# Tribal Colleges and Universities Program (TCUP)

## PROGRAM SOLICITATION
## NSF 10-501

## REPLACES DOCUMENT(S):
## NSF 09-509

**National Science Foundation**

Directorate for Education & Human Resources
Division of Human Resource Development

Directorate for Engineering

**Preliminary Proposal Due Date(s)** ***(required)*** (due by 5 p.m. proposer's local time):

January 14, 2010

PEEC Preliminary Proposals

**Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

January 14, 2010

TCUP Initiation and STEEP Proposals

March 31, 2010

PEEC Full Proposals

April 07, 2010

Innovation through Institutional Integration

## IMPORTANT INFORMATION AND REVISION NOTES

A track for TCUP Pre-engineering Education Collaboratives (PEEC) is included. PEEC provides support for pilot efforts to establish or enhance engineering pipelines in TCUP institutions, alone or in collaboration with other TCUP institutions and colleges of engineering. Preproposals for the PEEC track are required and must be submitted through TCUP. Invited proposals submitted through the& PEEC track will be co-reviewed by the Directorate for Engineering and the Directorate for Education and Human Resources.

A track for *Innovation through Institutional Integration ($I^3$)* is included. $I^3$ challenges faculty, administrators, and others in institutions to think strategically about the creative integration of NSF-funded awards and is itself an integrative, cross-cutting effort within the Directorate for Education and Human Resources (EHR). For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance $I^3$ goals:

- Centers of Research Excellence in Science and Technology (CREST)
- Research on Gender in Science and Engineering (GSE)
- Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)
- Innovative Technology Experiences for Students and Teachers (ITEST)
- Alliances for Broadening Participation in STEM: Louis Stokes Alliances for Minority Participation (LSAMP)
- Math and Science Partnership (MSP)
- Robert Noyce Teacher Scholarship Program
- Research in Disabilities Education (RDE)
- Tribal Colleges and Universities Program (TCUP)

All proposals submitted to $I^3$ through these programs have a common due date and will be reviewed in competition with one another. Eligibility is limited to institutions of higher education (including two- and four-year colleges). If the proposal is exclusively for $I^3$ STEM educational or related research, then all categories of proposers identified in the NSF Grant Proposal Guide are eligible to submit. Given the focus on institutional integration, an institution may submit only one proposal to this competition.

Please be advised that the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) includes revised guidelines to implement the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.) As specified in the ACA, each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II for further information about the implementation of this new requirement).

## SUMMARY OF PROGRAM REQUIREMENTS

## General Information

**Program Title:**

Tribal Colleges and Universities Program (TCUP)

**Synopsis of Program:**

This program provides awards to enhance the quality of science, technology, engineering and mathematics (STEM) instructional and outreach programs at Tribal Colleges and Universities, Alaska Native-serving Institutions and Native Hawaiian-serving institutions. Support is available for the implementation of comprehensive institutional approaches to strengthen STEM teaching and learning in ways that improve access to, retention within, and graduation from STEM programs. Through this program, assistance is provided to eligible institutions in their efforts to bridge the digital divide and prepare students for careers in information technology, science, mathematics and engineering fields. Proposed activities should be the result of a careful analysis of institutional needs, address institutional and NSF goals, and have the potential to result in significant and sustainable improvements in STEM program offerings. Proposals are being solicited for Planning Grants, and three Implementation tracks: Initiation projects, STEM Teachers of Education Excellence Projects (STEEP), and TCUP Pre-Engineering Education Collaboratives (PEEC).

***Innovation through Institutional Integration ($I^3$)*** projects enable faculty, administrators, and others in institutions to think and act strategically about the creative integration of NSF-funded awards, with particular emphasis on awards managed through programs in the Directorate for Education and Human Resources (EHR), but not limited to those awards. For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance $I^3$ goals: CREST, GSE, HBCU-UP, ITEST, LSAMP, MSP, Noyce, RDE, and TCUP.

**Cognizant Program Officer(s):**

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**Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):**

- 47.041 --- Engineering
- 47.076 --- Education and Human Resources

## Award Information

**Anticipated Type of Award:** Continuing Grant or Cooperative Agreement

**Estimated Number of Awards:** 6 to 7 pending the availability of funds, 6 to 7 TCUP Implementation awards will be made annually: Approximately 4 Initiation and STEEP awards resulting from full proposals will be awarded as cooperative agreements or continuing grants; Approximately 2-3 PEEC awards resulting from full proposals will be awarded as continuing grants. Up to 10 continuing awards will be made in this Innovation through Institutional Integration ($I^3$) competition, pending availability of funds.

**Anticipated Funding Amount:** $4,000,000: Approximately $2,000,000 for TCUP Initiation and STEEP projects, pending availability of funds. Approximately $2,000,000 for PEEC projects, pending availability of funds. $5,500,000 for Innovation through Institutional Integration ($I^3$) projects across multiple EHR programs, pending the availability of funds.

