HBCU UNDERGRADUATE PROGRAM

Announcement and Guidelines
NSF 99-73

DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES
DIVISION OF HUMAN RESOURCE DEVELOPMENT

DEADLINE DATES FOR SUBMISSION: ***May 14, 1999 (February 1st in subsequent years)***

NATIONAL SCIENCE FOUNDATION

INTRODUCTION

Preparing the Nation's workforce for an increasingly technological job market is one of the National Science Foundation's (NSF) key investment strategies to address the relevant goal of the NSF Strategic Plan: "*A diverse, globally-oriented workforce of scientists and engineers*". The portfolio of diversity-focused programs of the Division of Human Resource Development, located within the Directorate for Education and Human Resources, is directed toward this end by promoting efforts to increase the participation of underrepresented groups in the science, mathematics, engineering, and technology (SMET) related disciplines and careers. These programs are intended to develop a comprehensive, strategic, and systemic educational continuum, from the undergraduate to the doctorate level, to increase diversity in the SMET workforce, particularly in the professoriate.

The Congress has consistently stressed the need for the National Science Foundation to expand its efforts to provide opportunities for underrepresented groups to participate in the Nation's science and engineering enterprise. Most recently, for example, in the House and Conference reports that accompanied the Foundation's FY 1999 appropriations (H. Rept. 105-610 and H. Rept. 105-769, respectively) – NSF was directed to increase its support for minority undergraduate education through activities targeted to Historically Black Colleges and Universities (HBCU). Recent graduate enrollment data show an alarming decline in the number of African Americans, Hispanic Americans and Native Americans in the science and engineering disciplines. This decline could have a major impact on the diversity of our Nation's workforce of the 21st century as well as on our Nation's competitiveness within the global economy. This situation will negatively affect every facet of the educational continuum for underrepresented groups in SMET fields, particularly at the graduate and professoriate levels. The HBCU Undergraduate Program (*HBCU-UP*), formerly known as the HBCU Initiative, is targeted to Historically Black Colleges and Universities (HBCUs) to initiate a plan of action to address the underrepresentation of minorities in the baccalaureate, and promote interest in the pursuit of careers in the science, engineering, and mathematics professoriate. HBCU institutions are particularly important in their provision of role models and mentors and their demonstrated effectiveness in retaining and graduating minority students.

GOALS AND OBJECTIVES

The goal of the HBCU Undergraduate program is to increase significantly the numbers of students enrolling in, and successfully completing, quality SMET baccalaureate programs which will prepare them to pursue doctoral degrees in the SMET disciplines. Support will be provided to HBCUs with the expressed purpose of strengthening their SMET education and research infrastructure, including support for faculty, research experiences for undergraduates, and scientific instrumentation. In order to achieve program goals, the current number and graduation rate of well-prepared underrepresented minority SMET baccalaureate degree graduates must be substantially increased at the grantee institutions.

The objectives of the HBCU Undergraduate program are:

- to develop and maintain a diverse and intellectually vigorous faculty committed to the improvement of undergraduate education;
- to strengthen SMET curricula, courses and laboratories through the incorporation of advances in research-based teaching and learning in SMET disciplines;
- to develop appropriate partnerships with other academic institutions and industrial laboratories, as well as NSF-supported research centers, to ensure quality research experiences that complement student academic programs;
- to ensure that students are aware of, and well prepared for, graduate school matriculation, including an understanding of non-academic factors that are critical to success in graduate school;
- to stimulate faculty, professional organizations, and business and industry involvement in mentoring undergraduate SMET students motivating them to successfully complete their undergraduate degree and pursue graduate studies; and,
- to function in a complementary and collaborative way with other related NSF-funded educational initiatives within the grantee institution and the region such as the Louis Stokes Alliances for Minority Participation (LSAMP), Centers of Research Excellence in Science and Technology (CREST), Minority Graduate Education (MGE), and Integrative Graduate Education and Research Training (IGERT) programs.

Although programs in the Division of Human Resource Development focus primarily on underrepresented communities, all NSF programs encourage proposals that incorporate this goal. See *NSF Guide to Programs* (NSF 99-4), Web address <http://www.nsf.gov>, for descriptions of all NSF funding opportunities.

