



National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

NSF 14-119

Frequently Asked Questions (FAQ) for Science and Technology Centers (STC): Integrative Partnerships Program

RESEARCH AREAS APPROPRIATE FOR STCS

1. What research areas are appropriate for STC preliminary proposals and full proposals?
2. Where can I find enumerations of the extant initiatives and national priorities cited under *Characteristics of Science and Technology Centers*?
3. Must an STC be centered on a Technology?
4. What research areas are covered by the existing STCs?

EDUCATION PLAN

5. How involved should our Center be in education?
6. Are STCs expected to propose activities at many different levels (K-12, undergraduate, graduate, and post-doc)?
7. Should the education programs proposed be new activities?
8. Must each Center have K-12 activities?
9. How much detail should be provided if the educational focus is on undergraduate students, K-12 or other education activities?

DIVERSITY PLAN

10. Are STCs required to partner with minority serving institutions?
11. Are STCs required to have a full time diversity director or coordinator?

KNOWLEDGE TRANSFER

12. How involved should a center be in knowledge transfer and innovation?

BUDGETS FOR PRELIMINARY PROPOSAL AND FULL PROPOSAL

13. Does the \$5 million per year maximum budget request refer only to direct costs or is it both direct and indirect costs?
14. Should we submit a budget in the preliminary proposal?
15. Our center anticipates that we will need support from other existing NSF large scale facilities or research infrastructure resources. Should the cost and availability of these facilities be discussed and included in our STC budget request?

COST SHARING

16. Is cost sharing required?
17. Will NSF consider institutional contributions?

STC DIRECTORS

18. What are the most important qualities of a successful STC director?
19. What is the difference between a Center Director and a Managing Director?

NOTICE OF INTENT

20. Does NSF require letters of intent for this competition as it did in some earlier competitions?

LISTS OF INSTITUTIONS, PROJECT PERSONNEL, AND COLLABORATORS - CONFLICTS OF INTEREST

21. The STC Program Solicitation asks for lists of institutions, project personnel, and collaborators with Conflicts of Interest. What constitutes a Conflict of Interest?
22. After we submit the preliminary or full proposal, are we to update the conflicts of interest information?

REQUIRED SUPPLEMENTARY INFORMATION

23. The preliminary and full proposals require a list of Partner Institutions and a List of Project Personnel to be submitted as part of the Supplementary Documents. Is this the same information that is required to be sent by email in a spreadsheet? Why do we provide this information in two places?
24. Is the information for the Supplementary Documents and in the spreadsheet to be emailed optional?
25. Can I create my own conflicts of interest spreadsheet to send by email?
26. Do I need to include a postdoctoral mentoring plan in my STC proposal?
27. NSF now requires a data management plan be submitted with all proposals. Is a data management plan required as part of the STC preliminary proposal?

FEDERAL GOVERNMENT LABORATORY PARTNERSHIPS

28. The Program Solicitation mentions collaborations and partnerships with National Laboratories. Can you tell me what limitations apply to these collaborations regarding funding resources? In particular, is it possible to provide money directly to lab personnel for salary, travel, and hiring of students and post-docs?

INTERNATIONAL COLLABORATION

29. How does NSF view international collaboration?
30. Can a foreign institution, as a partner or subcontractor, be financed with funds from an STC award?
31. Is it acceptable for a foreign laboratory to allocate and pay for a foreign post-graduate fellowship for our proposed STC?

NEXT STC COMPETITION

32. After the current STC competition is completed, when will the next STC competition begin?

RESEARCH AREAS APPROPRIATE FOR STCS

1. What research areas are appropriate for STC preliminary proposals and full proposals?

NSF will entertain STC preliminary proposals and full proposals for innovations in any areas of Science, Engineering and Education research supported by the Foundation, including emerging technologies and Social, Behavioral and Economic Sciences.

2. Where can I find enumerations of the extant initiatives and national priorities cited under *Characteristics of Science and Technology Centers*?

Various science as well as pertinent government organizations enumerate what they perceive as national priorities e.g.,

<http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=02152008>

<http://www.whitehouse.gov/sites/default/files/omb/memoranda/2014/m-14-11.pdf>

<http://www.whitehouse.gov/administration/eop/ostp/initiatives>

All NSF initiatives are listed on the NSF URL.

3. Must an STC be centered on a Technology?

No. STCs may involve development and/or deployment of significant, new technologies, but this is not a requirement. Some centers are primarily science oriented; others are primarily focused on technologies. It is also the case that "technology" is defined broadly for the purposes of this competition. A technology may be a tool, technique, infrastructure, system or method.

