Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)

PROGRAM SOLICITATION
NSF 09-510

National Science Foundation

Directorate for Education & Human Resources
    Division of Human Resource Development

Directorate for Engineering
    Industrial Innovation and Partnerships

Letter of Intent Due Date(s) *(required)* (due by 5 p.m. proposer's local time)*:*

> December 30, 2008
>
> > Letters of Intent (CREST Centers & HBCU-RISE)

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

> February 24, 2009
>
> > Innovation through Institutional Integration
>
> February 27, 2009
>
> > Full proposals (CREST Centers, CREST Partnership Supplements & HBCU-RISE)
>
> August 25, 2009
>
> > Innovation through Institutional Integration

Full Proposal Target Date(s):

> December 18, 2008
>
> March 13, 2009
>
> > SBIR/STTR Diversity Collaborative Supplements (Fall and Spring Requests)

REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) **NSF 09-1** was issued on October 1 2008 and is effective for proposals submitted on or after January 5 2009. Please be advised that the guidelines contained in **NSF 09-1** apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 5th 2009 must also follow the guidelines contained in **NSF 09-1**.

One of the most significant changes to the PAPPG is implementation of the mentoring provisions of the America COMPETES Act. Each proposal that requests funding to support postdoctoral researchers must include as a separate section within the 15-page project description a description of the mentoring activities that will be provided for such individuals. Proposals that do not include a separate section on mentoring activities within the Project Description will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II.C.2.d for further information).

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 2009, 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 (Noyce)

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 the I^3 competition for each deadline.

As announced on May 21, 2009, proposers must prepare and submit proposals to the National Science Foundation (NSF) using the NSF FastLane system at http://www.fastlane.nsf.gov/. This approach is being taken to support efficient Grants.gov operations during this busy workload period and in response to OMB direction guidance issued March 9, 2009. NSF will continue to post information about available funding opportunities to Grants.gov FIND and will continue to collaborate with institutions who have invested in system-to-system submission functionality as their preferred proposal submission method. NSF remains committed to the long-standing goal of streamlined grants processing and plans to provide a web services interface for those institutions that want to use their existing grants management systems to directly submit proposals to NSF.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Centers of Research Excellence in Science and Technology (CREST)
and HBCU Research Infrastructure for Science and Engineering (HBCU-RISE)

Synopsis of Program:

The Centers of Research Excellence in Science and Technology (CREST) program makes resources available to enhance the research capabilities of minority-serving institutions through the establishment of centers that effectively integrate education and research. CREST promotes the development of new knowledge, enhancements of the research productivity of individual faculty, and an expanded presence of students historically underrepresented in STEM disciplines.

This solicitation requests proposals for: (1) CREST centers; (2) supplements for partnerships applied to existing CREST awards; (3) HBCU Research Infrastructure for Science & Engineering (HBCU-RISE) proposals; (4) supplements for diversity collaboration for projects co-funded with NSF's Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, which are administered by NSF's Directorate for Engineering; and (5) new projects in the Directorate for Education and Human Resources track: Innovation through Institutional Integration (I^3).

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 2009, 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: Standard Grant or Continuing Grant or Cooperative Agreement

Estimated Number of Awards: 15 to 42   - Up to 5 CREST center Cooperative Agreements, up to 10 CREST partnership supplements, up to 5 HBCU-RISE standard grants, up to 10 CREST SBIR/STTR diversity collaborative supplements. Up to 12 continuing awards will be made in the Innovation through Institutional Integration activity for the February 24, 2009, competition, pending availability of funds. Up to 12 continuing I^3 awards will also be made in Fiscal Year 2010 for the August 25, 2009, competition, pending availability of funds.

Anticipated Funding Amount: $22,500,000 The anticipated funding amount is distributed as follows: $12,500,000 in FY 2009 pending the availability of funds for all CREST and HBCU-RISE awards - $5,000,000 for CREST centers ($1,000,000 1st year

commitments), $1,000,000 for CREST partnership supplements and $5,000,000 for HBCU-RISE grants. Up to $750,000 from CREST and $750,000 from SBIR for co-funded SBIR/STTR diversity collaborative supplements. $10,000,000 for Innovation through Institutional Integration projects across multiple EHR programs for each of Fiscal Years 2009 and 2010 pending the availability of funds.

