

# THE DEPARTMENT OF DEFENSE (DoD)

Fiscal Year 2004

Instrumentation and Research Support for Historically Black  
Colleges and Universities and Minority Institutions (HBCU/MI)

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**ARO Broad Agency Announcement**  
**DAAD19-03-R-0014**

**Proposal Deadline: December 18, 2003**

*Proposals must be received no later than 4:00 p.m. Local Time  
Thursday, December 18, 2003*



September 2003

**Issued by the Army Research Office  
on behalf of the  
Office of the Director of Defense Research and Engineering**

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## **I. General Information**

The Department of Defense (DoD) announces the fiscal year 2004 DoD Infrastructure Support Program for Historically Black Colleges and Universities and Minority Institutions (HBCU/MI). The program is executed under the policy and guidance of the Office of the Director of Defense Research and Engineering (ODDR&E) and administered through the Army Research Office (ARO) and the Air Force Office of Scientific Research (AFOSR). Goals of the program include (a) enhancing programs and capabilities at these institutions in scientific and engineering disciplines critical to the national security functions of DoD and (b) increasing the number of graduates, including underrepresented minorities, in the fields of science, mathematics, and/or engineering.

Awards made under this program will support equipment acquisition, research, or a combination of these (see Section III). Awards will be limited to institutions having accredited, degree-granting programs in science, mathematics, and/or engineering (See Section II, Eligibility Information). This program is not intended to fund construction or general purpose office equipment.

Approximately \$5.3 Million Fiscal Year 2004 funds are expected to be available for new awards under this solicitation. Proposals will be evaluated by scientists and engineers of the ARO and AFOSR according to criteria listed in Section V of this announcement. Awards based on this solicitation will be made by the Army Research Office.

**Program Title:** *Fiscal Year 2004 Department of Defense Instrumentation and Research Support for Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs)*

**Program Number:** *ARO Broad Agency Announcement DAAD19-03-R-0014.*

**Award Type:** Awards will be made by project grants.

### **Agency Contacts:**

ODDR&E: Evelyn Kent, 703-696-0368  
[Evelyn.Kent@osd.mil](mailto:Evelyn.Kent@osd.mil)

Army Research Office: Jenny W. Haire, 919-549-4205  
[Haire@aro.arl.army.mil](mailto:Haire@aro.arl.army.mil)

Air Force Office of Scientific Research (AFOSR):  
Dr. Koto White, 703-696-7319 (Primary)  
[koto.white@afosr.af.mil](mailto:koto.white@afosr.af.mil)

Mr. Edward Lee, 703-696-7318 (Alternate)  
[Ed.lee@afosr.af.mil](mailto:Ed.lee@afosr.af.mil)

**Catalog of Federal Domestic Assistance (CFDA) Number:** 12.630

**CFDA Title:** Basic, Applied, and Advanced Research in Science and Engineering

## **II. Eligibility Information**

This competition is open to Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs) named in the U.S. Department of Education Accredited Postsecondary Minority Institutions list. The list is compiled by the Office for Civil Rights, U.S. Department of Education, using enrollment data reported by Postsecondary Institutions to the National Center for Integrated Statistics and the Office for Civil Rights in the Integrated Postsecondary Education Data System (IPEDS) Fall enrollment survey, formerly called the Higher Education General Information Survey (HEGIS). It is available at <http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>.

Proposing schools need not be research institutions, but they must have science, mathematics and/or engineering programs and a history of graduating students in one or more of these fields. Community colleges or junior colleges responding to this announcement must demonstrate or establish a program in which the graduates will continue their studies toward the baccalaureate degree. The institution granting the baccalaureate degree need not be a minority institution but must formally agree to participate and to provide support to the community/junior college graduates as stipulated in the proposal.

Questions concerning the minority institution list must be directed to the IPEDS Inquiry Line (202-205-9567) in the Office for Civil Rights, U.S. Department of Education, not to the Department of Defense.

## **III. Program Description**

This program is expected to increase the number of students, including underrepresented minority students that obtain undergraduate and graduate degrees in science, mathematics, and/or engineering. However, please note that recruitment and selection of students associated with this program must comply with Section 2000d of Title 42, United States Code, which provides: *No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.*

**A. Instrumentation/Equipment Component:** Proposals are solicited for the acquisition of instrumentation/equipment to enhance education and/or research programs in science, mathematics, and/or engineering. Proposals must address the impact of the proposed instrumentation/equipment on the institution's ability to attract students to these fields of study and encourage them to pursue undergraduate and graduate degrees, particularly in areas of scientific interest to ARO or AFOSR. Areas of scientific interest may be found at:

For ARO: <http://www.aro.army.mil>. Select 'Annual BAA' or select 'Funding Opportunities,' then select 'US Army Research Laboratory BAA# DAAD19-03-R-0017 and go to Part I.B.'