## Eligibility Information

**Organization Limit:**

Proposals may only be submitted by the following:

- **TCUP -** Organizations eligible to submit TCUP proposals are Tribal Colleges and Universities, Alaska Native-serving institutions and Native Hawaiian-serving institutions as defined in Section IV of this solicitation. All TCUP-eligible institutions are eligible to propose under TCUP Pre-engineering Education Collaboratives (PEEC). Institutions of higher education in collaboration with TCUP-eligible institutions are eligible to propose under PEEC.

  Only those institutions that have received an Initiation award are eligible to propose under STEM Teachers of Excellence Education Projects (STEEP).

  **$I^3$ -** Eligibility for Innovation through Institutional Integration ($I^3$) is limited to institutions of higher education (including two- and four-year colleges) accredited in, and with a campus located in the US. If the proposal is exclusively for $I^3$ STEM educational or related research, then all categories of proposers identified in the NSF Grant Proposal Guide are eligible to submit.

**PI Limit:**

The **TCUP** Principal Investigator is expected to be the chief academic officer of the institution, or other senior academic officer responsible for oversight and management of curriculum and instructional policies for the institution. Proposers are strongly encouraged to identify lead faculty to help implement the project and serve as co-Principal Investigators. No eligibility limit applies to the PEEC Principal Investigator from partner colleges of

engineering.

The Principal Investigator for an **Innovation through Institutional Integration ($I^3$)** proposal must be the university provost or equivalent chief academic officer, unless the proposal is exclusively for $I^3$ STEM educational or related research.

**Limit on Number of Proposals per Organization:**

Eligible institutions may receive consecutive but not concurrent Initiation awards. Only those institutions that have received an Initiation award are eligible to propose under STEEP. All TCUP-eligible institutions may participate in PEEC, but each is limited to one PEEC project.

For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance the goals of Innovation through Institutional Integration ($I^3$ ): CREST, GSE, HBCU-UP, ITEST, LSAMP, MSP, Noyce, RDE, and TCUP. Given the focus on institutional integration, an institution may submit only one proposal to the $I^3$ competition for each deadline.

**Limit on Number of Proposals per PI:**

None Specified

## Proposal Preparation and Submission Instructions

**A. Proposal Preparation Instructions**

- **Letters of Intent:** Not Applicable
- **Preliminary Proposals:** Submission of Preliminary Proposals is required. Please see the full text of this solicitation for further information.
- **Full Proposal Preparation Instructions:** This solicitation contains information that supplements the standard NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full text of this solicitation for further information

**B. Budgetary Information**

- **Cost Sharing Requirements:** Cost Sharing is not required under this solicitation.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

**C. Due Dates**

- **Preliminary Proposal Due Date(s) *(required)*** (due by 5 p.m. proposer's local time):

  January 14, 2010

  PEEC Preliminary Proposals

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

  January 14, 2010

  TCUP Initiation and STEEP Proposals

  March 31, 2010

  PEEC Full Proposals

  April 07, 2010

  Innovation through Institutional Integration

## Proposal Review Information Criteria

**Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

## Award Administration Information

**Award Conditions:** Additional award conditions apply. Please see the full text of this solicitation for further information.

**Reporting Requirements:** Standard NSF reporting requirements apply.

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## I. INTRODUCTION

Programs managed by the Division of Human Resource Development (HRD), within the Directorate for Education and Human Resources, seek to increase the participation and advancement of underrepresented groups and institutions at every level of science, technology, engineering, and mathematics (STEM) education and research. In so doing, these programs contribute to attainment of an outcome goal of the NSF Strategic Plan FY 2006-2011: Cultivate a world-class, broadly inclusive science and engineering workforce, and expand the scientific literacy of all citizens.

Programs provide coordinated and integrated approaches to developing and leveraging individual talents and institutional infrastructures in order to increase substantially the number of underrepresented ethnic minorities well prepared for participation and leadership in the STEM workforce. Managed synergistically, these programs enable seamless student transitions from undergraduate study at the associate and baccalaureate levels to attainment of doctoral degrees, as well as strengthen the research vigor and competitiveness of graduate students and faculty at participating institutions.

Although programs in the Division of Human Resource Development focus primarily on underrepresented communities, all NSF programs encourage proposals that incorporate this goal. See the NSF Guide to Programs for descriptions of all NSF funding opportunities.

In addition, proposals submitted to the Innovation through Institutional Integration ($I^3$) track would request support for projects that enable faculty, administrators, and others in institutions to think and act strategically about the creative integration of NSF-funded awards, with particular emphasis on awards managed through programs in the Directorate for Education and Human Resources (EHR), but not limited to those awards. For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance $I^3$ goals: CREST, GSE, HBCU-UP, ITEST, LSAMP, MSP, Noyce, RDE, and TCUP.

## II. PROGRAM DESCRIPTION

The Tribal Colleges and Universities Program (TCUP) promotes sustainable improvement of undergraduate science, technology, engineering and mathematics (STEM) instructional and outreach programs, with an emphasis on the expansion of course and degree offerings, undergraduate research opportunities, and the use of information technologies at Tribal Colleges and Universities, Alaskan Native-serving institutions and Native Hawaiian-serving institutions. Support is available for the implementation of comprehensive institutional approaches to strengthen STEM teaching and learning in ways that improve access to, retention within, and graduation from STEM disciplines. Through this program, assistance is provided to eligible institutions in their efforts to bridge the digital divide and prepare students for careers in information technology, science, mathematics and engineering fields. The National Science Foundation allows flexibility in the design of efforts to improve undergraduate STEM education. Proposed activities should be the result of a careful analysis of institutional needs, address institutional and NSF goals, and have the potential to result in significant and sustainable improvement of STEM programs.

