Alliances for Broadening Participation in STEM (ABP)

Louis Stokes Alliances for Minority Participation (LSAMP), Bridge to the Doctorate (LSAMP-BD) Activity, Alliances for Graduate Education and the Professoriate (AGEP)

PROGRAM SOLICITATION
NSF 10-522

REPLACES DOCUMENT(S):
NSF 09-515

National Science Foundation

Directorate for Education & Human Resources
Division of Human Resource Development

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

March 24, 2010

Bridge to the Doctorate Proposals

April 07, 2010

Innovation through Institutional Integration

October 08, 2010

Louis Stokes Alliances for Minority Participation & LSAMP Educational Research Proposals

IMPORTANT INFORMATION AND REVISION NOTES

AGEP Program

No proposals requesting support under the Alliances for Graduate Education and the Professoriate (AGEP) program will be accepted in Fiscal Year 2010. For further information, please see the Dear Colleague Letter NSF 10-016.

LSAMP-BD Activity

Proposal submission for LSAMP Bridge to the Doctorate support has changed from the recurring third Friday in February to March 24, 2010.

LSAMP Educational Research Projects

Funding for LSAMP educational research projects has changed from $100,000 for 12 months to up to $200,000 for 24 months for proposals submitted in October 2010.

Innovation for Institutional Integration (I^3)

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 I^3 competition.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Louis Stokes Alliances for Minority Participation

Synopsis of Program:

LSAMP and AGEP PROGRAMS

The Alliances for Broadening Participation in STEM (ABP) solicitation includes the Louis Stokes Alliances for Minority Participation (LSAMP) program, Bridge to the Doctorate (LSAMP-BD) Activity, LSAMP educational research projects, and the Alliances for Graduate Education and the Professoriate (AGEP) program.

This portfolio of programs seeks to increase the number of students successfully completing quality degree programs in science, technology, engineering and mathematics (STEM). Particular emphasis is placed on transforming STEM education through innovative academic strategies and experiences in support of groups that historically have been underrepresented in STEM disciplines: African-Americans, Alaskan Natives, Native Americans, Hispanic Americans, and Native Pacific Islanders. The educational research portfolio contributes to the body of literature of successful practices in student recruitment, retention, persistence, and attainment of STEM undergraduate and graduate degrees, especially for populations underrepresented in STEM disciplines: African-Americans, Alaskan Natives, Native Americans, Hispanic Americans, and Native Pacific Islanders.

Managed synergistically, the ABP cluster enables seamless transitions from the STEM baccalaureate to attainment of the doctorate and entry to the STEM professoriate. ABP support begins at the baccalaureate level through the LSAMP program. LSAMP emphasizes development of broad-based regional and national alliances of academic institutions, school districts, state and local governments, and the private sector to increase the diversity and quality of the STEM workforce. Eligible LSAMP undergraduate students may receive continued support for up to two additional years of STEM graduate study through the Bridge to the Doctorate (BD) Activity. The Bridge to the Doctorate provides significant financial support for matriculating candidates in STEM graduate programs at eligible alliance sites.

Alliances for Graduate Education and the Professoriate (AGEP) further the graduate education of underrepresented STEM students through the doctorate level, preparing them for fulfilling opportunities and productive careers as STEM faculty and research professionals. AGEP also supports the transformation of institutional culture to attract and retain STEM doctoral students into the professorate.

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):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

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

- 47.076 --- Education and Human Resources

Award Information

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

Estimated Number of Awards: 25 to 32 LSAMP: In FY2010, this includes 14 to 18 BD grants of $987,000 each for 24 months. In FY2011, this includes 10-12 new LSAMP cooperative agreements of up to $1M per year and 1-2 educational research awards. AGEP: In FY2010, only continuing increments will be funded. I^3: Up to 10 continuing awards will be made in this Innovation through Institutional Integration (I^3) competition, pending availability of funds.

Anticipated Funding Amount: $25,000,000 to $29,000,000 for the LSAMP program for awards made through this solicitation, pending availability of funds. - For the AGEP program, only continuing increments will be funded in FY2010. $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:

- **LSAMP:** Only baccalaurate-producing institutions may serve as lead institutions for LSAMP alliances.
- **LSAMP-BD:** Only senior-level LSAMP alliances (alliances with 10 or more years of continual LSAMP funding) are eligible to submit proposals for BD support.
- **LSAMP Educational Research Proposals:** Universities and two-and four-year colleges (including community colleges) located and accredited in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- **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:

LSAMP and LSAMP-BD: To promote institutional commitments to increase the quality and quantity of underrepresented minorities in STEM disciplines at the undergraduate level, the President or Provost of the lead institution should serve as the Principal Investigator. A full explanation should be provided for a PI designation in variance with this requirement. Co-Principal investigators from partner institutions may be designated as appropriate for the project.