4. What research areas are covered by the existing STCs?

This information and more about the existing STCs can be found at the following URL:

http://www.nsf.gov/od/oia/programs/stc/active_centers/ACTIVE.jsp.

EDUCATION PLAN

5. How involved should our Center be in education?

NSF expects each Center to make the education of students who are U.S. citizens, nationals and permanent residents a high priority and to apply the same scholarly mind-set to education as to research. These undergraduate and graduate students represent the next generation of the Nation's intellectual capital. A Center is expected to understand the challenges facing education in its areas of research, and the potential contributions that the Center has to address those challenges. The contributions desired by the Center then drive the design of specific educational activities and their evaluation. There should be at least one person with extensive educational expertise on the center's Advisory Committee.

6. Are STCs expected to propose activities at many different levels (K-12, undergraduate, graduate, and post-doc)?

No. The education efforts of a center should be focused on a few activities that are substantial, with high potential impact and that make sense for the center. A concentrated in-depth effort that is linked to the research of the center is more likely to have an impact than a large number of superficial unrelated efforts.

7. Should the education programs proposed be new activities?

If possible, the Center's education and diversity efforts can be built on existing, successful efforts. However, the Center's involvement should significantly expand these efforts and the value added by the Center's involvement should be clear. For education and diversity activities that represent

new initiatives, proposals should indicate all collaborations or connections that will enable these activities and provide a basis for estimating the likelihood of success.

8. Must each Center have K-12 activities?

No, there is no requirement for K-12 activities. Each Center should undertake activities at the level of education that serves the Center research and education goals.

9. How much detail should be provided if the educational focus is on undergraduate students, K-12 or other education activities?

In all cases, proposals should contain enough detail such that reviewers can evaluate the importance of the effort and the likelihood of success. For example, proposals that include a focus on undergraduate education activities should reflect current understanding of how students learn in STEM fields and engage pedagogy.

DIVERSITY PLAN

10. Are STCs required to partner with minority serving institutions?

There are no requirements for involving specific types of institutions. It is expected that any partnership developed by STCs will be mutually beneficial and involve all participants (institutions, faculty and students) in the Center's activities (research, education and knowledge transfer). In this spirit, STCs should look for partners who share and can implement the full vision of the center. Broadening the participation of under-represented groups in Science and Engineering is an important goal of the STC program. Inclusion of minority institutions in STCs is one mechanism that can be used to achieve that goal.

11. Are STCs required to have a full time diversity director or coordinator?

Having a full time diversity coordinator is a commonly used and proven mechanism for increasing representation. However we recognize that there might be other effective models for integrating practices to increase representation into the culture of a center. The diversity plan should describe the research or existing practices that provide the rationale for the planned diversity activities. This discussion should demonstrate an understanding of the issues involved and support the choices the Center has made. The diversity plan should indicate who will participate in diversity activities, ensure that all participating institutions are involved substantially in some of these activities and that none of the activities are relegated to a single institution.

KNOWLEDGE TRANSFER

12. How involved should a center be in knowledge transfer and innovation?

Centers must undertake activities that facilitate transfer to external stakeholders of knowledge developed as result of research and education activities in the center. The exchange of scientific and technical information aims to disseminate and utilize knowledge broadly in other areas of science and engineering, industry, public policy and other sectors. The purpose may be enabling and supporting innovation in other fields of research, supporting innovation for development of new products and services in industry and commerce, providing updated materials for education and training, or informing decision makers in a timely manner on new research outcomes. Generating inventions, technology transfer to small businesses or large companies, and creating spin-off companies are part of the innovation process. Partnerships with diverse private and public organizations offer a means to realize these goals.

BUDGETS FOR PRELIMINARY PROPOSAL AND FULL PROPOSAL

13. **Does the \$5 million per year maximum budget request refer only to direct costs or is it both direct and indirect costs?**

The maximum request of \$5 million per year includes both direct and indirect costs.

14. **Should we submit a budget in the preliminary proposal?**

No. A budget should not be submitted in the preliminary proposal.

15. **Our center anticipates that we will need support from other existing NSF large scale facilities or research infrastructure resources. Should the cost and availability of these facilities be discussed and included in our STC budget request?**

Yes, where this is known, or can be parametrically estimated (e.g. hours of telescope or beam time, days of ship or field support, computational resources etc), it should be included in budget requests. Realism of such requests may be a review consideration.

COST SHARING

16. **Is cost sharing required?**

No, voluntary committed cost-sharing is prohibited and Line M on the proposal budget will not be available for use by the proposer.

17. **Will NSF consider institutional contributions?**

In order to assess the scope of the project, all institutional resources (including those from partner organizations) necessary for the project must be described in the Facilities, Equipment and Other Resources section. The description should be narrative in nature and must not include any quantifiable financial information. These resources are not financially auditable by NSF and should not be included in the proposal budget or budget justification.