Funding through TCUP is available as Planning, or via three Implementation project tracks: Initiation projects, STEM Teachers of Excellence Education Projects (STEEP), or TCUP Pre-engineering Education Collaboratives (PEEC) projects. Typical project implementation strategies (described in greater detail below) include course, degree, and curriculum development, reform and improvement; faculty professional development; the integration of active learning pedagogies into the STEM curriculum; community outreach and engagement; student support, academic enrichment activities and internships; student recruitment, retention and placement; infusion of technology to enhance STEM instruction; collaborations with four-year institutions, business and industry; strengthening the abilities of technical support personnel; and other activities that meet institutional and community needs. While the primary focus of TCUP is at the associate and baccalaureate degree levels, projects are encouraged to consider components that

promote pre-college interest in STEM areas, and that address student advancement through the critical transition points during the STEM academic and career pathways: the transition between high school and college; between 2- and 4-year colleges; between undergraduate and graduate studies; and from college to the workplace.

**PLANNING PROJECTS:** TCUP-eligible institutions that have not received planning funding may submit a proposal to help the institution conduct an assessment of its STEM infrastructure and develop an institutional plan to enhance its STEM program. TCUP planning grants typically provide up to $50,000 for up to one year. TCUP will accept proposals for planning projects from previously unfunded institutions on a no-deadline-date basis. Interested individuals are strongly encouraged to discuss this option with a TCUP program director.

**INITIATION PROJECTS:** TCUP will accept proposals from eligible institutions that have completed the necessary planning activities (with or without NSF support) to develop an appropriate strategy for STEM instructional improvement. Initiation projects will typically be awarded for up to five years, in amounts of up to $500,000 per year, with years four and five dependent on performance; total funding is not expected to exceed $2,500,000. Initiation projects should actively engage those faculty members responsible for the successful completion of the proposed work.

**STEM Teachers of Excellence Education Projects (STEEP):** In recognition of the need for excellent pre-college and community college science, mathematics, technology and engineering teachers and faculty, TCUP will support the development of baccalaureate degree programs designed to prepare elementary or secondary teachers. Programs for the preparation of elementary teachers must have a strong emphasis on preparing teachers to be effective in enabling their students to learn mathematics and science, and should be based on the most current research and theory about teacher preparation; secondary teachers must document the rationale for whatever is required in STEM disciplinary preparation, typically at least at the level of a minor, and ideally a major. Programs must include plans and timelines for obtaining state accreditation or approval. Eligible activities include faculty support, educational hardware and software, curriculum materials support, stipends for student fellowships, and enhancements of library holdings necessary to support the degree programs. Only those institutions that have received an Initiation award are eligible to propose under STEEP. STEEP projects will typically be awarded for up to five years, in amounts of up to $500,000 per year, with years four and five dependent on performance; total funding is not expected to exceed $2,500,000.

**TCUP Pre-engineering Education Collaboratives (PEEC):** TCUP institutions of higher education provide educational innovation and access to the communities they serve, and carry significant potential to impact positively the economic health and growth of those communities and their residents. This impact has been demonstrated in several sites in the areas of environmental science, natural resources, and many technical and advanced technological fields. Development of a global economy and growing interest in invention and production of green technologies and sustainable energy production make this a feasible time for encouraging and supporting the TCUP institutions' capacity to provide the education necessary to produce the workforce for these fields.

The Tribal Colleges and Universities Program and the Directorate for Engineering seek proposals from the TCUP community that focus on the development and implementation of pre-engineering or engineering degrees in TCUP-eligible institutions, and may include partnerships with colleges of engineering to which TCUP students may transfer. An effective strategy for development of these models could involve collaboration among TCUP-eligible institutions in a region, and include one or more colleges of engineering with strong regional ties to the TCUP institutions.

This strand has the following goals:

- The development of TCUP institutions' capacity to provide pre-engineering education programs of study.
- The development of partnerships with colleges of engineering to facilitate and improve the transfer and success of TCUP students seeking degrees in engineering.
- The development of outreach and support strategies at colleges of engineering to improve access and success of TCUP students seeking degrees in engineering.

Proposals may be submitted: (a) by a single institution or (b) collaboratively by a consortium of institutions, including other TCUP institutions and colleges of engineering. In the latter case, it is anticipated that one TCUP institution may be identified to take the lead on organizational activities, although each institution will independently manage its award.

TCUP Pre-engineering Education Collaboratives (PEEC) awards will be up to $250,000 per institution per year for up to five years, not to exceed $1,000,000 per project per year; budgets should be organized to follow logically the students' progress through the baccalaureate continuum (e.g. concentration of effort in early stages will likely be on lower division courses at the TCUP institution, and will gradually shift to upper division or the mainstream partners, as appropriate).