LSAMP Educational Research: Eligible PI(s) for proposals from alliance partner institutions applying for LSAMP educational research support should be the cognizant faculty member(s) conducting the research and/or responsible for the educational research project.

I^3: 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:

LSAMP and LSAMP-BD: Only one proposal per alliance.

LSAMP Educational Research Proposals: Only one educational research proposal will be accepted per alliance. Partner institutions must coordinate submissions of educational research proposals with their lead institution.

I^3: 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 this I^3 competition.

Limit on Number of Proposals per PI:

LSAMP, LSAMP-BD and LSAMP Educational Research Proposals: One proposal per PI.

Innovation through Institutional Integration (I^3): No limit specified.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Preliminary Proposal Submission:** Not Applicable
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. 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.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required under this solicitation.
- **Indirect Cost (F&A) Limitations:** ***The following limitations apply to BD proposals only.*** NSF will provide a flat $15,000 allowance per award in lieu of indirect costs.
- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

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

March 24, 2010

Bridge to the Doctorate Proposals

April 07, 2010

Innovation through Institutional Integration

October 08, 2010

Louis Stokes Alliances for Minority Participation & LSAMP Educational Research Proposals

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: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

TABLE OF CONTENTS

I. INTRODUCTION

The Division of Human Resource Development (HRD) serves as the focal point for NSF's agency-wide effort to broaden participation of all individuals in STEM. 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 increasing reliance on science and technology, the Louis Stokes Alliances for Minority Participation (LSAMP) and Alliances for Graduate Education and the Professoriate (AGEP) programs support efforts to strengthen the STEM education capabilities of participating institutions. In doing so, these programs help to fulfill an important outcome goal of the NSF Strategic Plan (FY 2006-2011): to cultivate a world-class, broadly inclusive science and engineering workforce, and to expand the scientific literacy of all citizens.

More broadly, HRD programs, including the LSAMP and AGEP programs, ADVANCE, the Research on Gender in Science and Engineering Program (GSE), Research in Disabilities Education (RDE), the Tribal Colleges and Universities (TCUP) Program, Historically Black Colleges and Universities Undergraduate (HBCU-UP) Program, and Centers of Research Excellence in Science and Technology (CREST), 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. Such efforts serve to increase the number of underrepresented minorities, women, and persons with disabilities well prepared for the STEM 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 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

ABP programs provide complementary support to institutions of higher education in an effort to increase baccalaureate and advanced degree attainment in STEM fields, particularly among underrepresented populations. Program goals are accomplished principally through the formation of alliances among institutions of higher education and between academe, industry and the community. **No proposals requesting support under the Alliances for Graduate Education and the Professoriate (AGEP) program will be accepted in Fiscal Year 2010. For further information, please see the Dear Colleague Letter NSF 10-016**

LOUIS STOKES ALLIANCES FOR MINORITY PARTICIPATION (LSAMP)

The LSAMP program is based on two prominent streams of research and theory: a model of student retention, the "Tinto model," which emphasizes integration of students into the academic institution; and the theory of "disciplinary socialization," which is the process through which students become socialized into a field of study as a profession. The LSAMP model utilizes Tinto's tenets of academic and social integration in addition to significant undergraduate research exposure, termed "professionalization". The 2006 evaluation report entitled "Revitalizing the Nation's Talent Pool in STEM" (http://www.urban.org/url.cfm?ID=311299) references the research and theoretical basis of the LSAMP program. This evaluation report also serves as recent evidence of the program's success in implementing the model nationwide to address student persistence and retention in STEM disciplines at the undergraduate level.[1]

The LSAMP program supports sustained and comprehensive approaches to broadening participation at the baccalaureate level. These approaches facilitate the production of students who are well prepared in STEM and motivated to pursue graduate education. Projects place emphasis on aggregate baccalaureate production; attention to individual student retention and progression to baccalaureate degrees; and aggregation of student progression to graduate school entry. In addition, expectations are placed on institutionalizing, disseminating and promoting the replication of strategies and collaborative approaches that have shown success in the transition of undergraduate STEM students to graduate STEM programs.