INSTITUTIONAL ELIGIBILITY

Organizations eligible to submit proposals include those Historically Black Colleges and Universities that currently offer baccalaureate degrees in science, mathematics, engineering and technology. Submitting institutions must: (1) demonstrate commitment and a strong track record in graduating under-represented minority scientists and engineers; (2) be willing to serve as regional resource centers for innovations in SMET education; (3) have sufficient research capabilities that bear on improving SMET education as measured by increased retention of, and academic achievement by, undergraduates; and (4) demonstrate ability to develop and implement effective strategies for strengthening SMET education by providing research experiences through partnerships with other universities or research laboratories. Only one proposal may be submitted per institution per competition.

PROJECT DESIGN

The Foundation intends to support the implementation of systemic approaches that will strengthen the grantee institution's SMET education and research infrastructure. The project shall enhance the grantee institution's demonstrated effectiveness in retaining and graduating underrepresented minorities who earn baccalaureate degrees in SMET disciplines. This increased capability should result in a quantifiable and long-term increase in the number of underrepresented minority students who complete baccalaureate degrees, matriculate to graduate study or SMET careers, especially those expressing interest in entering the professoriate in SMET disciplines.

In general, the project shall strengthen and expand systemic approaches: (1) to develop and maintain a diverse and intellectually vigorous faculty committed to the improvement of undergraduate education; (2) to strengthen SMET curricula, courses, and laboratories through the incorporation of advances in research-based teaching and learning in SMET disciplines; (3) to develop appropriate partnerships with other academic institutions and industrial laboratories, as well as NSF-supported research centers, to ensure quality research experiences that complement student academic programs; (4) to ensure that students are aware of, and well prepared for, graduate school matriculation, including an understanding of non-academic factors that are critical to success in graduate school; (5) to stimulate faculty, professional organizations, and business and industry involvement in mentoring of undergraduate SMET students motivating them to successfully complete their undergraduate degree and pursue graduate studies; and, (6) function in a complementary and collaborative way with other related NSF-funded educational and research initiatives within the grantee institution and the region.

In addition, NSF seeks innovative approaches to increase the enrollment of students and their successful completion of undergraduate "gate keeping" courses in SMET, as well as new approaches to strengthen student achievement in these fields. A project under this program should address the entire undergraduate science, engineering and mathematics continuum. Priority will be given to projects that address fields that exhibit serious underrepresentation of minority students, e.g., natural sciences, mathematics, and engineering. *

Proposed activities should be the result of a careful analysis of current institutional needs, address institutional and NSF goals, and have the potential to result in a substantial and measurable increase in the number of undergraduate

* See National Science Board, Science & Engineering Indicators – 1998, Chapter 2 "Higher Education in Science and Engineering" and Appendix Table 2-21, Arlington, VA: National science Foundation, 1998 (NSB98-1)

minority students in the SMET continuum and a significant increase in the number of baccalaureate degree graduates who are prepared to pursue doctoral degrees and ultimately enter the professoriate in science and engineering disciplines.

Proposals must:

- provide a clear picture of the current status of the institution's SMET infrastructure, and an institutional plan to enhance its SMET operation by indicating the anticipated value added by the NSF-supported efforts;
- build on existing research about underrepresented minority participation in the SMET educational continuum;
- show evidence that the project is an institutional effort;
- develop a quality, state-of-the-art academic program incorporating SMET research experiences;
- involve multiple SMET academic departments and/or programs;
- leverage other initiatives;
- address the issue of underrepresentation of minorities in the SMET professoriate;
- have strong formative and summative evaluation components to demonstrate impact and guide project development; and,
- affect permanent change in the institution's faculty reward system such that mentoring and other appropriate student support activities are encouraged.

While the primary focus of the HBCU Undergraduate Program is at the undergraduate level, projects must include activities that affect student advancement through the critical transition points during SMET education – the transition between high school and college, 2- and 4-year colleges, undergraduate and graduate school, and from college to the workplace, particularly the professoriate.