**For all TCUP Strands (Initiation, STEEP, and PEEC):** The following illustrates the possible scope of TCUP activities, as well as some aspects of project design to consider:

CURRICULUM ENHANCEMENT: Course and curriculum development or enhancement are critical to achieve institution-wide improvements in undergraduate STEM education. Proposers may include plans to strengthen and update the STEM curricula through the development, adaptation and implementation of instructional materials, experiences and practices. Supportable activities include, but are not limited to:

- Development and introduction of STEM program or degree offerings to be offered locally or shared between partner institutions;
- Restructuring the STEM curricula, courses and laboratories through the incorporation of advances in science and engineering knowledge, research-based teaching and learning techniques and practices, and through the integration of technology and cyber-learning into the curricula;
- Revision of STEM gate-keeping and bottleneck courses based on appropriate content and performance standards;
- Alignment of curriculum to promote student transfer between partner institutions to work toward advanced degree completion; and
- Integration of student research, community service and other active learning pedagogies into the curriculum.

FACULTY DEVELOPMENT and INTERACTIONS: A well-trained faculty with continuous learning opportunities remains an integral part of a strong institutional infrastructure and positively impacts the quality of undergraduate education. Faculty development activities suitable for TCUP support include, but are not limited to, the following:

- Sabbaticals to enhance research competencies and knowledge of recent technological developments;
- Visitation or exchange programs to promote opportunities and enhance collaborative research and education projects between partner institutions;
- Professional development workshops on innovative teaching practices and assessment, including distance education methodologies;
- Professional development workshops on laboratory equipment, techniques, safety, quality control, and innovations in cyber-learning;
- Visiting faculty, including industry practitioners;

- Special seminars to enhance disciplinary knowledge;
- Faculty reassigned time or released time to participate in appropriate STEM curricular improvement and academic enhancement activities;
- Opportunities to participate in research and community service in conjunction with student experiences; and
- Faculty reassigned time or released time to mentor students.

UNDERGRADUATE TRAINING AND RESEARCH EXPERIENCES: Stipends may be provided to students (U.S. citizens and permanent residents, only) at eligible institutions who are engaged in STEM-related research or training activities or appropriate community service. Research experiences may be on campus with local investigators or at off-campus sites (e.g., industrial, academic, and governmental research laboratories). Community service may be provided off-campus. Activities suitable for TCUP support include, but are not limited to, the following:

- Development of appropriate partnerships with other academic institutions, industrial laboratories, national laboratories, or NSF-supported research centers to ensure quality student education, and research experiences that complement academic studies;
- Meaningful internships or cooperative education opportunities related to students' skill development at appropriate off-campus sites;
- Student internships at local schools to provide technical training or support; and
- Students serving as resources to help the local community meet technology-related goals and objectives based on community needs.

ADVISORY COMMITTEE: Implementation projects should establish an external advisory committee, normally chaired by the college or university President or other ranking institutional representative not designated as key personnel. This committee will help guide the implementation and evaluation of project activities. The size of the committee is left to the discretion of the proposers. However, there should be adequate representation from partner institutions, industry and the local community, and adequate expertise and experience with the topical and programmatic emphases of the program. Prospective candidates for the committee should be identified in the Project Description. The project leadership may not serve on the advisory committee.

PROJECT STAFF: Project staffing requirements will depend on the design, scope and the discipline focus. General NSF provisions allow salaries of project staff to be requested as direct costs. However, proposals should include plans to sustain project activities after NSF funding has ended, particularly including specific commitments of the institution to sustain salaries of any faculty added through TCUP funding. In addition to the Principal Investigator, who is normally the Chief Academic Officer of the institution, typical project organization consists of a Project Director and a Steering Committee with faculty from the relevant disciplines or programs.

PROJECT LENGTH: Implementation projects (Initiation, STEEP, and PEEC) will be funded up to five years and should be designed to produce significant and sustainable improvements in undergraduate STEM education. Information bearing on project implementation, faculty participation and student participation and performance will be required on an annual basis. Proposals must include a detailed management plan and activity timeline covering the entire duration of the project, describing major activities, milestones and the responsibilities of each participating academic program or partner organization.

PROJECT SIZE: Ideally, Implementation projects should seek to address an identified institutional STEM priority area. Proposers should clearly state the numbers of faculty and students expected to benefit from project activities. The scope of the project should be clearly defined within the context of the institution.

TCUP will also receive proposals for funding Innovation through Institutional Integration ($I^3$).

**INNOVATION THROUGH INSTITUTIONAL INTEGRATION ($I^3$):** Creativity, connectivity, integration, and synergy are keys to innovation and to developing human and institutional capacity to full potential. In both research and education, it is the forging of new links between ideas or methodologies that were previously disparate that frequently paves the way for innovation. When institutions optimize the benefits to be derived from the creative integration of intellectual perspectives or related domains of work, they create important opportunities for making progress on some of the most important scientific, technological, and educational challenges of our time. On individual campuses across the nation, for example, significant synergistic potential can be ignited when scholars and educators in related disciplines work together. Similarly, NSF awardees can harness new synergies by working together with other NSF-funded projects on their own campus or in close geographic proximity. When the results of these synergies are both compatible with and beneficial for the institution(s) involved, successful innovation can be created[i]. Past efforts at integration have shown that opportunities for synergy can be created most successfully when collaborative projects include:

- Clear support from senior administrators;
- A cogent plan of action that includes expectations and staff development;
- Open cross-institutional dialogue that is supported and encouraged;
- A common campus-wide vision and value system that stresses the importance of synergistic efforts;
- The formation of a campus network with a set of individuals who take ownership and provide leadership for the initiative[ii].

