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Training-based Workforce Development for Advanced Cyberinfrastructure (CyberTraining)

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PROGRAM GUIDELINES

Solicitation [18-516 \(/publications/pub_summ.jsp?WT.z_pims_id=505342&ods_key=nsf18516\)](/publications/pub_summ.jsp?WT.z_pims_id=505342&ods_key=nsf18516)

Important Information for Proposers

ATTENTION: *Proposers using the Collaborators and Other Affiliations template for more than 10 senior project personnel will encounter proposal print preview issues. Please see the [Collaborators and Other Affiliations Information website \(/bfa/dias/policy/coa.jsp\)](/bfa/dias/policy/coa.jsp) for updated guidance.*

A revised version of the *NSF Proposal & Award Policies & Procedures Guide (PAPPG)* (NSF 18-1), is effective for proposals submitted, or due, on or after January 29, 2018. Please be advised that, depending on the specified due date, the guidelines contained in NSF 18-1 may apply to proposals submitted in response to this funding opportunity.

DUE DATES

Full Proposal Deadline Date

January 25, 2019

Fourth Friday in January, Annually Thereafter

SYNOPSIS

The overarching goals of this program are to (i) prepare, nurture, and grow the national scientific research workforce for *creating, utilizing, and supporting* advanced cyberinfrastructure (CI) that enables potentially transformative fundamental science and engineering research and contributes to the Nation's overall economic competitiveness and security; (ii) ensure *broad adoption* of CI tools, methods, and resources by the fundamental science and engineering research community to enable new modes of discovery; and (iii) integrate core literacy and discipline-appropriate advanced skills in advanced CI as well as computational and data science and engineering into the Nation's educational *curriculum/instructional material fabric* spanning undergraduate and graduate courses. For the purpose of this solicitation, advanced CI is broadly defined as the set of resources, tools, and services for advanced computation, data handling, networking, and security that collectively enable potentially transformative fundamental research.

This solicitation calls for developing innovative, scalable training and education programs to address the emerging needs and unresolved bottlenecks in scientific and engineering research workforce development, from the postsecondary level to active researchers. The resultant training and education programs, spanning targeted, multidisciplinary communities, will lead to transformative changes in the state of workforce preparedness for advanced CI-enabled research in the short and long terms. As part of this investment, this solicitation seeks to broaden CI access and adoption by (i) increasing or deepening accessibility of methods and resources of advanced CI and of computational and data science and engineering by a wide range of *scientific disciplines and institutions* with lower levels of CI adoption to date; and (ii) harnessing the capabilities of larger segments of diverse underrepresented groups. Proposals from, and in partnership with, the aforementioned communities are especially encouraged.

Prospective principal investigators (PIs) are ***strongly encouraged*** to engage all relevant stakeholders, to the extent possible within the budget, by forging alliances and forming backbones for *collective impact*; this is particularly necessary in order to inform forward-looking curriculum/instructional material development for the Nation's science and engineering workforce. At a minimum, each project shall have a board of expert advisors or a network of funded/unfunded collaborators representative of stakeholder communities to periodically scrutinize and help refine the curriculum/instructional material and project methods, and to inform professional associations and non-governmental organizations responsible for curriculum, accreditation, and professional examination.

The CyberTraining program is led by the Office of Advanced Cyberinfrastructure (OAC) in the Directorate for Computer and Information Science and Engineering (CISE) and has participation from several directorates and divisions as described in Section II – Program Description, *Programmatic Areas of Interest*. Not all directorates/divisions are participating at the same level and some have specific research and education priorities. The appropriate contact for the CyberTraining program in any directorate/division is the Cognizant Program Officer (PO) for the respective directorate/division/office/program listed.

All projects must advance CI training and education goals for CI-enabled fundamental research as described in the full text of this solicitation, in addition to addressing specific domain needs. Prospective PIs are **strongly encouraged** to contact the Cognizant Program Officers in CISE/OAC **and** in the participating directorate/division(s) relevant to the proposal to ascertain whether the focus and budget of the proposed activities are appropriate for this solicitation. Such consultations should be completed at least one month in advance of the submission deadline. PIs should include the names of the Cognizant Program Officers consulted in their Project Summaries as described in Section V.A – Proposal Preparation Instructions. The intent of the CyberTraining program is to stimulate co-funding between OAC and one or more domain directorates/divisions. (For this purpose, divisions of CISE other than OAC are considered “domain divisions.”) To ensure relevance to community needs and to facilitate adoption, those proposals of interest to one or more domain divisions **must** include at least one PI/co-PI with expertise relevant to the targeted research discipline. All proposals shall include at least one PI/co-PI with expertise relevant to OAC.

Prospective PIs contemplating submissions that primarily target communities relevant to those directorates/divisions that are not participating in this solicitation are directed to instead explore the education and workforce development programs of the respective directorates/divisions.

RELATED URLS

[CyberTraining Webinar - December 12, 2017 - 2pm - Register Here!](https://www.nsf.gov/events/event_summ.jsp?cntn_id=243886&org=CISE)
<https://www.nsf.gov/events/event_summ.jsp?cntn_id=243886&org=CISE>

THIS PROGRAM IS PART OF

[Office of Advanced Cyberinfrastructure Programs \(/funding/pgm_summ.jsp?pims_id=504947&org=OAC\)](/funding/pgm_summ.jsp?pims_id=504947&org=OAC)

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