The roles and commitments of each institutional partner should be addressed in the project description and in letters of commitment from authorized institutional representatives. Evidence of commitment may be reflected in programmatic participation, release time for project staff, reduced indirect costs, provision of special services or resources, and direct fiscal contributions. NSF and reviewers will look for evidence of commitment to continue elements of the project after NSF funding ends.

ELIGIBLE ACTIVITIES

Supportable activities include, but are not limited to: faculty development, development of outreach and enhancement programs with collaborating institutions, student retention enhancement, strengthening abilities of technical support personnel, purchase of equipment/instrumentation, research opportunities for undergraduate students, course and curriculum development, and other efforts to enhance SMET instruction.

Faculty Development

A well-trained faculty with continuous learning opportunities, remains an integral part of a strong institutional infrastructure and positively impacts the quality of undergraduate education. Accordingly, activities that may be suitable for *HBCU-UP* support may include but are not limited to the following:

- sabbaticals and exchange programs to enhance research competencies and knowledge of recent technological developments;
- implementation of alternative faculty reward systems to encourage faculty /student mentorship;
- use of visiting faculty, including industry practitioners;
- participation in special seminars to enhance disciplinary knowledge, pedagogical skills and mentorship; and,
- faculty reassigned time or release time to participate in appropriate SMET enhancement activities.

Curriculum Reform and Enhancement

Applicants should include plans to strengthen and update the SMET curricula. Supportable activities include, but are not limited to:

- strengthening and restructuring the SMET curricula, courses and laboratories through the incorporation of advances in research-based teaching and learning strategies in SMET disciplines and the infusion of technology;
- revision of SMET gate-keeping and bottleneck courses based on appropriate content and performance standards;
- integration of research into the curriculum;
- development of inquiry-based courses; and,
- implementation of strategies to ensure that students are aware of, and well prepared for, graduate school matriculation, including an understanding of non-academic factors that are critical to success in graduate school.

Undergraduate Research Experiences

This activity will provide stipends to full-time students (U.S. citizens and permanent residents, only) at HBCUs who are engaged in scholarly activities in SMET areas. Research experiences may be with local investigators or at off-campus sites (e.g., industrial, academic, governmental research laboratories). Activities that may be suitable for *HBCU-UP* support may include but are not limited to the following:

- development of appropriate partnerships with other academic institutions, industrial laboratories, and NSF-supported research centers to ensure quality research experiences that complement academic studies;
- enhancement of meaningful internships or cooperative education opportunities related to students' skill development at appropriate off-campus sites;
- implementation of bridging strategies to address the high school /undergraduate, two-year/four-year, undergraduate/graduate, and university/job market transitions for underrepresented minorities in SMET fields; and,
- implementation of creative strategies to identify and support under-represented minorities who want to pursue academic careers in SMET fields.

PROJECT EVALUATION AND ASSESSMENT

The request must specify project objectives, planned outcomes, project monitoring guidelines, how outcomes will be measured, how mid-course corrections will be made, and plans to disseminate results. Plans for evaluation and assessment will be required so that project development and implementation can be monitored at all stages. Relevant indicators of success shall address:

1. The extent to which the *HBCU-UP* project has brought about reform within SMET programs that has resulted in a measurable increase (a minimum factor of 2-3) in the number of underrepresented minority graduates in the SMET disciplines eligible to pursue graduate studies in SMET fields.

2. The extent to which academic SMET achievements as defined by measurable quantitative student-based outcomes have been addressed for a significant number of student participants. Outcome indicators shall include:

    - minority enrollment and successful completion rates in SMET gate-keeper courses, e.g., first semester chemistry, calculus and physics;
    - annual minority student retention rates in SMET disciplines;
    - number of minority SMET majors involved in research activities;
    - number of minority graduates entering graduate school to pursue SMET degrees; and,
    - number of minority graduates that enter the SMET workforce.

3. The extent to which the proposed *HBCU-UP* project activities bring about a measurable change in the institution's faculty reward system such that mentoring and other appropriate student support activities are encouraged.

4. The extent to which the proposed *HBCU-UP* project activities can be institutionalized when NSF funding has been discontinued.