The campus network is an important aspect of successful collaboration at every stage of development and is critical to the sustainability and enhancement of created partnerships as well as the institutionalization of new innovations. This network can (a) foster communication across the campus to encourage the formation and dissemination of new ideas, values, and learning; (b) serve as a source of leadership to promote and carry out integrative activities; and (c) develop and sustain existing connections while continually expanding collaborative efforts[iii].

*Innovation through Institutional Integration* ($I^3$ ) challenges faculty, administrators, and others in institutions to think strategically about the creative integration of NSF-funded awards towards a whole that exceeds the sum of its parts. Although there is particular emphasis in $I^3$ on awards managed by programs in the Directorate for Education and Human Resources (EHR), institutional integration is not limited only to EHR awards but can include other NSF awards with a STEM educational focus. Two or more institutions in geographic proximity might, for example, partner to bridge existing NSF-funded awards on their campuses (e.g., RDE, IGERT, LSAMP, ATE, CREST, REU) to broaden participation in STEM fields and enhance undergraduate research opportunities. Additional connections might be made internationally with faculty or students outside the United States who would add their considerable intellectual and cultural perspectives. As another example, an institution might implement new policies, procedures, or mechanisms that encourage and value synergistic efforts among existing NSF-funded awards (e.g., GK-12, MSP, Noyce, REESE, DRK-12) and with other institutional units to better understand and enhance seamlessness across critical educational junctures, perhaps infusing innovative approaches to cyber-learning.

This effort has the following interrelated goals:

- Increase synergy and collaboration across NSF-funded projects and within/between institutions, towards an educational environment where artificial boundaries are significantly reduced and the student experience is more fully integrated;
- Expand and deepen the impact of NSF-funded projects and enhance their sustainability;
- Provide additional avenues to broaden participation through workforce development, especially for those underrepresented in STEM research and education; attend to seamless transitions across critical educational junctures; and/or provide more effectively for a globally engaged workforce;
- Promote innovative programming, policies, and practices to encourage the integration of STEM research and education; and
- Encourage STEM educational or related research in domains that hold promise for promoting intra- or inter-institutional integration and broader impacts.

Proposals that facilitate either (a) inter-institutional or (b) intra-institutional efforts are encouraged. Proposals may be submitted by (a) a single institution to address intra-institutional goals only or (b) an institution acting on behalf of an institutional partnership to address inter-institutional goals.

**Proposals are expected to incorporate a depth and quality of creative, coherent, and strategic actions that extend beyond commonplace approaches to normal institutional operations.** Proposals may also be submitted for research on institutional integration or other closely related themes articulated in the goals above.

$I^3$ is across-divisional effort in the Directorate for Education and Human Resources (EHR). For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance $I^3$ goals: CREST, GSE, HBCU-UP, ITEST, LSAMP, MSP, Noyce, RDE, and TCUP. All proposals submitted to $I^3$ through these programs have a common due date and will be reviewed in competition with one another.

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[i] Levine, A. (1980). Why Innovation Fails. New York: State University of New York Press. Pg. 160.

[ii] Kezar, A. (2003). Enhancing Innovative Partnerships: Creating a Change Model for Academic and Student Affairs Collaboration. *Innovative Higher Education* 28(2): 137-156.

[iii] Kezar, A. (2005). Redesigning for Collaboration within Higher Education Institutions: An Exploration into the Developmental Process. *Research in Higher Education* 46(7): 831-860.

## III. AWARD INFORMATION

Estimated program budget, number of awards, and average award size/duration are subject to the availability of funds.

The estimated number of TCUP awards is 6-7 awards: Approximately 4 Initiation and STEEP awards and approximately 2-3 PEEC awards.

TCUP Initiation and STEEP awards will be up to $500,000 per year for up to five years, with years four and five dependent on performance; total funding not to exceed $2,500,000. PEEC awards will be up to $1,000,000 per year for up to five years. Initiation, STEEP, and PEEC awards will be managed as cooperative agreements or continuing grants.

Funds should be budgeted for the principal investigator and project director of an implementation award to attend a two-day grantee meeting in the Washington, DC area each award year; and a TCUP Leaders' Forum in the midwest or western United States each award year. Awards should budget funds for the project leadership to participate in two reverse site visits to NSF during the award period.

**Innovation Through Institutional Integration Projects:** Awards for Innovation through Institutional Integration ($I^3$) projects will be made for durations of up to five years, with years four and five dependent on performance, in amounts of up to $ 250,000 per year, for a total of up to $1.25 million over 5 years. $I^3$ awards will be made as continuing grants.

