



THURGOOD MARSHALL COLLEGE FUND

National Aeronautics and Space Administration (NASA) One-Semester STEM Faculty and Students Fellowship

Prepared Date: May 15, 2010

Submission Deadline & Time: June 15, 2010 at 12:00 PM CST

Direct Questions to:
Crystal D. Hadnott
Senior Program Manager
(713) 574-4922 office
(713) 226-7017 facsimile
crystal.hadnott@tmcfund.org

I. INTRODUCTION

About the Thurgood Marshall College Fund

The Thurgood Marshall College Fund, Inc., (TMCF) named for the late U.S. Supreme Court Associate Justice, was established in 1987 and represents 47 public Historically Black Colleges and Universities (HBCUs) located in 22 states with a population of well over 235,000 students. Over the last 21 years, Thurgood Marshall College Fund has awarded more than \$90.5 million in scholarships, programmatic, and capacity support, enabling over 7,500 students to attend public Historically Black Colleges and Universities. Thurgood Marshall College Fund also provides internship programs and joins corporate and foundation partners in providing leadership training and support to students preparing for undergraduate and professional schools. Thurgood Marshall College Fund is a 501(c) 3, tax-exempt organization. Please visit the Thurgood Marshall College Fund at www.thurgoodmarshallfund.org.

For decades, there has been clear and overwhelming evidence that minorities are underrepresented in many professional disciplines, particularly in science, technology, engineering and mathematics (STEM) areas. TMCF and its member network of 47 HBCUs, with 235,000 students, are well positioned to develop a pipeline to reduce these disparities.

With NASA's continued support, TMCF is able to leverage its position to expand the pipeline of minority students entering the STEM fields with the faculty fellowships.

Three awards will be granted to the best proposals: **\$80,000** for a faculty member, **\$25,000** for a doctoral student; and **\$12,500** (each) for two undergraduate students.

II. PROGRAM GUIDELINES

Program Overview

This program is designed to accelerate the scientific research and careers of faculty members and students. Funding provided by NASA will enable TMCF faculty members and students to serve as visiting researchers for one (1) semester (summer semester) at a laboratory of a senior scientist who is conducting NASA-funded research at a premier research institution. These funds will also supplement compensation, travel, and lodging expenses during the semester.

Faculty members and students will be expected to be a significant participant in at least one vital aspect of the funded scientists' research, with the goal of developing sufficient expertise to be competitive to receive independent NASA funding in the future. Part of the development process will also include being more conversant in funding mechanisms, requirements, and effective grant writing techniques. The goal is to prepare selected faculty members and students as independent investigators in research areas vital to NASA.

Each research proposal will be assigned to a faculty member, doctoral students, and two undergraduate students. Below are the selected research topics. All proposals should be based on one of the topics below:

1. Micro-Electronic-Mechanical-System Conical Beam Former
2. Next Generation Microshutter Arrays
3. Applications of Parametric Spectral Estimation Techniques (MUSIC) for Synthetic Aperture Radar (SAR) Data Processing for Super-Resolution SAR Images
4. Science, Technology, Engineering, and Mathematics (STEM) Curricula Building Enabling a Data Taking Field Experience to Connect Hands-on Atlantic Ocean and Chesapeake Bay Watershed Measurements to Satellite Data
5. Science, Technology, Engineering, Mathematics (STEM) Curricula Building and Uploading using an Intuitive and Interactive Modem and Intelligent Sensors Introduced in Physical and Enhanced
6. Augmented Reality Environments
7. Advanced Space Radiation effects on Electronics: Environment and Electronic Device Response
8. Hybrid (FPGA, CPU, DSP) Science Data Processing Application Development for the Earth Science Decadal Survey Missions

TMCF is issuing this Request for Proposal to public HBCU STEM faculty and students who are to compete for the grant opportunity. Proposals will be judged by an ad-hoc committee.

Eligibility

This Request for Proposal is intended for faculty members from the 47 member public HBCUs affiliated with TMCF who are less than five years post-doctoral degree. The faculty members do not have to be a United States citizen to submit a proposal. Faculty members for different member schools are welcomed to collaborate on a proposal, but there has to be one member school selected as the principal researcher. Faculty members can tailor the proposal to their research discipline of choice as it surrounds the topic given above. Multiple proposals can be submitted per member school.

Selection Criteria

TMCF has selected an ad-hoc committee that will be responsible for reviewing the submitted proposals and selecting awardees.

Awards will be given on the basis of the strength of the following (as determined by a selection committee):

- The description of proposal goals and objectives;
- The plan that describes how the needs, goals and objectives will be met; and
- The evaluation system for measuring progress and the impact of the proposed initiative.

These awards will solely support the implementation of the research methods described in the original proposal that the faculty member submitted to TMCF.

Proposal Review Process

After successfully submitting your proposal, it goes through the review and selection process as outlined below. The review process takes about 30-45 days. Only the proposals that met the basic requirements and guidelines are reviewed by the selection committee. Guidelines are discussed in Section III of this Request for Proposal.

If all basic requirements are met, the committee will then review the proposal to make sure the information presented is reasonable and understandable and that the activities proposed in the application are measurable, achievable, and consistent with information being requested.