Alliance Structure, Requirements, and Proposed Budget Guidelines

LSAMP alliances must be structured to address two interrelated requirements:

- First, the design of the alliance must be based on evidence of sound programmatic approaches. The organization of the alliance must prove to be successful in meeting well-defined needs, cost effective, and must involve undergraduates in faculty research.
- Second, the proposed plan must be comprehensive and longitudinal, since fragmented or isolated efforts provide insufficient responses to the acknowledged scope and scale of the problem being addressed by the LSAMP program.

LSAMP implementation activities must produce demonstrable "near-term" increases in the numbers of STEM graduates with the promise of long-term change in the production of new Ph.D.s and their entrance into productive faculty or research careers. The strategy for implementing these projects must be clear and focused.

The program provides wide latitude to proposers in designing projects to achieve the stated LSAMP goals. The structure and content of proposed projects should be governed by differences in the institutional and organizational capabilities of alliance members, strategies for the formation of the alliance, and characteristics of specific localities. Project specifics may encompass a wide variety of activities. The project activities must form a feasible, logical, and comprehensive effort focused upon improving the undergraduate educational experience. While the primary focus of LSAMP is at the undergraduate level, projects must include activities that affect student advancement through one or more of the critical junctures during STEM education: from high school to college, between 2- and 4-year college, from undergraduate study to the workplace or from undergraduate to graduate school, and from graduate school to faculty. These activities allow the LSAMP program to build linkages between the various sectors of the STEM community.

Successful programmatic approaches include, but are not limited to: (1) devoting careful attention to management and administrative collaboration among participating organizations to ensure long-term continuation of LSAMP or similar activities beyond the term of NSF financial support; and (2) developing specific evaluation plans and procedures for assessing qualitative and quantitative changes including the definition of a baseline of pre-LSAMP data which will be used to compare post-LSAMP retention, progression, and graduation rates in STEM fields.

Comprehensive and longitudinal plans are reflected in: (1) the establishment of alliances with members drawn from among community colleges, 4-year institutions, school systems, Federal/state/local government agencies, major national laboratories and centers, industry, private foundations, and professional STEM organizations, as necessary to achieve the proposed LSAMP objectives; (2) incorporation of academic, curricular, and co-curricular enrichment activities designed to improve instructional performance as well as increase the motivation, performance, and progression of talented students within STEM undergraduate degree programs in preparation for graduate degree programs; and (3) as necessary, direct student support for academic year and summer enrichment activities.

Alliances at each level are expected to develop **innovative** recruitment and retention strategies that are sustained and institutionalized. Successful proposals must demonstrate past successes as well as **added value**, e.g., efforts at transforming the academic and/or research environment, in producing highly competitive underrepresented minority students matriculating in STEM disciplines.

Proposals will be reviewed with an emphasis on the level of evidence provided in addressing potentially transformative research and education opportunities for students, faculty and the institution.

The following are specific requirements for support at each alliance level under the LSAMP program. Proposals will be evaluated on their potential to increase minority participation in STEM disciplines. Thus, NSF requires potential awardees to rigorously evaluate recruitment and retention programs and activities.

NEW ALLIANCES

Alliances are considered new if they have not received previous LSAMP funds and meet the criteria for a LSAMP partnership alliance described under "eligible organizations". The president, provost or designee of the lead institution of a prospective new

alliance **must** contact the NSF LSAMP program for guidance prior to submitting a proposal for funding.

First time applicants **must** focus on baccalaureate production of historically underrepresented minorities in STEM and must define their current baseline production of these minority baccalaureate recipients in STEM fields. All applicants must commit to a significant increase in baccalaureate production in STEM fields within a five-year award period and justify the level of increase they define as significant. Subsequent support will be contingent on evidence of success in areas of individual student recruitment, retention and progression to baccalaureate degrees. ***Note:*** *Once an award is made, the original baseline goals may not be adjusted through additions and/or reductions in alliance membership. A clear plan of action to significantly increase individual STEM students, rather than simply aggregate students, toward baccalaureate degree attainment is essential for a successful proposal.*

New alliances are required to focus on innovative recruitment and retention interventions at the undergraduate level with particular emphasis on pre-college, freshmen and sophomore persistence in STEM disciplines.