The HBCU Undergraduate Program stresses the building of a well-documented knowledge base of successful strategies. Awardees will be required to participate in a program-level evaluation by which NSF can assess quantitative and qualitative gains in relevant measures for minority students and make assessments of the process of change. The assessment of program outcomes must also address NSF performance goals which respond to accountability questions as referenced in the Government Performance and Results Act (GPRA). Shortly after awards are made, project evaluators will be asked to assist a NSF contractor in developing a program evaluation that will mutually benefit the NSF and project participants. *HBCU-UP* projects are expected to have the capability of collecting and analyzing these data.

AWARD INFORMATION

Although no minimum or maximum amounts for awards are set, awards are expected to range from $500,000 to $600,000 per year for up to five years. NSF expects to fund eight to ten awards depending on the quality of submissions and the availability of funds. The anticipated date of awards is August 1999.

PROPOSAL PREPARATION INSTRUCTIONS

Proposals submitted in response to this program announcement should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 99-2. The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: http://www.nsf.gov/. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 301-947-2722 or by e-mail from pubs@nsf.gov. See Appendix A for other NSF publications that are useful in proposal preparation, for example, *A Guide for Proposal Writing* (NSF 98-91).

Proposers are reminded to identify the program announcement number (NSF 99-73) in the program announcement/solicitation block on the NSF Form 1207, "*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.

A. Project Title

The project title should identify the project, inform the public, and be reasonable in length.

B. Project Description

All NSF grantees and particularly those in education are encouraged to think in terms of the outcomes or impact of their project on the field. Impact is a major factor in the review and rating of proposals in the competition for funds. Where multiple organizations are involved, only one of them can submit the proposal. It should describe clearly the role to be played by the other organizations, and include a management plan. Items included in the project description are described in the GPG (page 7).

Proposals submitted to the HBCU Undergraduate program must include:

- goals and objectives, including disciplinary focus;
- project design including a demonstration of understanding of previous research and projects, anticipated impact of the project, planned products or publications, timeline for activities, and dissemination strategies;
- description of recruitment and selection of student participants;
- qualifications of staff (and a list of advisory committee members, if applicable);
- description of participating organizations (and their responsibilities) with letters of agreement included in the appendices;
- planned products or publications;
- discussion of the results of prior NSF support if received within the last five years (see page 7 of the *Grant Proposal Guide* for further clarification);
- a systematic evaluation/assessment plan (What will be evaluated, how, by whom, when, its budget, and presentation of baseline data).

C. Budgetary Information

Multi-year projects require a separate budget for each year and a summary budget. In addition to the budget forms, up to three pages of budget justification (narrative for each item) should be included. A copy of the relevant form (NSF Form 1030HRD) is included as Appendix D to this document.

The *Grant Proposal Guide* explains every line on the budget form and provisions ruling allowable costs for items such as salaries and wages, indirect costs, participant support costs, consultant services, travel, etc.

Unique aspects of the HBCU Undergraduate program are:

- funds should be included for each award year, for the principal investigator to attend a two-day meeting in the Washington, DC area; and
- equipment funds may not exceed 30% of the total NSF request.

Proposers should follow their own institution's guidelines regarding per diem allowances or, in the absence of such policies, use the current Federal government daily rate.

D. Cost Sharing

The amount of cost sharing, which will be a review criterion, must be shown in the proposal in enough detail to allow NSF to determine its impact on the proposed project. Cost sharing at a level of 100% of total eligible equipment costs is required for all proposals submitted in response to this announcement. The proposed cost sharing must be shown in the second column titled "NON-FEDERAL MATCHING FUNDS" on the proposal budget form (NSF Form 1030HRD). Documentation of availability of cost sharing must be included in the proposal.

Only items that would be allowable under the applicable cost principles, if charged to the project, may be included as the grantee's contribution to cost sharing. Contributions may be made from any non-Federal source, including non-Federal grants or contracts, and may be cash or in-kind (see OMB Circular A-110, Section 23). It should be noted that contributions counted as cost-sharing toward projects of another Federal agency may not be counted towards meeting the specific cost-sharing requirements of the NSF grant.