STC DIRECTORS

18. **What are the most important qualities of a successful STC director?**

Typically, senior researchers with extensive experience leading large research teams are successful in directing STCs.

19. **What is the difference between a Center Director and a Managing Director?**

Center Director: The Center Director must provide the leadership to develop and lead a diverse team to fulfill the vision of the Center, serve as the liaison between the national network of STC directors and NSF. The Center Director must ensure that the STC develops the ability to communicate effectively with NSF and the other STCs electronically, including web-based distribution of information and Video conferencing capability.

Managing Director: The Managing Director is responsible for the management, staffing, and resource allocation of the Center, in conjunction with the Center Director.

NOTICE OF INTENT

20. **Does NSF require letters of intent for this competition as it did in some earlier competitions?**

No. Letters of intent are not required, and should not be submitted.

LISTS OF INSTITUTIONS, PROJECT PERSONNEL, AND COLLABORATORS - CONFLICTS OF INTEREST

21. **The STC Program Solicitation asks for lists of institutions, project personnel, and collaborators with Conflicts of Interest. What constitutes a Conflict of Interest?**

In addition to lists of institutions and project personnel, the STC Program Solicitation requires that Principal Investigators provide, to the best of their ability, a list of all collaborators, participants and affiliates, to aid NSF in identifying reviewers who may have potential conflicts of interest with any of the project's personnel (PI, co-PI, and other personnel).

We realize that a PI cannot be expected to know all the details of conflicts of interest for the entire potential reviewing community. To assist you in knowing what constitutes a conflict of interest we have provided guidance below. For purposes of the STC collaborators list, please concentrate your efforts on providing us with information for those collaborators whose conflicts of interest can be found under the first major grouping below, namely, "Personal Relationship with an Investigator, Project Director, or Other Person Who Has a Personal Interest in the Proposal or Other Application."

When your preliminary proposal or full proposal is reviewed by the National Science Foundation, reviewers will also be asked to disclose as potential conflicts of interest any of their affiliations and relationships in the areas listed below.

- **Personal Relationship with an Investigator, Project Director, or Other Person Who has a Personal Interest in the Proposal or Other Application**
 - Known family relationship as spouse, child, sibling, or parent.
 - Business or professional partnership.
 - Past or present association as thesis advisor or thesis student.
 - Collaboration on a project or on a book, article, report, or paper within the last 48 months.
 - Co-editing or a journal, compendium, or conference proceeding within the last 24 months.
- **Personal Affiliation with the Applicant and Partner Institutions**

A person may have a conflict if they have/hold/are:

- Current employment at the institution as a professor, adjunct professor, visiting professor, or similar position. (NOTE: Please do not list as Conflicts of Interest the faculty at your institution and partner institutions as you are already providing this information in the required lists of personnel and institutions.)
- Other current employment with the institution (such as consulting or an advisory arrangement).
- Previous employment with the institution within the last 12 months.
- Being considered for employment with the institution.
- Formal or informal reemployment arrangement with the institution.
- Ownership of securities of firms involved in the proposal or application.

- Current membership on a visiting committee or similar body at the institution. (This is a conflict only for proposals or applications that originate from the department, school, or facility that the visiting committee or similar body advises.)
- Any office, governing board membership or relevant committee chairpersonship in the institution. (Ordinary membership in a professional society or association is not considered an office.)
- Current enrollment as a student. (Only a conflict for proposals or applications that originate from the department or school in which one is a student.)
- Received and retained an honorarium or award from the institution within the last 12 months.

○ **Personal Other Affiliation or Relationships**

- Interests of the following persons are to be treated as if they were yours: Any affiliation or relationship of your spouse, or of your minor child, or of your partner that would be covered by any items above.
- Other relationships, such as close personal friendship, that you think might tend to affect your judgment or be seen as doing so by a reasonable person familiar with the relationship.

22. After we submit the preliminary or full proposal, are we to update the conflicts of interest information?

Yes. Once the preliminary (or full) proposal is submitted, any changes in the participating institutions, personnel, collaborators, subcontractors, or other affiliates can't be made to the proposal (preliminary or full). However, it is important to notify NSF of changes as they occur, for the purpose of identifying potential conflicts of interest during the review process. Updated information should be sent by the lead institution to stc2016@nsf.gov as soon as it is available. Updated completed information will be requested prior to a site visit.

REQUIRED SUPPLEMENTARY INFORMATION

23. The preliminary and full proposals require a list of Partner Institutions and a List of Project Personnel to be submitted as part of the Supplementary Documents. Is this the same information that is required to be sent by email in a spreadsheet? Why do we provide this information in two places?