MID-LEVEL ALLIANCES

Alliances are considered at mid-level if they have received a minimum of 5 years of continuous LSAMP support and (1) focus on the recruitment and retention of freshmen and sophomore students in STEM disciplines and (2) support early interventions for the retention of upper level students with an emphasis on graduate matriculation.

Proposals from previously funded alliances must include initial plans to achieve institutionalization of effective pathways to STEM graduate study and careers for baccalaureate recipients at participating institutions. Mid-level alliances seeking further support opportunities for graduate level academic and research activities should contact program officials in the "Alliances for Graduate Education and the Professoriate" program and the Division of Graduate Education within the NSF Directorate for Education and Human Resources.

SENIOR-LEVEL ALLIANCES

Alliances are considered senior-level if they have received 10 years or more of LSAMP support and have institutionalized successful practices resulting in measurable impact in the STEM enterprise for students from underrepresented populations. Senior alliances should have conducted a SWOT (**S**trengths, **W**eaknesses, **O**pportunities, **T**hreats) analysis or high quality formal evaluation of its STEM recruitment and retention strategies. Continued funding requests should address new and/or improved strategies from the findings that contribute to higher retention and graduation rates as well as increased competitiveness for graduate study in STEM disciplines.

Highly competitive senior-level proposals must provide evidence of impact and institutionalization of existing successful practices as well as evidence of innovative and transformative practices in its STEM retention strategies.

Both international research and community college components must be included in proposals from senior-level alliances.

International Research Component: Researchers Bowman and Sage (2002) cite the need for students of science to participate actively in scientific research to gain first-person knowledge of the conventions of science. Immersion in undergraduate research, including international research, serves as a means to prepare students for graduate programs in the sciences.[2]

The making of a highly competitive, STEM undergraduate student necessitates participation in international research activities. The 2007 International Institute of Education (IIE) Study Abroad white paper series entitled "Current Trends in U. S. Study Abroad and the Impact of Strategic Diversity Initiatives states that "students of color comprise only 17% of American students who study abroad which is much lower than (students of color) participation in higher education overall" (p. 19). The report states that among underrepresented minorities, Hispanic participation is about 6%, African-American participation is roughly 4%, and Native Americans participate at less than 1% in study abroad curricular and research activities. In STEM, about 16% of all study abroad students are in the STEM fields, compared to about 26% of the general undergraduate population (IIE, 2009).

Preparing a diverse, globally-engaged scientific and technological workforce necessitates strengthening international research opportunities for students underrepresented in STEM fields. Senior-level alliances, having had the experience to build and institutionalize successful practices in STEM education, are required to incorporate a plan to engage STEM students in international research opportunities, specifically laboratory experiences. The budget must clearly identify student support for international activities. (**Note:** International activities must reach beyond conference attendance and cultural experiences to be considered a competitive international research experience.)

Community College Component: Community colleges are a rich pool for recruitment to STEM programs at four-year institutions. The National Center for Education Statistics reports that approximately 11.2% of Associate-level degrees awarded at community colleges were in STEM disciplines, specifically computer and information sciences, engineering and engineering technology.[3]

Improving retention and transfer rates to four-year STEM degree-granting institutions for students matriculating in STEM programs at community colleges is a priority. Strengthening learning communities and peer-led team learning at these institutions, providing support and opportunities for student research experiences (research methods, hands-on experimentation, conference attendance and presentation), social integration, and institutional collaboration among two-and four year institutions are suggested interventions to prepare community college students for transfer into STEM programs at baccalaureate degree-granting institutions.

Proposals from senior-level alliances must incorporate a strategic plan to establish meaningful community college interventions and connections for students and faculty with 4-year institutions. Highly competitive proposals must provide strong evidence of linkages. Senior alliances requesting renewal funding must show impact, e.g., increases in transfer rates, improved articulation agreements, etc., from prior LSAMP support for community colleges.

GUIDELINES FOR BUDGET DEVELOPMENT

Guidelines for requesting funds for ***new*** alliances are indicated as follows:

- $700,000 to $1,000,000 per year for alliances that award more than 500 STEM baccalaureate degrees to underrepresented minorities annually;
- Approximately $500,000 to $700,000 per year for alliances that award between 300-500 STEM baccalaureate degrees to underrepresented minorities annually; and,
- $500,000 or less per year for alliances that award fewer than 300 STEM baccalaureate degrees to underrepresented minorities annually.