All cost-sharing amounts are subject to audit. Failure to provide the level of cost-sharing reflected in the approved grant budget may result in termination of the NSF grant, disallowance of grant costs and/or refund of grant funds to NSF.

SUBMISSION OF PROPOSALS

Two ways to submit a proposal to NSF are mailing paper copies or FastLane (electronic) submission.

For paper submission, the paper copies MUST be received by 5:00 p.m., EST on May 14, 1999; February 1st in subsequent years. Copies of the proposal must be made and submitted to NSF according to the normal procedures for paper proposals identified in the GPG. For electronic submission of proposals, the proposal MUST be submitted by 5:00 p.m., local time, May 14, 1999; February 1st in subsequent years. Proposals submitted late will be returned. Copies of the signed proposal cover sheet must be submitted in accordance with the instructions identified below.

Submission of Signed Cover Sheets. For proposals submitted electronically via the NSF FastLane Project, the signed proposal Cover Sheet (NSF Form 1207) should be forwarded to the following address and received by NSF by April 21, 1999; February 8th in subsequent years.

National Science Foundation
DIS-FastLane Cover Sheet
4201 Wilson Blvd.
Arlington, VA 22230

A proposal may not be processed until the complete proposal (including signed Cover Sheet) has been received by NSF.

A. Mail Submission

Eight (8) copies of the proposal, including one copy bearing original signatures, should be mailed to:

Announcement No. NSF 99-73
HBCU Undergraduate Program
National Science Foundation
PPU Room P60
4201 Wilson Boulevard
Arlington, VA 22230

B. FastLane (Electronic) Submission

The NSF FastLane system is available for electronic preparation and submission of a proposal through the Web at the FastLane Web site at <http://www.fastlane.nsf.gov>. The Sponsored Research Office (SRO or equivalent) must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator (PI) to gain access to the FastLane "Proposal Preparation" application. PIs that have not submitted a proposal to NSF in the past must contact their SRO to be added to the NSF PI database. This should be done as soon as the decision to prepare a proposal is made.

In order to use NSF FastLane to prepare and submit a proposal, the following are required:

Browser (must support multiple buttons and file upload)

- Netscape 3.0 or greater
- Microsoft Internet Explorer 4.0 or greater

PDF Reader (needed to view/print forms)

- Adobe Reader 3.0 or greater

PDF Generator (needed to create project description)

- Adobe Acrobat 3.01 or greater
- Aladdin Ghostscript 5.10 or greater

A list of registered institutions and the FastLane registration form are located on the FastLane Web page.

For paper submission of proposals, the delivery address **must clearly identify the NSF announcement or solicitation number** under which the proposal is being submitted.

Proposal Review Information

A. Merit Review Criteria

Review of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Special care is taken to ensure that reviewers have no immediate and obvious conflicts with the proposer. In addition, special efforts are made to recruit reviewers from non-academic institutions, minority serving institutions, adjacent disciplines to that principally addressed in the proposal, etc.

Proposals will be reviewed against the following general merit review criteria established by the National Science Board. For additional information see Appendix C. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgments.

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 prior work.) To what extent does the proposed activity suggest and explore creative and original 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?

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 students and where

all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learner perspectives. Principal Investigators (PIs) should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

Integrating Diversity into NSF Program, 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. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

B. Merit Review Process

Most of the proposals submitted to NSF are reviewed by mail review, panel review, or some combination of mail and panel review.

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field(s) represented by the proposal. Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. In most cases, proposers will be contacted by the Program Officer after his or her recommendation to award or decline funding has been approved by his or her supervisor, the Division Director. This informal notification is not a guarantee of an eventual award. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals in this category. The time interval begins on the proposal deadline. The interval ends when the division director accepts the Program Officer's recommendation.

In all cases, after final programmatic approval has been obtained, the recommendation then goes 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 types of agreements. Proposers are cautioned that only a Grants 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 an 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 Officer does so at their on risk.

AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award, **through a cooperative agreement**, 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 Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator.

