seeks to build capacity in K-12 computing education with foundational research focused on broadening participation in CS and CT education and focused teacher preparation.

With this DCL, STEM+C invites proposals focused explicitly on achieving the goals of the CS for All Initiative. Proposals can be submitted to either track of the STEM+C program. Titles of proposals submitted in response to this DCL should begin with "CSforAll" in addition to specific requirements outlined in the program solicitation.

ADDITIONAL FUNDING OPPORTUNITIES

In addition, NSF is interested in supporting proposals for capacity-building projects related to the goals of the CS for All Initiative through EARly-concept Grants for Exploratory Research (EAGER), supplements, and conferences and workshops.

EAGER proposals seek support for highly innovative, potentially transformative, high-risk/high-reward proposals. These proposals should describe radically different approaches, apply new expertise, or engage novel disciplinary or interdisciplinary perspectives to advance the CS for All initiative. PI(s) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic prior to submission of an EAGER proposal.

Currently funded projects in the STEM+C, ITEST, DRK-12, Cyberlearning, and Education and Human Resources Core Research (ECR) programs can seek **supplementary funding** to expand their work in ways consistent with the CS for All Initiative as described above. Current PIs should contact their cognizant program officer prior to submission of a proposal for supplementary funding. Requests for supplementary support should comply with guidance in the [Award Administration Guide](#).

Conference or Workshop proposals should address the goals of the CS for All initiative aligned with the program from which the proposer is seeking funding. Proposed work should be innovative, focused on meeting clearly defined objectives with potentially broad outcomes for advancing computing in K-12 beyond those results that could be obtained at a regular meeting of a professional society or state or local education agency efforts. All conference proposals must comply with the guidance outlined in the [Grant Proposal Guide](#).

Titles of proposals submitted in response to this DCL should begin with "CSforAll" in addition to specific requirements outlined in the appropriate program solicitation, while applicable. The deadline for submission of EAGERs, Supplements, and Conferences is May 31, 2016.

Principal investigators interested in submitting proposals (or with other questions pertaining to this DCL) may contact one of the program directors:

- Janice Cuny, CISE/CNS, jcuny@nsf.gov
- Karen D. King, EHR/DRL, kking@nsf.gov

- Kamau Bobb, CISE/CNS, kbobb@nsf.gov
- Arlene M. de Strulle, EHR/DRL, adestrul@nsf.gov
- David L. Haury, EHR/DRL, dhaury@nsf.gov
- Christopher Hoadley, CISE/IIS, choadley@nsf.gov

Sincerely,

James Kurose
Assistant Director, Computer & Information Science & Engineering

Joan Ferrini-Mundy
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