## IV. ELIGIBILITY INFORMATION

**Organization Limit:**

Proposals may only be submitted by the following:

- **TCUP -** Organizations eligible to submit TCUP proposals are Tribal Colleges and Universities, Alaska Native-serving institutions and Native Hawaiian-serving institutions as defined in Section IV of this solicitation. All TCUP-eligible institutions are eligible to propose under TCUP Pre-engineering Education Collaboratives (PEEC). Institutions of higher education in collaboration with TCUP-eligible institutions are eligible to propose under PEEC.

  Only those institutions that have received an Initiation award are eligible to propose under STEM Teachers of Excellence Education Projects (STEEP).

  **$I^3$ -** Eligibility for Innovation through Institutional Integration ($I^3$) is limited to institutions of higher education (including two- and four-year colleges) accredited in, and with a campus located in the US. If

the proposal is exclusively for $I^3$ STEM educational or related research, then all categories of proposers identified in the NSF Grant Proposal Guide are eligible to submit.

**PI Limit:**

The **TCUP** Principal Investigator is expected to be the chief academic officer of the institution, or other senior academic officer responsible for oversight and management of curriculum and instructional policies for the institution. Proposers are strongly encouraged to identify lead faculty to help implement the project and serve as co-Principal Investigators. No eligibility limit applies to the PEEC Principal Investigator from partner colleges of engineering.

The Principal Investigator for an **Innovation through Institutional Integration ($I^3$)** proposal must be the university provost or equivalent chief academic officer, unless the proposal is exclusively for $I^3$ STEM educational or related research.

**Limit on Number of Proposals per Organization:**

Eligible institutions may receive consecutive but not concurrent Initiation awards. Only those institutions that have received an Initiation award are eligible to propose under STEEP. All TCUP-eligible institutions may participate in PEEC, but each is limited to one PEEC project.

For Fiscal Year 2010, proposals are being solicited in nine EHR programs that advance the goals of Innovation through Institutional Integration ($I^3$ ): CREST, GSE, HBCU-UP, ITEST, LSAMP, MSP, Noyce, RDE, and TCUP. Given the focus on institutional integration, an institution may submit only one proposal to the $I^3$ competition for each deadline.

**Limit on Number of Proposals per PI:**

None Specified

**Additional Eligibility Info:**

Organizations eligible to submit TCUP proposals are Tribal Colleges and Universities, Alaskan Native-serving institutions and Native Hawaiian-serving institutions. Multiple campuses of one university system are normally encouraged to consider collaborative partnership submissions. Executive Order 13021 defines Tribal Colleges and Universities ("tribal colleges") as those institutions cited in section 532 of the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301 note), and other institution that qualifies for funding under the Tribally Controlled Community College Assistance Act of 1978, (25 U.S.C. 1801 et seq.), and Navajo Community College, authorized in the Navajo Community College Assistance Act of 1978, Public Law 95-471, Title II (25 U.S.C. 640a note). The term "Alaska Native-serving institution" means an institution of higher education that is an eligible institution under section 1058(b) of the Higher Education Act; and at the time of submission, has an enrollment of undergraduate students that is at least 20 percent Alaska Native students. The term "Native Hawaiian-serving institution" means an institution of higher education that is an eligible institution under section 1058(b) of the Higher Education Act; and at the time of submission, has an enrollment of undergraduate students that is at least 10 percent Native Hawaiian students.

Eligibility for Innovation through Institutional Integration ($I^3$) is limited to institutions of higher education (including two- and four-year colleges) located and accredited in the US, acting on behalf of their faculty members, unless the proposal is exclusively for $I^3$ STEM educational or related research.

An institution may not receive more than one $I^3$ award.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

### A. Proposal Preparation Instructions

**Preliminary Proposals *(required):*** Preliminary proposals are required and must be submitted via the NSF FastLane system. For PEEC Submissions only: Institutions of higher education interested in proposing under the TCUP Pre-Engineering Education Studies strand are required to submit a preproposal outlining the collaborative's goals, organization, plans, and partners. Institutions may participate in no more than one PEEC project. Although full proposals will be submitted collaboratively, only one preproposal should be submitted, preferably by the lead institution, with signatures of the AORs of all partner institutions. Preproposals will be reviewed by internal and external peer reviewers, and successful preproposals will be invited to submit a full proposal. Full proposals will be accepted only from collaboratives invited to submit.

**Full Proposal Instructions:** Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the guidelines specified in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-PUBS (7827) or by e-mail from nsfpubs@nsf.gov.

**For TCUP IMPLEMENTATION PROJECTS**

Proposals for TCUP Implementation Projects should include the following information that supplements the GPG and, unless otherwise noted, applies to all types of submissions:

1. INFORMATION ABOUT PRINCIPAL INVESTIGATORS AND CO-PRINCIPAL INVESTIGATORS: NSF requests information on the gender, race, ethnicity and disability status of individuals named as PIs/co-PIs on proposals and awards. Except for the required information about current or previous Federal research support and the names(s) of the PI/co-PI, submission of the information is voluntary, and individuals who do not wish to provide the personal information should check the box provided for that purpose. Refer to the Grant Proposal Guide (GPG) for guidelines.