B. Award Conditions

Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: http://www.gpo.gov.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented a new electronic project reporting system, available through FastLane, which permits electronic submission and updating of project reports, including information on: project participants (individual and organizational); activities and findings; publications;

and, other specific products and contributions. Reports will continue to be required annually and after the expiration of the grant, but PIs will not need to re-enter information previously provided, either with the proposal or in earlier updates using the electronic system.

Effective October 1, 1998, PIs are required to use the new reporting format for annual and final project reports. PIs are strongly encouraged to submit reports electronically via FastLane. For those PIs who cannot access FastLane, paper copies of the new report formats may be obtained from the NSF Clearinghouse as specified above. NSF expects to require electronic submission of all annual and final project reports via FastLane beginning in October, 1999.

D. New Awardee Information

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 97-100) includes information on: Administration and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: http://www.nsf.gov/cgi-bin/getpub?nsf97100.

RELATIONSHIP TO OTHER NSF PROGRAMS

The HBCU Undergraduate Program is among those that *target underrepresented minorities* in science, engineering, mathematics, and technology and that *promote innovation in education for all students*. The *HBCU-UP*, Louis Stokes Alliances for Minority Participation, Centers of Research Excellence in Science and Technology, and Minority Graduate Education (MGE) programs promote the development of a comprehensive, strategic, and systemic educational continuum, from promote the development of a comprehensive, strategic, and systemic educational continuum, from the undergraduate to the doctorate level, to increase diversity in the SMET workforce, particularly in the professoriate. Other related programs include: Collaborative Integration of Research and Education (CIRE) and Integrated Graduate Education Research and Training (IGERT).

Within the Directorate for Education and Human Resources, other programs strengthen education for all students. The Division of Elementary, Secondary, and Informal Education supports programs for teacher enhancement, instructional materials development, informal science, and technological education. Other divisions in the Directorate support K-12 education, undergraduate education, graduate education, informal science, research and evaluation.

Principal Investigators may find that their proposal fits the objectives of several programs at NSF. They are encouraged to review the scope of related programs on the NSF Web site at www.nsf.gov or the *Guide to Programs* and consider where their proposal might compete best.

OTHER PROGRAMS OF INTEREST

The *NSF Guide to Programs* is a compilation of funding opportunities for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility for proposal submission are provided in each chapter. The Guide is only available electronically. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the Grant Policy Guide (GPG).

Any changes in NSF's fiscal year programs occurring after press time for the NSF Guide to Programs will be announced in the Electronic Bulletin available electronically on the NSF Web site at: http://www.nsf.gov/. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

INQUIRIES

Inquiries for *HBCU-UP* should be addressed to the mail address below or you may telephone the HBCU Undergraduate Program staff at 703-306-1632. The mail address is:

HBCU Undergraduate Program
Room 815
Division of Human Resource Development
Directorate for Education and Human Resources
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230

Appendix A: Resources for Proposal Preparation

Publications, Forms, Guides

- **Grant Proposal Guide (NSF 99-2)** contains complete guidelines on proposal

preparation, eligibility, proposal review criteria, continued support and grant administration.

- **Proposal Forms Kit (NSF 99-3)** is available on its own and is also contained in the Grant Proposal Guide.

- **NSF Guide to Programs**, Fiscal Year 1999 NSF Funding Opportunities **(NSF 99-4)** is the most comprehensive guide to NSF funding.

- **A Guide for Proposal Writing (NSF 98-91)** developed by the Division of Undergraduate Education in the Directorate for Education and Human Resources, offers basic, step-by-step help in developing a competitive proposal.

- **Grant General Conditions (NSF 98-GC1a)** December 1977, contains a summary of the legal conditions ruling NSF grants.

How to Obtain NSF Publications

1. Visit http://www.nsf.gov and select "**Documents**."

2. More directly, go to http://www.nsf.gov/cgi.bin/pubsys/browser/odbrows.pl

   - Select "**Search by Document Reference Number**"
   - Enter "**NSF 99-2**" or another document number
   - elect whatever version is available: **ASCII, HTML, or PDF**
   - You may download and print.