The information provided on Project Personnel and Partner Institutions in the Supplementary Documents and in the spreadsheet to be sent by email is similar. As a Supplementary Document, the lists of 1) Project Personnel and 2) institutions and organizations providing project personnel are seen by reviewers and provide a comprehensive view of the makeup of the proposed Center. The spreadsheet, sent by email and available only to NSF staff, provides an easily searchable data set to identify center project personnel and potential conflicts of interest as NSF staff select reviewers.

24. Is the information for the Supplementary Documents and in the spreadsheet to be emailed optional?

No. Complete and accurate information, in the proper format, is required for both the preliminary and full proposals submitted to this competition.

25. Can I create my own conflicts of interest spreadsheet to send by email?

No. Specific information on project personnel, their affiliations and conflicts of interest is required to be provided, and must be submitted by email (stc2016@nsf.gov) as described in the solicitation and by the dates listed in the solicitation.

26. Do I need to include a postdoctoral mentoring plan in my STC proposal?

Postdoctoral mentoring plans, when applicable, are required for only Full Proposals; they are not to be submitted for preliminary proposals. If postdoctoral scholars are included on line B.1 of the budget page, a one page postdoctoral mentoring plan must be submitted via FastLane or Grants.gov. The plan will appear as a supplementary document in the proposal and will not be counted as part of the Project Description page limit. This plan should detail specifics about how postdocs supported by the STC grant will be mentored. Even though a STC typically involves multiple departments and institutions, only one postdoc mentoring plan is allowed; any additional details about postdoctoral mentoring will have to appear in the Project Description. PIs submitting a STC proposal should consult the Grant Proposal Guide as to the appropriate information to include in the postdoctoral mentoring plan. The plan will be reviewed as part of the broader impacts of the proposal.

27. NSF now requires a data management plan be submitted with all proposals. Is a data management plan required as part of the STC preliminary proposal?

No. A data management plan is not required for an STC preliminary proposal and should not be submitted as a supplementary document. If data management and/or the sharing of the products of research form an important component of the planned STC these issues should be discussed as part of the preliminary proposal's Project Description.

FEDERAL GOVERNMENT LABORATORY PARTNERSHIPS

28. The Program Solicitation mentions collaborations and partnerships with National Laboratories. Can you tell me what limitations apply to these collaborations regarding funding resources? In particular, is it possible to provide money directly to lab personnel for salary, travel, and hiring of students and post-docs?

The STC Program encourages partnerships with Federal Government laboratories, including the National Laboratories operated by the Department of Energy. However, NSF does not typically reimburse costs that are covered by another agency's appropriations. NSF funding of federal employees such as lab personnel is generally not appropriate (see Chapter V.B of the NSF Award and Administration Guide).

INTERNATIONAL COLLABORATION

29. How does NSF view international collaboration?

NSF promotes international collaboration when it provides U.S. students and researchers the opportunity to benefit from foreign expertise and/or from resources, equipment, data and geographically-based phenomena that are located abroad. PI's are encouraged to consider how international engagement can provide a collaborative advantage to the Center's research agenda as well as to its efforts to help develop a globally engaged U.S. workforce. NSF encourages a close working arrangement with local scientists and engineers in all international components of research projects. Projects in a foreign country should be designed to be of mutual benefit and must encourage wide distribution of the resulting materials, data, analyses, and publications within the host country as well as in the US.

30. Can a foreign institution, as a partner or subcontractor, be financed with funds from an STC award?

NSF does not expect to fund foreign institutions as partners or subcontractors. *Extraordinary* circumstances may be considered on a case-by-case basis, such as activities that require unique foreign expertise, access to unique foreign facilities, unique foreign data resources not generally available to U.S. investigators (or which would require significant effort or time to duplicate), or other foreign resources that are essential contributing factors to the success of the proposed project *and which cannot be funded from sources in the foreign country.*

31. Is it acceptable for a foreign laboratory to allocate and pay for a foreign post-graduate fellowship for our proposed STC?

There is no problem with a foreign laboratory's paying for foreign post-graduate fellowships at an STC.

NEXT STC COMPETITION

32. After the current STC competition is completed, when will the next STC competition begin?

Pending availability of funds, the next STC competition is expected to start three years from the start of this competition. The Program Solicitation for the current competition is expected serve as the Program Solicitation for the next competition, subject to change. The deadline dates and review schedule for the next competition, although not yet determined, should be similar to those for the currently announced competition. The STC web site will be updated with information regarding the next competition when deadline dates for preliminary proposals and full proposals are better known.