Funding guidelines for ***mid-level*** alliances are stipulated as follows:

- $700,000 per year for alliances that award 700 or more STEM baccalaureate degrees to underrepresented minorities annually;

Approximately $500,000 to $700,000 per year for alliances that award between 500-700 STEM baccalaureate degrees to underrepresented minorities annually; and,
- $500,000 or less per year for alliances that award fewer than 500 STEM baccalaureate degrees to underrepresented minorities annually.

Funding guidelines for **senior-level** alliances are provided as follows:

- $800,000 per year for projects that award 1,000 or more STEM baccalaureate degrees to underrepresented minorities annually;
- Approximately $600,000 to 700,000 per year for projects that currently award between 700-1,000 STEM baccalaureate degrees to underrepresented minorities annually; and,

- $500,000 or less per year for projects that award fewer than 700 STEM baccalaureate degrees to underrepresented minorities annually.

LSAMP awards will not exceed $1.0 million per year. The awards will be managed through Cooperative Agreements for up to 5 years. Progress will be assessed annually prior to continued NSF support. LSAMP projects nearing the completion of the five-year funding period may submit a competitive renewal proposal for an additional five years of support.

The LSAMP program will ensure that each awardee alliance is funded in a cost-efficient manner. Requested financial support should be clearly justified with established recruitment and selection eligibility as well as accountability criteria.

Allowable student financial support is limited to the following activities: employing team building principles (e.g., mentoring, collaborative learning experiences, small group clustering in academic sections, structured work-study groups); individual skill development (e.g., participation in special seminars and colloquia); involvement in U. S. or international research activities (e.g., stipends or salary for academic-year or summer research programs); and, related personal career support, which includes counseling and mentoring, preparation for graduate school and other activities designed to enhance student academic experiences.

LSAMP may provide direct support through other funding opportunities for students to attend summer enrichment activities and to participate in other activities throughout the academic year. See section "Other Funding Opportunities Through the Louis Stokes Alliances for Minority Participation" for additional information. **All students receiving stipends must be citizens or permanent residents of the United States or its possessions.**

BRIDGE TO THE DOCTORATE (BD) ACTIVITY

Senior-level LSAMP alliances are eligible for Bridge to the Doctorate support. BD funding provides eligible students with financial support for two years of graduate study.

Programmatic activities for BD support must describe effective recruitment and retention strategies in STEM graduate education and must be based on current research for attracting, retaining, educating and graduating the participants. Proposers must provide documentation of past performance at the designated graduate institutional site of retaining, graduating, and placing significant numbers of LSAMP graduates into STEM doctoral-degree programs. A plan for formally connecting a significant number of newly matriculated LSAMP students, including master's degree graduates, to doctoral degree programs is expected.

Successful projects must demonstrate substantive and formal connection to other NSF-funded programs, such as CREST, NSF research centers, Integrative Graduate Education and Research Traineeship Program (IGERT), Graduate Teaching Fellows in K-12 Education Program (GK-12), and AGEP. Successful BD projects must ensure that a substantive number of first year BD participants apply to NSF's Graduate Research Fellowship Program (GRFP). Similarly, BD applicants must present an action plan describing dollar support and sources for continuing students in years three and beyond towards doctorate degrees. Action plans identifying strategies for connecting the transfer of third-year BD recipients interested in and eligible for admission to AGEP graduate programs, if available, or other graduate programs, are require

Recruitment of students is expected from all STEM disciplines. A concentration of students in one discipline within a cohort is strongly discouraged.

Tracking of project participants into doctoral degree programs and into the workforce, including the professoriate is also expected. Other highly valued activities include regular BD meetings, mentoring of students, resources to support annual student participation at professional meetings, seminars on productive academic efforts, demystifying degree programs, and available career options. A critical mass of twelve (12) LSAMP STEM graduate students is required under this activity.

The NSF contribution to graduate student stipends is $60,000 over two years for each of twelve students. NSF will provide a cost-of-education allowance to the institution for tuition, health insurance, and other normal fees up to $10,500 per year for up to two years for each of twelve students. A flat allowance of $15,000 per award may also be requested in lieu of indirect costs.