Eligibility Information

Organization Limit:

- **CREST -** CREST proposals are invited from minority-serving institutions of higher education in the United States. This denotes institutions that have enrollments of 50% or more of members of minority groups underrepresented among those holding advanced degrees in science and engineering fields: Alaskan Natives, African Americans, American Indians, Hispanic Americans, and Native Pacific Islanders. Preference will be given to institutions with demonstrated strengths in NSF-supported fields, as evidenced by a developing capacity to offer doctoral degrees in one or more science, technology, engineering, or mathematics disciplines. Institutions must also demonstrate a willingness and capacity to serve as a resource center in one or more research areas, as well as possess a demonstrated commitment and track record in enrolling and graduating minority scientists and engineers, and strong collaborations in the proposed field of research. Priority consideration will be given to science and engineering disciplines or research areas where minorities are significantly underrepresented.

  HBCU-RISE - HBCU-RISE proposals are invited from Historically Black Colleges and Universities that offer doctoral degrees in science, technology, engineering and mathematics disciplines.

  SBIR /STTR - SBIR/STTR diversity collaborative supplement proposals are invited from current SBIR/STTR grantees and their CREST or HBCU-RISE institution partners.

  I^3 - Eligibility for Innovations through Institutional Integration (I^3) is limited to institutions of higher education (including two- and four-year colleges) accredited in, and having 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:

Principal investigators for CREST, HBCU-RISE, and SBIR/STTR awards must be United States citizens or nationals, or permanent resident aliens of the United States. PIs must also be employed by a CREST, HBCU-RISE or SBIR/STTR-eligible institution.

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:

Only one CREST center proposal may be submitted per eligible institution. An institution may have only one active CREST award, irrespective of focus area. Centers that have completed two prior, consecutive 5-year CREST awards may not recompete. However, new research teams from former awardee institutions may submit proposals in disciplinary areas that are completely different from those of the previous award(s). Only one HBCU-RISE proposal may be submitted per eligible institution. An institution may have only one active HBCU-RISE award.

For Fiscal Year 2009, 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:

Eligible individuals may be listed as the principal investigator or co-principal investigator on only one CREST or HBCU-RISE proposal.

Innovations through Institutional Integration (I^3)- no limit specified.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required for CREST Centers & HBCU-RISE. Please see the full text of this solicitation for further information.

- **Preliminary Proposal Submission:** Not Applicable

- **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:** Not Applicable

C. Due Dates

- **Letter of Intent Due Date(s)** *(required)* (due by 5 p.m. proposer's local time)***:***

    December 30, 2008

        Letters of Intent (CREST Centers & HBCU-RISE)

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        Full proposals (CREST Centers, CREST Partnership Supplements & HBCU-RISE)

    August 25, 2009

        Innovation through Institutional Integration

- **Full Proposal Target Date(s):**

    December 18, 2008

    March 13, 2009

        SBIR/STTR Diversity Collaborative Supplements (Fall and Spring Requests)

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: Standard NSF award conditions apply.

Reporting Requirements: Standard NSF reporting requirements apply.

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I. INTRODUCTION

The Division of Human Resource Development (HRD) has primary responsibility within NSF for broadening participation by all

individuals in science and engineering. HRD programs reflect NSF's commitment to developing the resources of the scientific and technological community as a whole and ensuring an adequately trained research and development workforce. To meet the challenges presented by the nation's ever-increasing needs in science and technology, CREST and HBCU-RISE support efforts to strengthen the science and engineering research and education capabilities of minority-serving institutions. In doing so, these programs help to fulfill an important outcome goal of the NSF Strategic Plan: cultivating a world-class, broadly inclusive science and engineering workforce and expanded scientific literacy of all citizens.

HRD programs, including Research on Gender in Science and Engineering, Research in Disabilities Education, Tribal Colleges and Universities Program, Historically Black Colleges and Universities Undergraduate Program, Louis Stokes Alliances for Minority Participation, Alliances for Graduate Education and the Professoriate, and Centers of Research Excellence in Science and Technology, provide coordinated and integrated approaches to developing and leveraging individual talents and institutional infrastructures. Managed synergistically, these programs enable successful transitions from associate and baccalaureate-level study to the attainment of masters and doctoral degrees and substantially increase the number of underrepresented minorities, women, and persons with disabilities well prepared for the science and engineering research, education, and workforce of the future.