2. COVER SHEET: In FastLane, under "NSF Unit Consideration," select "Tribal Colleges and Universities Program" as the program to consider the proposal. Select "DIVISION OF HUMAN RESOURCE DEVELOPMENT" as the division to consider the proposal. The title of the proposal should reflect the type of project being proposed (e.g., Initiation, STEEP, or PEEC).
3. PROJECT SUMMARY: Not more than one page in length, the summary should consist of a self-contained description of the activities that would be implemented if the proposal were funded. It must clearly address in separate statements (within the one-page summary):
    - the intellectual merit of the proposed activity; and
    - the broader impacts resulting from the proposed activity.
4. TABLE OF CONTENTS: A Table of Contents is automatically generated for the proposal.
5. PROJECT DESCRIPTION: This section is the main body of the proposal and may not exceed 15 pages. The description of the project should:

    (a) Clearly state project goals, objectives, and a timeline for proposed activities with an indication of their anticipated impact;

    (b) Provide a clear picture of the current status of the institution's STEM infrastructure and an institutional plan to enhance the STEM program by indicating the anticipated value added by the NSF-supported efforts;

    (c) Build on existing research about underrepresented minority participation in the STEM educational continuum, and other relevant theory and research;

    (d) Describe the expected impact of the project across STEM offerings at the institution (additionally, proposals for subsequent Initiation awards or for STEEPs should carefully articulate the Results from Prior Support);

    (e) Describe the management structure that will be used to communicate and facilitate project goals throughout the institution;

    (f) Provide a list of external advisory committee members;

    (g) Provide evidence of the commitment of the proposing institution to the improvement of undergraduate STEM education including plans and resource alignment strategies to continue elements of the project after NSF funding ends; and

    (h) Include an evaluation and assessment plan within the Project Description so that project development and implementation can be monitored at all stages. One of the key objectives of TCUP is to improve the quality of undergraduate STEM education through the development, adaptation and implementation of effective educational techniques and practices to enhance STEM instruction. Accordingly, proposed evaluation and assessment plans should include indicators of progress that address the extent to which:

        i. Educational techniques and practices, shown to be effective elsewhere, are adapted or modified for use at the awardee institution;

        ii. A plan has been developed to identify specific intended outcomes, methods of assessing them, and design for measuring the impact of the project on those outcomes;

        iii. Faculty at the awardee institution have been prepared to use the modified educational techniques or practices;

        iv. Modified techniques or practices have been incorporated into the curriculum;

        v. Innovative courses or program components are developed;

        vi. The effectiveness of implemented educational techniques, practices, courses or components is assessed;

        vii. The equipment has been successfully incorporated into the curriculum (for those projects that acquire equipment);

        viii. Project activities are demonstrated to affect student learning. and student access to quality STEM education as defined by measurable quantitative student-based outcomes pre- and post-TCUP investment; e.g.,

            - Number of STEM majors involved in active learning activities, research activities, or community service;
            - Number of STEM majors who have enrolled in and successfully completed newly developed or revised courses or programs;
            - Rates of successful completion of STEM gate-keeper courses;
            - Student retention in STEM disciplines;
            - Number of STEM graduates with grade point averages of 3.0 or higher;
            - Number of STEM students matriculating into 4-year colleges or graduate programs; and
            - Number of graduates that enter the STEM workforce.

For information about evaluation methodology, see User-Friendly Handbook for Mixed Method Evaluations (NSF 97-153).

Appendices are not accepted and will not be reviewed.

**Prospective proposers are encouraged to confer with NSF TCUP staff prior to proposal submission.**

**For INNOVATION THROUGH INSTITUTIONAL INTEGRATION ($I^3$) PROJECTS**

The proposal should articulate the project's vision, goals, and anticipated outcomes and describe how the project will achieve them. The proposal should draw on the existing, relevant base of literature and articulate how the plan of work is so informed. It is expected that implementation of the plan of work will impact participating NSF awards, as well as other relevant parts of the institution(s). The proposal should, therefore, address how the goals of the overall project are compatible with the goals of the individual integrated components, as well as how the project is both compatible with and beneficial for the host institution(s). The

proposal should include a management/governance plan that describes who is responsible for what, a timeline, and an evaluation plan. All proposals must clearly demonstrate that the submitting team has the capability to manage the project, organize the work, and meet deadlines.

Each proposed implementation project in Innovation through Institutional Integration ($I^3$) should have an evaluation plan to assess progress and success in meeting project goals and objectives. An independent, external project-level evaluation is to be conducted to inform the institution and others of the progress and findings of the grant activities, especially those that address the project's synergistic activity (i.e., the value added by $I^3$). $I^3$ projects are expected to have baseline data, establish measurable targets, and collect evidence to determine annual progress and long-term outcomes. If applicable, it is highly desirable to establish a systematic plan to track student participants beyond their involvement in the project. Project-level evaluation should be designed to offer feedback for strengthening implementation over the course of the project, provide credible evidence to justify continued investment in the project, and report results (and describe models/paradigms) of institutional and/or disciplinary changes associated with the investment strategy.