BD proposals must include an evaluation plan. Costs for project evaluation from the flat allowance are allowable. **Salary support for administrative personnel is unallowable under this funding opportunity.** The maximum request per alliance for BD support is $987,000.

All BD student support costs, including graduate stipends, should be listed on Line F, "Participant Support," on the proposal budget. **All students receiving stipends must be citizens or permanent residents of the United States or its possessions.**

IMPORTANT NOTE: Requests for BD support must be submitted as a new proposal in FastLane. Supplemental requests will be returned without review. BD proposals must be submitted by the lead institution of the LSAMP alliance. Successful proposals will be awarded as two-year standard grants. ***Residual funds from BD grants may not be reallocated to other cohorts.*** Annual and final reporting requirements are applicable for BD awards.

EDUCATIONAL RESEARCH PROPOSALS

LSAMP alliance member institutions are eligible to submit proposals for educational research projects focused on baccalaureate attainment in STEM by African-Americans, Alaskan Natives, Hispanic Americans, Native Americans, and Native Pacific Islanders. In addition, educational research proposals which address other emerging topics in STEM education and learning at the undergraduate and graduate levels are acceptable submissions.

Proposals for LSAMP educational research projects should be based on a research design that incorporates appropriate and proven methodologies and strategies to (1) identify the research questions, (2) implement the collection and analysis of data, and (3) interpret the resulting measures and findings generated by the study. The results should lead to enhanced understanding of issues such as (but not limited to):

- factors that facilitate (or inhibit) increased minority undergraduate access to STEM careers as well as increased access of

traditionally underrepresented groups to STEM graduate study at department and/or institutional levels;
- factors, including curriculum development, that impact success in STEM learning and achievement;
- studies of what motivates choice of, or retention in, STEM careers for underrepresented minority populations.

The proposal must address the usefulness of the anticipated outcomes to the body of knowledge in transforming student learning, transforming recruitment and retention strategies and practices in STEM education at critical educational junctures as well as the STEM workforce, for example.

LSAMP educational research studies should reflect explicit cognizance of the broad variety of institutions of higher education involved and should address the unique challenges and opportunities posed by that variety. Outcomes of the proposed research should be developed with the intent to provide a framework to inform the education community, including faculty and teachers, administrators, policymakers, parents and the public. It is anticipated that these cooperative efforts will also guide the future development of learning experiences as well as foster the retention and academic success of diverse students in STEM.

Education research projects will be supported at the level of up to $200,000 or up to 24 months. Eligible institutions may submit no more than one proposal per competition. Proposal submission may be made through the partner institution or through the lead alliance institution. Partner institutions must coordinate submissions with their lead institution.

Requests for support for research projects must be submitted separately in the FastLane or Grants.gov systems. The ABP solicitation number should be referenced. Titles should begin with the words "LSAMP Educational Research Project:".

Additional funding opportunities for broader educational research topics in student learning, recruitment, retention, persistence to degree, and other STEM educational research for underrepresented minority populations are available throughout the Foundation. Please refer to the NSF Website for additional information, especially funding opportunities in the program on Research and Evaluation on Education in Science and Engineering (REESE).

PROJECT EVALUATION

Proposals should provide objectives, benchmarks, and indicators of progress that will inform reviewers of the proposers' understanding of essential recruitment and retention factors for judging accountability, both quantitative (underrepresented minority enrollment and baccalaureate degree production) and qualitative (the process of change in organizational culture, impact and progress in developing highly competitive, well-prepared STEM students).

Each LSAMP and BD proposal submission is expected to include plans for rigorous project evaluation. The evaluation plan must correspond to the overall stated goals and objectives of the alliance project. ***Alliance Projects Only:*** Formative and summative evaluations should include holistic assessments of the collaboration/partnership in addition to evaluation of the interventions. Submission of external evaluation reports must accompany year 4 annual project reporting. Reporting of subsequent evaluation activities should be included in the final project report.

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[1] Clewell,B. C., de Cohen, C. C., Tsui, L., & Deterdening N. (2006). *Revitalizing the Nation's Talent Pool in STEM: Science, Technology, Engineering, and Mathematics.* Washington, DC: Urban Institute.

[2] Bowman, M. H., Stage, F. K. (2002). Personalizing the goals of undergraduate research. *Journal of College Science Teaching,* 32(2), 120-25.