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 2009, 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

This solicitation requests proposals for: (1) CREST centers; (2) supplements for partnerships applied to existing CREST awards; (3) HBCU Research Infrastructure for Science & Engineering (HBCU-RISE) proposals; (4) supplements for diversity collaboration for projects co-funded with NSF's Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, which are administered by NSF's Directorate for Engineering; and (5) new projects in the Directorate for Education and Human Resources track: Innovation through Institutional Integration (I^3).

1. **CREST centers.** CREST center proposals seek to integrate education and research in an effective manner. In particular, CREST promotes the development of new knowledge, enhancements of faculty research productivity, and increases diversity in science and engineering disciplines. CREST provides multi-year support for eligible minority-serving institutions that demonstrate a strong research and education base, a compelling vision for research infrastructure improvement, as well as a comprehensive plan with the necessary elements to achieve and sustain national competitiveness in a clearly defined and focused area of science or engineering research. CREST center awards are typically 60-month Cooperative Agreements of up to $5 million. These funds are used to support science and technology infrastructure improvements identified by the institution as being critical to its future research and development competitiveness.

Proposal Structure: CREST proposals consist of the center proposal and its associated research subprojects. The center proposal includes discussion of the applicant's overall plan for improving the status of science and engineering research and training and for increasing participation in science and engineering by a diverse student population, as codified by the center's unifying theme or focus. This center overview should present a clear explanation of the proposed improvement plan from a scientific, educational and administrative or fiscal point of view. The center proposal must also contain a succinct project summary, which provides an overview of the proposed activities and clearly delineates the National Science Board criteria of Intellectual Merit and Broader Impacts.

Research Subprojects: The project summary also describes the synergy anticipated by the choice of at least 3 but no more than 5 subprojects. Each proposed subproject will contain all the elements of a standard NSF research proposal but will also contain a copy of the center project summary described above. Each subproject proposal must be complete and will be independently evaluated following the standard NSF merit review process. In addition, each subproject proposal will contain a one-page Subproject Relevancy Statement summarizing the subproject's importance to the overall proposal plan, including synergy with the other subproject proposals, and showing how it supports the overall goals and objectives of the center proposal.

Expectations for CREST Proposals: (i) In addition to progress reports required annually via NSF's FastLane system, awardees will be expected to contribute reports on project participants, publications, outreach efforts, patents, proposals, leveraged funding efforts and similar data to the CREST data collection system. Awardees may also expect site visits and reverse site visits by NSF-appointed evaluators per the particular terms of the award's Cooperative Agreement. Midpoint (30th- to 48th-month) reviews of awardees' progress are also typical. (ii) Each center should describe an evaluation plan to track progress and strengthen cooperative efforts. In addition, each center will be required to participate in a program-level evaluation to assess outcomes and the program's contributions to advancing the science and engineering research and education capabilities of minority-serving institutions. CREST awardees must be prepared to serve as a resource center increasing the research competitiveness of scientists and engineers affiliated with the center. (iii) Faculty at other institutions who participate in CREST-supported research and contribute to the achievement of CREST project objectives are eligible for funding through the CREST center with which they are affiliated. (iv) Each center shall convene, at least annually, an external advisory group or committee. The advisors must include representatives from those served by the center (e.g., academic institutions, industry, state and local agencies, national laboratories) and reflect the diversity of participants inherent in the citizenry of the United States. The function of the external advisory group is to provide guidance and advice to the center as well as to ensure that the center's activities are consistent with its vision, goals and objectives. Those with a financial, institutional, or collaborative connection to the center may not serve as members of the external advisory group. (v) Each center shall also have an internal steering committee to include the PI, co-PIs and other applicable stakeholders.

Support may be requested for activities that positively impact the quality of research training and the research preparedness of graduate students in science and engineering. Multiple-investigator projects are encouraged. Collaborative efforts between universities, industry, other research universities or centers, and federal laboratories are encouraged. Projects should be designed to enable awardee institutions to enhance the integration of education and research.

CREST centers may be organized around the development of individual scientists or engineers, one or more science or engineering departments or equivalent units, or interdisciplinary and multidisciplinary research areas. It is expected, however, that the CREST target group(s) will possess the potential to achieve national research competitiveness over the five-year implementation period. In identifying the members of this target group, NSF expects that the proposing institution strongly encourages participation by underrepresented minorities, women, and persons with disabilities. Whether the proposed activity is considered competitive will be determined by merit review of the appropriateness and relevance of the improvement strategies to CREST program goals.