3. Send a Request for Publication "NSF 99-2" or such to pubs@nsf.gov, giving your name and mailing address.

4. Call 301-947-2722 and provide the publication number, and your name and address.

Appendix B: Proposal Checklist

- **Proposal Cover Sheet including Certification Page** - NSF Form 1207:
  - The title should inform the public, identify the project, and be reasonable in length.
  - Educational projects generally are exempt from human subjects regulations. Therefore, *do not* check the human subjects box without talking with your institution's grants office.

- **Information about Principal Investigators/Project Directors** - NSF Form 1225:
  - *Only one copy* should be sent--*clipped* to original signature copy.

- **Project Summary** - Self-contained description of 200 words or less, *suitable for publication.*

- **Table of Contents** - NSF Form 1359, with page numbers listed.
  - Please number your pages! Reviewers notice this.

- **Project Description**
  - *May not exceed 15 pages of text! See the Grant Proposal Guide (page 5-6) for information regarding proposal format, e.g., font size, spacing, margins.* Proposals that do not conform to these rules may be rejected without review!
  - When applicable, the narrative *must* include results from prior NSF support to Principal Investigator *or* Co-PI (within the last five years), whether or not that award was germane to the current proposal (*Grant Proposal Guide*, pp. 7-8).

- **Bibliography**

- **Biographical Sketches** (up to two pages each)

- **Detailed Budget** - NSF Form 1030
  - Projects exceeding 12 months will need a *separate budget page for each year* or a portion thereof, a budget page for any sub-contract(s), and a *summary budget*.
  - *List the number of participants supported* in parentheses under line F – Total, Participant Costs. Reviewers notice this!

- **Budget Justification** (narrative): In a maximum of three pages, *carefully justify the need for funding at the requested level, as well as the categories/items therein*.

- **Current and Pending Support** - NSF Form 1239

- **Supplemental Information Should Include:**
  - *Letters of commitment* **documenting** collaborative and other arrangements. *Do not include letters of general support*.
  - Descriptions of any participating

organizations that might be unknown to the reviewers, *e.g*., museums, science centers.
- List of advisory board members, if applicable.
- *Do not* include extraneous materials since NSF leaves to the individual reviewer's discretion what part of the supplemental materials should be read. *Excess items will not be sent to the reviewers*

Appendix C: Quality of Proposal Checklist

Applicants are encouraged to view their proposal through the eyes of a reviewer, or ask a colleague to conduct an informal review.

- Does the proposal meet *all* eligibility criteria; does the project scope match programmatic requirements?
- Is the concept of the project innovative in its approach to increasing diversity in science, mathematics, engineering and technology?
- Will the project have an impact on the knowledge base in the field; the academic climate and research for underrepresented population groups, and for increasing recruitment, retention, degree conferral and career entry among the target populations?
- Does the project summary state the scope, parameters, and impact of the project?
- If the PI or a Co-PI had *any* NSF prior support within the last five years, is it cited and described?
- Is there a significant difference between prior work and the current proposal?
- Are the goals, objectives, activities, and methods of the project clear? Do they demonstrate a strong plan – are they specific, relevant, realistic, feasible, and reasonably developed within the page limit?
- Is the project cost effective for the number of participants and potential impact?
- Does the proposal reflect awareness of the existence of relevant literature and relevant established projects and materials? Is it positioned in the field – literature and projects? Is work of others incorporated and is it acknowledged?
- Is institutional/organizational commitment reflected in the proposal?
- Is there documentation of commitments and special arrangements from key collaborators?
- Are participant recruitment and selection plans fully addressed?
- Is appropriate experience and training reflected in the background of those leading the specified activities?
- Are the evaluation plans appropriate and are they adequately represented in the budget?
- Does the proposal answer the what, when, where, and how questions about the project?
- Is it likely that the project will achieve the stated objectives?
- Is it likely that components of the project will be institutionalized after NSF funding ends?

APPENDIX D

HRD PROPOSAL BUDGET

FOR NSF USE ONLY		
PROPOSAL NO.	DURATION (MONTHS) Proposed	Granted
AWARD NO.		