[3] United States. Institute of Education Statistics, National Center for Education Statistics. *Stats in Brief: Changes in Postsecondary Awards Below the Bachelor's Degree: 1997 to 2007* Online. November 2009. Available: http://nces.ed.gov/pubs2010/2010167.pdf accessed November 2009.

OTHER FUNDING OPPORTUNITIES THROUGH THE LOUIS STOKES ALLIANCES FOR MINORITY PARTICIPATION PROGRAM

NSF-DoE Cooperative Activity

Supplemental funding through the NSF LSAMP program may be requested for student and faculty support for summer undergraduate research experiences at the Department of Energy laboratories (subject to the availability of funds). Only alliances with active LSAMP awards are eligible to submit requests for supplemental funding. The "Dear Colleague Letter" announcing due dates for submission of funding requests for 2010 NSF supplemental support will become available in late 2009.

For additional information on undergraduate research opportunities available at DoE laboratories, please access the DoE website.

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 a cross-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 AND NUMBER OF AWARDS IS SUBJECT TO THE AVAILABILITY OF FUNDS: LSAMP awards will not exceed $1.0 million per year. The awards will be managed through Cooperative Agreements for up to 5 years. Progress will be assessed annually prior to continued NSF support.

- The maximum award for BD support is $987,000 over 24 months. NSF contribution to graduate student stipends is $60,000 for each of twelve students for two years. NSF will provide a cost-of-education allowance to the institution for tuition, health insurance, and other normal fees up to $10,500 per year for up to two years for each of twelve students. A flat allowance of $15,000 per award may also be requested in lieu of indirect costs. Costs for project evaluation are allowable. Salary support for administrative personnel is unallowable under this funding opportunity.
- 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:

- **LSAMP:** Only baccalaurate-producing institutions may serve as lead institutions for LSAMP alliances.
- **LSAMP-BD:** Only senior-level LSAMP alliances (alliances with 10 or more years of continual LSAMP

funding) are eligible to submit proposals for BD support.

- **LSAMP Educational Research Proposals:** Universities and two-and four-year colleges (including community colleges) located and accredited in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.

- **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:

LSAMP and LSAMP-BD: To promote institutional commitments to increase the quality and quantity of underrepresented minorities in STEM disciplines at the undergraduate level, the President or Provost of the lead institution should serve as the Principal Investigator. A full explanation should be provided for a PI designation in variance with this requirement. Co-Principal investigators from partner institutions may be designated as appropriate for the project.

LSAMP Educational Research: Eligible PI(s) for proposals from alliance partner institutions applying for LSAMP educational research support should be the cognizant faculty member(s) conducting the research and/or responsible for the educational research project.

I^3: 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:

LSAMP and LSAMP-BD: Only one proposal per alliance.

LSAMP Educational Research Proposals: Only one educational research proposal will be accepted per alliance. Partner institutions must coordinate submissions of educational research proposals with their lead institution.

I^3: 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 this I^3 competition.

Limit on Number of Proposals per PI:

LSAMP, LSAMP-BD and LSAMP Educational Research Proposals: One proposal per PI.

Innovation through Institutional Integration (I^3): No limit specified.

Additional Eligibility Info:

LSAMP: **An alliance may hold only one active award at a time.** The alliance must consist of one or more graduate degree granting institution(s) as well as 2-4 year degree-granting institutions, including community colleges. **An institution may be a member in only one alliance.**

LSAMP-BD: Only LSAMP alliances at the senior level may apply for BD funding. Proposals for BD funding must be submitted by the LSAMP alliance lead institution only. BD sites at alliance institutions other than the lead alliance institution will be funded through subaward agreements.

I^3: Eligibility for Innovations 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

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 nsfpubs@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/publications/pub_summ.jsp?ods_key=grantsgovguide). 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 nsfpubs@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.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

After selecting the ABP program solicitation number on the COVER SHEET, enter the program name - the "NSF Unit Consideration" must be specified - select either Alliances for Minority Participation (AMP) for LSAMP and BD (specify BD in the title if a BD proposal), or Innovation through Institutional Integration (I^3). For Grants.gov users, the program solicitation number will be pre-populated by Grants.gov on the NSF Grant Application Cover Page.

Proposals failing to clearly identify the appropriate program may be returned without review at the discretion of NSF program staff.

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.

B. Budgetary Information

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

Indirect Cost (F&A) Limitations: ***The following limitations apply to BD proposals only.*** NSF will provide a flat $15,000 allowance per award in lieu of indirect costs.