Project activities supported by NSF may also include cooperative efforts between the applicant institution and industry, federally funded laboratories, or other national, state, local, or regional research and development institutions. An institution's CREST request

may include support for academic, state, for-profit, and non-profit organizations. It may also include individuals employed by such organizations both inside and outside the CREST institution. Cooperative programs among eligible institutions as well as cooperative programs between eligible institutions and other entities are eligible for CREST support. CREST-supported projects must contribute to and support the achievement of CREST objectives outlined in the synopsis for this solicitation. CREST funding must add substantial, measurable value to the existing science and technology research capability in areas of high institutional priority and demonstrate strong potential to generate sustained non-CREST funding from federal, state, or private-sector sources. In addition, all activities carried out under a CREST award are subject to the restrictions concerning eligible science and engineering disciplines and activities detailed in the NSF Grant Proposal Guide.

2. **CREST partnership supplements.** CREST partnership supplements support the establishment or strengthening of partnerships and collaborations between CREST centers and nationally or internationally recognized research centers in areas of mutual research interest and high priority for the CREST institution. As with CREST center proposals, CREST partnership supplements are designed to facilitate self-improvement. Responsibility for project development and execution rests with the proposing institution and the CREST project director. Support may be requested for activities that have a direct positive influence on the competitiveness of participating scientists and engineers and the quality of the institution's research and training. Supportable activities may include, but are not limited to: exploratory research projects; acquisition of materials, supplies, research equipment and instrumentation; hiring nationally competitive scientists and/or engineers; visiting scientists and engineers as short- or long-term consultants; faculty attendance at professional meetings and seminars; faculty sabbaticals and exchange programs; education activities directed toward development of a diverse, internationally competitive and globally engaged workforce of scientists, engineers, and citizens well-prepared for a broad set of career paths; undergraduate and graduate research activities; development of outreach and other enhancement programs with neighboring institutions; and strengthening technical support personnel. The benefits to both parties in the proposed collaboration as a logical or necessary augmentation of the existing CREST's activities must be clearly articulated.

3. **Historically Black Colleges and Universities Research Infrastructure for Science and Engineering (HBCU-RISE).** HBCU-RISE proposals support the development of research capability at HBCUs that offer doctoral degrees in science and engineering disciplines. Such activities include, but are not limited to: faculty release time, technical support for research, faculty professional development, acquisition or upgrading of research equipment, collaborative research efforts with partner universities and national laboratories. Supported projects must have a unifying research focus in one of the research areas supported by NSF, a direct connection to the long-term plans of the host department(s), the institutional mission, and plans for expanding institutional research capacity as well as increasing the production of doctoral students. HBCU-RISE funding may, for example, be used to support competitive levels of start-up funding for outstanding new faculty hires with research interests related to the project, or acquire key equipment and instruments, including high-performance computing and networking capabilities. HBCU-RISE support should not replace other available federal, state, or institutional resources and should add significant value to the existing institutional strategic plan. Each HBCU-RISE project should describe an evaluation plan to track progress and strengthen cooperative efforts. In addition, each project will be required to participate in a program-level evaluation to assess outcomes and the program's contributions to advancing the science and engineering research and education capabilities of minority-serving institutions. As with CREST proposals, each HBCU-RISE project shall convene, at least annually, an external advisory group or committee. The function of the external advisory group is to provide guidance and advice to the HBCU-RISE project director and to ensure that the project's activities are consistent with its vision, goals and objectives. Potential members of the project's external advisory group should be identified in the proposal.

4. **Small Business Innovation Research and Small Business Technology Transfer** (**SBIR/STTR) supplemental funding for diversity collaborations.** SBIR/STTR supplements seek to promote partnerships between academe and the small-business community. In particular, SBIR/STTR Phase II grantees may partner with CREST/HBCU-RISE institutions with the intent of developing the scientific or engineering underpinnings of the SBIR Phase II technology. As such, it is important that the SBIR/STTR supplemental project be related to the research areas for which the institution is receiving CREST/HBCU-RISE support. Inquiries and proposals to this track are not submitted to CREST but directly to SBIR/STTR in the Directorate for Engineering. See, for example, http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5527&org=NSF and http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13371&org=NSF for details on SBIR/STTR.