ORGANIZATION

PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR

A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.6. show number in brackets)	NSF FUNDED PERSON-MOS. CAL.	ACAD.	SUMR.	FUNDS REQUESTED FROM NSF	NON-FEDERAL MATCHING FUNDS	TOTAL PROJECT COSTS
1.				$	$	$
2.						
3.						
4.						
5. ( ) OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)						
6. ( ) TOTAL SENIOR PERSONNEL (1-5)						
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)						
1. ( ) POST DOCTORAL ASSOCIATES						
2. ( ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)						
3. ( ) GRADUATE STUDENTS						
4. ( ) UNDERGRADUATE STUDENTS						
5. ( ) SECRETARIAL - CLERICAL						
6. ( ) OTHER						
TOTAL SALARIES AND WAGES (A+B)						
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)						
D. PERMANENT EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $1000):						
TOTAL PERMANENT EQUIPMENT						
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)						
2. FOREIGN						
F. PARTICIPANT SUPPORT COSTS						
a. K-12 (Students) #_____ Stipend $_____ Travel $_____ Subsist. $_____ Other $_____						
b. K-12 (Teachers) #_____ $_____ $_____ $_____ $_____						
c. Undergraduate #_____ $_____ $_____ $_____ $_____						
d. Graduate #_____ $_____ $_____ $_____ $_____						
e. Faculty #_____ $_____ $_____ $_____ $_____						
( ) TOTAL PARTICIPANT COSTS						
G. OTHER DIRECT COSTS						
1. MATERIALS AND SUPPLIES						
2. PUBLICATION COSTS/PAGE CHARGES						
3. CONSULTANT SERVICES						
4. COMPUTER (ADPE) SERVICES						
5. SUBCONTRACTS						
6. OTHER						
TOTAL OTHER DIRECT COSTS						
H. TOTAL DIRECT COSTS (A THROUGH G)						
I. INDIRECT COSTS (SPECIFY)						
TOTAL INDIRECT COSTS						
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPM 252 AND 253)						
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)				$	$	$

PI/PD TYPED NAME & SIGNATURE*	DATE	FOR NSF USE ONLY INDIRECT COST RATE VERIFICATION		
INST. REP. TYPED NAME & SIGNATURE*	DATE	Date Checked	Date of Rate Sheet	Initials-DGA / Program

NSF Form 1030HRD (9/94)

*SIGNATURES REQUIRED ONLY FOR REVISED BUDGET (GPM 233)

NATIONAL SCIENCE FOUNDATION

The Foundation provides awards for research and education in the sciences and engineering. The awardee is wholly responsible for the conduct of such research and preparation of the results for publication. The Foundation, therefore, does not assume responsibility for the research findings or their interpretation.

The Foundation welcomes proposals from all qualified scientists and engineers and strongly encourages women, minorities, and persons with disabilities to compete fully in any of the research and education related programs described here. In accordance with federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving financial assistance from the National Science Foundation.

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The National Science Foundation has TDD (Telephonic Device for the Deaf) capability, which enables individuals with hearing impairment to communicate with the Foundation about NSF programs, employment, or general information. To access NSF TDD, dial (703) 306-0090; for FIRS, 1-800-877-8339.

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. Information on proposal forms will be used in connection with the selection of qualified proposals; 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 application review process; to applicant institutions/grantees to provide or obtain data regarding the application review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; 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," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

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 this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer; Division of Administrative Services; National Science Foundation; Arlington, VA 22230.

YEAR 2000 REMINDER

In accordance with Important Notice No. 120 dated June 27, 1997, Subject: Year 2000 Computer Problem, NSF Awardees are reminded of their responsibility to take appropriate actions to ensure that the NSF activity being supported is not adversely affected by the Year 2000 problem. Potentially affected items include: computer systems, databases, and equipment. The National Science Foundation should be notified if an awardee concludes that the Year 2000 will have a significant impact on its ability to carry out an NSF funded activity. Information concerning Year 2000 activities can be found on the NSF web site at http://www.nsf.gov/oirm/y2k/start.htm.

Catalog of Federal Domestic Assistance Number (CFDA): 47.076. Education and Human Resources

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