If your proposal is selected, you will receive an email notification within 30 days.

Reporting Requirements

The faculty members are required to submit interim reports on the progress and hardships (if any) of their program for the duration of the implementation period. The identified TMCF contact for this grant is to be notified about all hardships or mishaps that may occur during the implementation process that may have an impact on the original proposal. Should any of the awarded faculty members have to halt their program under any circumstance, they are required to notify TMCF promptly before and after the decision is rendered. They are to provide TMCF, in writing, a full report of all the events that led to the decision.

The research is projected to begin in June 2010 and end on October 2010. This faculty collaboration is the initial step which allows for potential continued relationships with NASA.

Stages in the Process



STEP 1: Solicitations Posted; Application Period Begins

All proposals (both the electronic copy and hard copy) are due **June 15, 2010**. Proposals received after 12:00 PM Central Standard Time, **June 15, 2010**, will not be considered. **Late submissions will not be accepted for any reasons.**

STEP 2: Proposal Application Review

Proposals are initially reviewed to ensure that they meet the basic minimum guidelines and completeness set forth in the solicitation document. The proposals are then reviewed by the committee to make sure the information presented is reasonable and understandable and that the proposed activities are measurable, achievable, and consistent with the information provided in the Request for Proposal.

STEP 3: Grant Award Notification

Thurgood Marshall College Fund notifies successful applicants that they will receive grant awards and generally issues rejection letters to unsuccessful applicants within 60 days of the proposal deadline.

STEP 4: Post-Award

Once you receive an award, you are required to sign and forward all documentation necessary. You are also required to forward interim reports on the progress and hardships (if any) of their program for the duration of the implementation period. The identified TMCF contact for this grant is to be notified about all hardships or mishaps that may occur during the implementation process that may have an impact on the original proposal.

STEP 5: Award Closeout

After the project period of your grant has ended, you need to submit all closeout documents and reporting as well as complete closeout requirements within 30 days after the end of the grant.

III. REQUEST FOR PROPOSAL GUIDELINES

Faculty members wishing to participate in the program must submit a proposal in accordance with the program and proposal guidelines, and include all attachments and documentation requested. Proposals along with all attachments and documentation requested should be scanned into one document when forward forwarding the electronic version. Although there is no strict proposal format, the following headers are suggested and are followed by a brief explanation of the kind of information that would be helpful in each section of your proposal.

The process is competitive; therefore, it is critical to follow the instructions and guidelines outlined in this Request for Proposal. All proposals (both the electronic copy and hard copy) are due **June 15, 2010**. Proposals received after 12:00 PM Central Standard Time, **June 15, 2010**, will not be considered. **Late submissions will not be accepted for any reasons.**

Indirect Costs

The research award amount of this research opportunity is \$49,900 and should be directly applied towards the research project. Although the proposed budget submitted with the proposal may exceed the \$49,900 grant award, the \$49,900 grant award does not include indirect costs.

Title Page

Research topics from list previous stated should be added to all title pages. All proposals should have a title page indicating the name of the school, title of the proposal, and contact person for the proposal with their contact information (if different from the individual preparing the proposal).

Abstract

The abstract is a brief summary of approximately 300 words. It should include the research question, the rationale for the study, the hypothesis (if any), the method and the main findings.

Statement of Research Questions

The statement of research questions is a brief statement detailing and conceptualizing your research questions. You can also provide background information or context in order to frame your research problem.

Significance of Research

This section convinces your reader that your proposed research will make a significant and substantial contribution to the subject matter.

Literature Review

The literature review ensures that you are not "reinventing the wheel" and gives credits to those who have laid the groundwork for your research. It also demonstrates your knowledge of the research problem stated in the in the above sections.

Conceptual Framework (if applicable)

This section displays your understanding of the theoretical and research issues related to your research. It also shows your ability to critically evaluate relevant information related to the subject matter. Lastly, it provides new theoretical insights or develops a new model as the conceptual framework for your research.

Methodology

The methodology section is very important because it tells the ad-hoc committee how you plan to tackle your research problem. It will provide your work plan and describe the activities necessary for the completion of your project.

Plan for Dissemination

The plan for dissemination is a statement including the medium through which the research can best be delivered to a specific targeted audience. You should also describe the capabilities and resources for dissemination. The discussion of potential strategic alliances and partnerships can also be included.

Statement of How Grant Funds will be Used

It is important to state how the grant funds will be utilized in your research, so this section can be used to outline the impact the funds will have on your particular research.

Proposal Attachment

The following attachments are required for your proposal to be considered complete:

- Curriculum vitae outlining the qualifications and experiences of the individual leading the research; and
- One letter of recommendation from someone who can speak to your level of expertise.

IV. ADMINISTRATIVE

The contact person for this Request for Proposal is Crystal D. Hadnott. Please direct all your questions and inquiries to her. Proposals along with all attachments and documentation requested should be scanned into one document when forward forwarding the electronic version. You are required to email an electronic copy as well as mail a hard copy to the contact information below:

Crystal D. Hadnott, MPA
Senior Program Manager
Thurgood Marshall College Fund
1906 Cochran Street, Second Floor
Houston, Texas 77009

(713) 574-4922 office
(713) 226-7017 facsimile
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