Each $I^3$ project, as part of a national effort, is expected to cooperate in the monitoring and independent portfolio evaluation efforts conducted by NSF's contracted evaluators. While each project will propose its own types of specific qualitative and quantitative measures, some later standardization of performance monitoring is anticipated so that NSF can conduct a summative/impact evaluation. The $I^3$ portfolio (summative/impact) evaluation will be designed to determine how effectively $I^3$ is contributing to the knowledge base, building a community of innovators, strengthening/advancing the higher education STEM infrastructure, and promoting collaborations that advance the goals of $I^3$.

Proposals for research must address one or more $I^3$ goals and discuss the current state of knowledge relevant to the project. This brief literature review should clearly inform the proposed research. The project description should identify the methods the project will use and explain why those methods are appropriate to the questions that the proposal addresses. Methodologies must be matched with strategic research questions, and the logic among research question, method, analysis, inference, and evidence should be well articulated.

The results of prior, relevant NSF investment(s), ***especially projects on which the proposed institutional integration is based***, are to be described and supported by data, along with a discussion of both successes and failures. The proposal should also clearly indicate how the intended work differs from, builds on, or is otherwise informed by prior efforts.

Proposers are reminded to identify the program solicitation number (Populated with NSF Number at Clearance) in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

## B. Budgetary Information

**Cost Sharing:** Cost sharing is not required under this solicitation.

**Other Budgetary Limitations:**

Funds should be budgeted for the principal investigator and project director of an implementation award to attend two grantee meetings each year: a two-day meeting in the Washington, DC area and another two-day Leaders' Forum in the midwest or western United States. Implementation awards should budget funds for the project leadership to participate in two reverse site visits to NSF during the award period.

## C. Due Dates

- **Preliminary Proposal Due Date(s) *(required)*** (due by 5 p.m. proposer's local time):

  January 14, 2010

  PEEC Preliminary Proposals

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

  January 14, 2010

  TCUP Initiation and STEEP Proposals

  March 31, 2010

  PEEC Full Proposals

  April 07, 2010

  Innovation through Institutional Integration

## D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this program solicitation through use of the NSF FastLane system. Detailed instructions regarding the technical aspects of proposal preparation and submission via FastLane are available at: http://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

*Submission of Electronically Signed Cover Sheets*. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a

listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

## VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal.

### A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

**What is the intellectual merit of the proposedactivity?**
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

**What are the broader impacts of the proposed activity?**
How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

NSF staff also will give careful consideration to the following in making funding decisions:

***Integration of Research and Education***
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

***Integrating Diversity into NSF Programs, Projects, and Activities***
Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

**Additional Review Criteria:**

In addition to the two NSF criteria for Intellectual Merit and Broader Impacts, special review criteria for Innovation through Institutional Integration ($I^3$) implementation projects are:

- The extent to which the proposed project addresses the interrelated goals for institutional integration and adds value to existing NSF awards.
- The extent to which there is a demonstrated track record of success for the existing NSF awards on which the proposed institutional integration is based.
- The degree of innovation in the proposed project as evidenced by a depth and quality of creative, coherent, and strategic actions that extend beyond commonplace approaches to normal institutional operations.
- The extent to which the proposed project addresses programming, policies, and practices commensurate with the sustained institutional change needed to seed and nurture appropriate, synergistic relationships among discrete NSF awards.

### B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

## VII. AWARD ADMINISTRATION INFORMATION

### A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

### B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (GC-1); * or Research Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

**Special Award Conditions:** The Foundation and project leaders to whom it makes awards are obliged to conform to the various acts governing activities affecting the environment and cultural or historic properties. Project leaders should be aware of these acts and adhere to their requirements. Project leaders proposing work that may affect cultural or historic properties, or whose work involves tribal lands must cooperate with the agency in complying with the consultation requirements of section 106 of the National Historic Preservation Act. Project leaders are encouraged to contact TCUP for more information about cultural or historic impact considerations of their proposed field work. For additional information on cultural or historic preservation issues, see the Advisory Council on Historic Preservation's web site at http://www.achp.gov/work106.html.

### C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational) publications; and, other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report must be prepared and

submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

## VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Lura Chase, Program Director, telephone: (703) 292-8682, email: lchase@nsf.gov
- Keith A. James, Program Officer, 815.13, telephone: (703) 292-8447, email: kjames@nsf.gov
- Michael Reischman, Deputy Assistant Director, Directorate for Engineering, telephone: (703) 292-8301, email: mreischm@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- For questions related to the use of FastLane, contact:
    - Victoria A. Smoot, Financial Operation Specialist, Directorate for Education & Human Resources, Division of Human Resource Development, 815 N, telephone: (703) 292-4677, fax: (703) 292-9018, email: vsmoot@nsf.gov
- For questions related to the use of Grants.gov contact:
    - Grants.gov Contact Center: If the Authorized Organizational Representative (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of the application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

## IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the NSF web site.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

*Facilitation Awards for Scientists and Engineers with Disabilities* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of

awards, visit the NSF Website at http://www.nsf.gov

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**

  Send an e-mail to: nsfpubs@nsf.gov

  or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230