5. **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 to 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 a cross-divisional effort in the Directorate for Education and Human Resources (EHR). For Fiscal Year 2009, 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

CREST award instruments, duration, and amounts vary among the CREST program components.

- Up to five **CREST center** awards (new centers and competitive renewals with their respective research subprojects) are anticipated in the current review cycle. CREST center awards are for 60 months at up to $1,000,000 annually (i.e., a maximum of $5,000,000). Center awards are made as Cooperative Agreements. The progress and plans of each center will be reviewed by NSF annually, prior to approving continued NSF support. A CREST center nearing the completion of its initial five years of funding may submit a competing renewal proposal for an additional five years of support. The renewal proposal will undergo merit review alongside proposals for new CREST centers. Accordingly, the existing centers' achievements and future plans will be evaluated comprehensively relative to progress and direction and weighed against the competition for available program funds. Merit review will determine if the center is meeting its goals and objectives as originally proposed as well as the goals and objectives of the CREST program. Centers successful in passing this review will be renewed for another five years, commencing at the beginning of the sixth year. Renewed centers will continue to be monitored by NSF at least every 18 months. Centers that do not pass this review may have their level of funding reduced or may be terminated. Individual centers may not receive more than 10 years of CREST support.

- Up to 10 **CREST partnership supplements** will be made for a maximum amount of $100,000 per supplement, in amounts that vary with need and are subject to the availability of funds. A supplement will be an amendment to the existing Cooperative Agreement.

- Up to five **HBCU-RISE awards** will be made during this award cycle. Awards will not exceed $1,000,000 during a three-year period. HBCU-RISE awards will be managed through standard grants. An institution may only have one active HBCU-RISE award.

- Up to 10 **CREST SBIR/STTR diversity collaborative supplements** will be made during this award cycle. Awards will be made to eligible CREST and HBCU-RISE institutions. SBIR/STTR award amounts will not exceed $150,000 in NSF support.

- **Innovation through Institutional Integration Projects:** Awards for Innovation through Institutional Integration 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. Innovation through Institutional Integration awards will be made as continuing grants.

The estimated CREST, HBCU-RISE, SBIR/STTR and Innovation through Institutional Integration budgets, number of awards and average award size and duration are subject to the availability of funds.

IV. ELIGIBILITY INFORMATION

Organization Limit:

- **CREST -** CREST proposals are invited from minority-serving institutions of higher education in the United States. This denotes institutions that have enrollments of 50% or more of members of minority groups underrepresented among those holding advanced degrees in science and engineering fields: Alaskan Natives, African Americans, American Indians, Hispanic Americans, and Native Pacific Islanders. Preference will be given to institutions with demonstrated strengths in NSF-supported fields, as evidenced by a developing capacity to offer doctoral degrees in one or more science, technology, engineering, or mathematics disciplines. Institutions must also demonstrate a willingness and capacity to serve as a resource center in one or more research areas, as well as possess a demonstrated commitment and track record in enrolling and graduating minority scientists and engineers, and strong collaborations in the proposed field of research. Priority consideration will be given to science and engineering disciplines or research areas where minorities are significantly underrepresented.

  HBCU-RISE - HBCU-RISE proposals are invited from Historically Black Colleges and Universities that offer doctoral degrees in science, technology, engineering and mathematics disciplines.

  SBIR /STTR - SBIR/STTR diversity collaborative supplement proposals are invited from current SBIR/STTR grantees and their CREST or HBCU-RISE institution partners.

  I^3 - Eligibility for Innovations through Institutional Integration (I^3) is limited to institutions of higher education (including two- and four-year colleges) accredited in, and having 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:

Principal investigators for CREST, HBCU-RISE, and SBIR/STTR awards must be United States citizens or nationals, or permanent resident aliens of the United States. PIs must also be employed by a CREST, HBCU-RISE or SBIR/STTR-eligible institution.

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:

Only one CREST center proposal may be submitted per eligible institution. An institution may have only one active CREST award, irrespective of focus area. Centers that have completed two prior, consecutive 5-year CREST awards may not recompete. However, new research teams from former awardee institutions may submit proposals in disciplinary areas that are completely different from those of the previous award(s). Only one HBCU-RISE proposal may be submitted per eligible institution. An institution may have only one active HBCU-RISE award.

For Fiscal Year 2009, 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:

 Eligible individuals may be listed as the principal investigator or co-principal investigator on only one CREST or HBCU-RISE proposal.