C. Due Dates

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

  March 24, 2010

  Bridge to the Doctorate Proposals

  April 07, 2010

  Innovation through Institutional Integration

  October 08, 2010

  Louis Stokes Alliances for Minority Participation & LSAMP Educational Research Proposals

D. FastLane / Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

  Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: https://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.

- **For Proposals Submitted Via Grants.gov:**

  Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

  Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

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:**

  For proposals to the LSAMP Program, additional review criteria will apply.

  SPECIAL REVIEW CRITERIA FOR LSAMP AND BD PROPOSALS

  All proposals will be reviewed for strategic fidelity, relevance and usefulness of the proposed interventions and anticipated outcomes, evidence of institutionalization and sustainability plans, and contribution to the body of knowledge in recruitment and retention of underrepresented minorities in science, technology, engineering, and mathematics disciplines and into the workforce as well as the potential to transform STEM education and student learning.

  In addition to the standard NSF review criteria of demonstrating intellectual merit and broader impacts of the project, reviewers will be asked to evaluate proposals in terms of linkages to other NSF programs and plans for rigorously evaluating the projects or programs over the duration of the grant period.

  Reviewers will be asked to evaluate proposals using the following program specific review criteria:

  Linkages: Proposals should clearly demonstrate linkages to other NSF-funded programs and the benefits to alliance students and faculty. For projects with BD funding, reviewers will be instructed to evaluate evidence of formal connections and involvement with AGEP institutions or other graduate education programs and organizations as well as the continuation of these connections through the STEM doctoral degree.

  Evaluation: Proposals will be evaluated on the rigor of the evaluation plan. In addition, the adequacy of resources and expertise to implement a rigorous evaluation over the duration of the award period will be assessed.

  For educational research proposals, reviewers will be tasked to assess the proposal in terms of topic (Is this an emerging STEM educational research topic?), research design and methodology, and the potential for the findings and/or recommendations to provide educators with practical and successful strategies for broader integration within educational systems (departments, institutions, alliances).

  Innovativeness and Value-Added: All proposals will be evaluated on transformational program development in the academic and social environment (including the departmental, institutional and alliance levels) leading to the production of highly competitive students in STEM disciplines from underrepresented minority populations. Examples of transformational program development activities include, but are not limited, to: (1) cyber-enabled learning of STEM disciplines, (2) utilization of STEM educators within the partnerships to enhance skills and knowledge content of the academic community, (3) professional development activities for the academic community and (4) increasing the understanding of science beyond the classroom.

  SPECIAL REVIEW CRITERIA FOR I-CUBED PROPOSALS

  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: In addition to general terms and conditions, special award conditions may be included in the cooperative agreements. For Bridge to the Doctorate awards, residual funds from standard grants may not be reallocated to other cohorts.

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.

For LSAMP Alliances Only: All alliances are required to report enrollment, degree data and other data annually via the WebAMP reporting system.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- A. James Hicks, Program Director, LSAMP, LSAMP-BD, 815 N, telephone: (703) 292-8640, fax: (703) 292-9018, email: ahicks@nsf.gov
- Martha James, Assistant Program Director, LSAMP, LSAMP-BD, 815, telephone: (703) 292-7772, fax: (703) 292-9018, email: mjames@nsf.gov
- Maurice Dues, Program Specialist, LSAMP, LSAMP-BD, 815, telephone: (703) 292-8632, fax: (703) 292-9018, email: mdues@nsf.gov
- William Eckberg, Program Director, AGEP, 815, telephone: 703-292-4679, fax: (703) 292-9018, email: weckberg@nsf.gov

- Al Wilson, Program Analyst, AGEP, 815, telephone: (301) 292-4835, fax: (703) 292-9018, email: awilson@nsf.gov
- Cynthia R. Douglas, Program Specialist, AGEP, 815, telephone: (703) 292-5175, fax: (703) 292-9018, email: cdouglas@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- Maurice Dues, Program Specialist, LSAMP, LSAMP-BD, 815, telephone: (703) 292-8632, fax: (703) 292-9018, email: mdues@nsf.gov
- Cynthia R. Douglas, Program Specialist, AGEP, 815, telephone: (703) 292-5175, fax: (703) 292-9018, email: cdouglas@nsf.gov

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of 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:

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