**Funding Opportunity: NSF Releases Solicitation for Science and Technology Centers (STC): Integrative Partnerships**

**Important elements from this analysis (extracted by BRDO):**

* NSF has added a new objective for the 2019 competition to clarify that “STCs focus on creating new scientific paradigms, establishing entirely new scientific disciplines and developing transformative technologies which have the potential for broad scientific or societal impact.”
* Unlike the 2014 solicitation, there is no mention of NSF encouraging center themes consistent with specific NSF priority areas. Similarly, the current solicitation does not mention the NSF Big Ideas for Future Investment, many of which have launched their own specific institute and center competitions.

**Original text:**

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The National Science Foundation (NSF) has released the highly anticipated solicitation for the next round of Science and Technology Centers: Integrative Partnerships.  Science and Technology Centers (STCs) support innovative, complex research and education projects that require large-scale and long-term awards.  NSF has added a new objective for the 2019 competition to clarify that “STCs focus on creating new scientific paradigms, establishing entirely new scientific disciplines and developing transformative technologies which have the potential for broad scientific or societal impact.”  This STC competition is open to all areas of science and engineering supported by NSF and projects should aim to “address deep scientific questions or pressing societal needs.”  Unlike the 2014 solicitation, there is no mention for this competition of any focus on NSF priority areas and there is also no mention of the Big Ideas for Future Investment, many of which have launched their own specific institute and center competitions.

STCs should involve a range of partners including institutions of higher education, national laboratories, industry, international partners, and other public or private entities.  Similar to the previous STC competition, NSF is encouraging participation of underrepresented groups and non-traditional partners in the STC teams.  NSF specifically expects STCs to “demonstrate leadership” in the involvement of these groups at all levels within the Center.  Education is a key component of STCs to train future researchers as has been the case in previous competitions.  Centers are also required to carry out activities to advance knowledge transfer.  New for the 2019 solicitation, NSF explicitly expects STC Directors to have experience leading research teams as well as “excellent verbal and written communication skills.”

According to the solicitation, all STCs must:

* “Be focused on exceptionally innovative, complex research and education projects that require large-scale, long-term awards;
* Be based at an institution of higher education which assumes responsibility for oversight of subawards to partner institution;
* Be directed by a faculty member with experience in leading research teams;
* Demonstrate institutional commitment to achieving strategic goals that are shared by the lead and partnering institutions;
* Establish multi-institutional collaborations or linkages with other universities/colleges, national laboratories, research museums, private sector research laboratories, state and local government organizations, and international collaborations, as appropriate;
* Develop a management plan that integrates the research, education, broadening participation, and knowledge transfer activities across all partners and affiliates;
* Include diverse teams at all organizational levels of the Center, inclusive of women and men, underrepresented minorities, and persons with disabilities;
* Provide research and education opportunities for U.S. students, postdoctoral researchers and faculty that will result in outcomes consonant with the Center's goals;
* Facilitate knowledge transfer through significant intellectual exchange among various types of institutions and organizations (e.g., nonprofit organizations; national laboratories; industry; Federal, state, and local governments); and,
* Establish and convene annually an External Advisory Committee to provide guidance, advice, and oversight.”

Preliminary proposals will be evaluated on the rationale for STC-scale funding, quality of the research plan, partnerships and participants, and integration strategies for areas such as knowledge transfer, education, and broadening participation.  Preproposals have been lengthened to 12 pages to accommodate all of this information.

**Total Funding, Award Size, and Budget Information:**Pending funding availability, NSF intends to award $25 million in fiscal year (FY) 2021 for up to five new STCs.  STCs may propose a budget of up to $5 million per year for an initial five-year period, with the possibility of an additional five years of funding.

**Eligibility:**Preliminary and invited full proposals may be submitted by U.S. academic institutions with doctoral degree-granting research and education programs in any area of research supported by NSF.  “The PI must be a full-time faculty member at an institution of higher education and have an established record of leading research teams.”

**Institution and PI Limitations:**  An institution may submit up to three preliminary proposals as the lead institution; however, NSF will not support more than one Center from any lead institution in this competition.  There is no limit on the number of proposals in which an organization participates as a partner.

A PI or co-PI on one proposal in this competition may not be a participant in another STC proposal in the same competition.  Should a proposal be declined at any stage, a PI or co-PI on the declined proposal may then participate in another STC proposal.  The solicitation further states that past members of STCs may participate only if the themes “are substantially different from those they pursued with prior NSF Center support.”

**Partners:**  Lead institutions are expected to develop partnerships with other organizations, such as: other universities and colleges, national laboratories, research museums, private sector research laboratories, state and local government laboratories, and international organizations as appropriate.  While not every partner must support all Center activities, all of the expected features of the Center must be accomplished through the partners’ activities.  NSF further encourages, but does not require, international dimensions, where appropriate.  STCs are strongly encouraged to build “substantive and long-term” partnerships with institutions that serve underrepresented students interested in STEM.

**Preliminary Proposals:**Preliminary proposals are required and are **due June 25, 2019**.Detailed information on what should be included in the preliminary proposal is included in the solicitation.

**Full Proposals and Competition Timeline:**NSF will accept full proposals *by invitation only.*  Those invited for full proposals will be informed in late October 2019**.  Invited full proposals are due January 27, 2020.**  Notification of site visits will be informed late June 2020, with site visits held in September and October 2020.  NSF expects to make the award announcements in February 2021 with awards to start on June 1, 2021.

**Information on Previous STC solicitation:**The previous STC solicitation was released in August 2014, and four awards totaling NSF investment of $94 million were announced in September 2016: the Center for Bright Beams (CBB), the Center for Cellular Construction (CCC), the Science and Technology Center for Engineering MechanoBiology (CEMB), and Science and Technology Center on Real-Time Functional Imaging (STROBE)[1].  Five current STCs are set to expire in 2020, these include: the NSF Center for the Study of Evolution in Action (BEACON); the Center for Dark Energy Biosphere Investigations (C-DEBI); the Center for Energy Efficient Electronics Science (E3S); and the Center for Science of Information (CSoI).  Additional information on current and graduates STCs is included in Appendix 1 (in the attached document) and information on current STCs is available at <https://www.nsf.gov/od/oia/programs/stc/index.jsp>.  The STC competition is very competitive, previous competitions have attracted around 250 preliminary proposals with 40-50 full proposals invited, around 10 sites visited, and three to five new centers funded.

***Sources and Additional Information:***

* The complete STC solicitation is available at <https://www.nsf.gov/pubs/2019/nsf19567/nsf19567.htm>
* Complete details of the STC program, including information on past awards, are available on the NSF website at <https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5541&WT.mc_id=USNSF_180&WT.mc_ev=click>.

[1] NSF awards $94 million to create four new Science and Technology Centers: <https://www.nsf.gov/news/news_summ.jsp?cntn_id=189782>

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