Innovations through Institutional Integration (I^3)- no limit specified.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent *(required):*

Letters of intent are required for CREST Center and HBCU-RISE full proposals but not for CREST partnership supplement proposals. CREST partnership supplements are expected to abide fully with the information required by FastLane for supplemental proposals. SBIR/STTR diversity collaboration proposals are submitted directly to the SBIR/STTR program following the guidelines of that program solicitation. Letters of intent are not required for I^3.

CREST/HBCU-RISE letters of intent should not be considered draft proposals or pre-proposals. CREST program staff will not provide feedback on the appropriateness or quality of proposals or encourage full proposals on the basis of the letter of intent. The letter of intent should be submitted via the letters of intent module in FastLane, specifying either CREST or HBCU-RISE and completing as much of the FastLane letter of intent template as applicable. Further, the letter of intent should indicate the lead institution and principals of the proposed work, including self certification that the lead institution complies with the program's conditions for PI and institutional eligibility detailed in the Eligibility Information section of this solicitation. The letter of intent should contain sufficient details for each research subproject (discipline, subdiscipline, specialty or focus area) to permit identification of appropriate technical reviewers, but not a lengthy description of the research, education and operational plans of the proposed center. The letter of intent should also include two suggested reviewers and contact information for each research sub-project.

Eligible parties intending to submit a full proposal to CREST or HBCU-RISE for FY 2009 are strongly encouraged to participate in Webinars that will be webcast after the release of this solicitation. Several Webinars will be offered. Contact the CREST staff listed in this solicitation to register your attendance in one or more of these Webinars.

Letter of Intent Preparation Instructions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- Sponsored Projects Office (SPO) Submission is required when submitting Letters of Intent
- A Minimum of 0 and Maximum of 4 Other Senior Project Personnel are allowed
- A Minimum of 0 and Maximum of 4 Other Participating Organizations are allowed
- Research Areas: at least 3 and up to 5 is required when submitting Letters of Intent
- Submission of multiple Letters of Intent is not allowed

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained 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) 292-7827 or by e-mail from pubs@nsf.gov. Proposers are reminded to identify this program solicitation number 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.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

Proper Institutional Review Board (IRB) documentation or certification on the use of human subjects, vertebrate and invertebrate animals, and outcomes of prior NSF support, as applicable, by the principals of the proposed center should be included with the proposal at the time of submission, or the absence of such documentation explained. Failure to self-declare in this manner my result in the proposal's decline or return without review.

For CREST Centers:

Research Subprojects: The narrative of the center proposal is limited to 15 pages; informative, but concise individual subproject narratives of up to 15 pages each are allowed, but lengths of no more than 5 to 10 pages each are strongly recommended. The subproject proposals are inserted, successively, in the Special Information and Supplementary Documents section of the center proposal. For Grants.gov users, supplementary documents should be attached in Field 11 of the R&R Other Project Information Form.

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 the 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 (NSF 09-510) 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.

C. Due Dates

- **Letter of Intent Due Date(s)** *(required)* (due by 5 p.m. proposer's local time)*:*

    December 30, 2008

        Letters of Intent (CREST Centers & HBCU-RISE)

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

    February 24, 2009

        Innovation through Institutional Integration

    February 27, 2009

        Full proposals (CREST Centers, CREST Partnership Supplements & HBCU-RISE)

    August 25, 2009

        Innovation through Institutional Integration

- **Full Proposal Target Date(s):**

    December 18, 2008

    March 13, 2009

        SBIR/STTR Diversity Collaborative Supplements (Fall and Spring Requests)

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 proposed activity?
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.

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.

Failure to provide the required annual or final project reports 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.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Demetrios Kazakos, 815.11, telephone: (703) 292-4988, email: dkazakos@nsf.gov

- Victor A. Santiago, Program Officer, CREST/ HBCU-RISE, 815, telephone: (703) 292-4673, fax: 7032929018, email: vsantiag@nsf.gov

- Juan E. Figueroa, Program Officer, SBIR/STTR, 570, telephone: (703) 292-7054, fax: (703)292-9057, email: jfiguero@nsf.gov

- Toni Edquist, Program Specialist, 815, telephone: (703) 292-4649, fax: (703) 292-9018, email: tedquist@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.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**   (703) 292-5111
  (NSF Information Center)**:**

- **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