For AFOSR: <http://www.afosr.af.mil>. Select "Research Opportunities." A help line is available at 301-975-0103.

Instrumentation/equipment grant awards will range from \$50,000 to \$200,000 (total cost to DoD) with a performance period of 12 months. Proposals may request funding for more than one instrument or piece of equipment if the requested pieces complement or replace existing instruments, interface with existing instruments or each other, or otherwise expand the capabilities of one or more departments. One instrumentation proposal per institution is allowed. If more than one instrumentation/equipment proposal is received from a given institution, that institution will be required to designate one to remain in competition. This will help assure that each institution's highest priority equipment needs get full consideration, it will reduce the cost of writing proposals, and it may enhance the number and range of institutions receiving awards.

The proposed equipment may be incorporated into other assistance programs that enhance science, mathematics, or engineering education and/or research. For example, if assistance from other sources (e.g., industry, state, federal, etc.) exist or is contemplated, it should be discussed.

**B. Research Component:** Proposals are solicited for basic research in areas of interest to ARO or AFOSR (see Section A above for links to web sites). Points of contact (i.e., research program managers) are listed for each research area. Principal investigators are encouraged to contact the program managers to explore areas of mutual research interest.

An institution may submit more than one research proposal under this announcement. Research projects will have a performance period of 36 months and will be funded at approximately \$100,000 per year. In addition, research proposals may request up to \$200,000 to purchase instrumentation/equipment necessary to carry out the proposed research. Thus, a research project combined with instrumentation/equipment acquisition may be valued at \$500,000. Please note that instrumentation/equipment acquisitions must be budgeted in the first year of the program. All instrumentation/equipment acquired via this solicitation shall be vested with the proposing institution.

Research may be conducted by a principal investigator working within a traditional single-institution environment or as a collaborative effort with one or more partners. Collaborators may be at other educational institutions (not necessarily HBCU/MIs), a DoD laboratory or Research, Development, and Engineering Center (RDEC), a DoD University Affiliated Research Center (UARC), a nonprofit research institution, and/or an industry or small business.

Funds for research projects can be awarded only to a HBCU/MI. Subaward of funds from this program to a collaborating HBCU/MI is permitted, but non-HBCU/MI research partners must support their activities with resources otherwise available to them. The principal investigator must be a U.S. citizen or permanent resident and a faculty member at the institution receiving the grant. Travel and per diem for the principal investigator, other participating faculty and students are appropriate budget items for research projects.

A discussion of collaborations, if any, should be included in the proposal. Provide name and location of the institution(s) involved, names and credentials of collaborating scientists, and coordination procedures that will be employed to assure the success of the project. Partners in the collaboration should describe their support of the project, including cost sharing where applicable, via a letter to the principal investigator. Such letter(s) shall be included in the proposal package.

Investigators are encouraged to bring innovative approaches to collaborations with a view toward enhancing the ability of HBCU/MIs to develop strong science and engineering programs that will attract and retain good students. One of the purposes of this program is to allow HBCU/MI students to be exposed to DoD and other state-of-the-art research. Methods and means by which an HBCU/MI may develop research collaborations are as varied as the number of schools submitting proposals. Factors such as geographical location, research capabilities, facilities and available equipment are unique to each institution. Therefore, DoD will not prescribe a specific structure for a collaborative project. Rather, each principal investigator is encouraged to be innovative and creative in designing a program that utilizes available resources.

#### **IV. Proposal Submission Information**

Proposals must be complete and self-contained to qualify for review. All proposals require the signed original and five (5) photocopies. The original should have the word "ORIGINAL" stamped or printed in the upper right corner.

Each proposal shall be TYPED, 12-POINT, one-sided, on 8 ½ x 11-inch white paper, stapled in the upper left corner. Separate attachments such as institutional brochures will not be accepted. Plastic covers or binders should not be used.

Instrumentation proposals must not exceed 25 pages. Research proposals must not exceed 50 pages. The proposal cover (Attachment A) is required on all proposals and is not included in the page count.

##### **A. Proposal Content:**

1. Proposal Cover: Use the two page form provided (Attachment A).

2. Abstract. Provide a summary of the proposal. For an instrumentation proposal, describe the item(s) requested and the program enhancements that would be supported by such acquisition. For a research proposal, provide a description of the project as it relates

to research interests of the Army or Air Force (see Section III.A.) and, if applicable, address the instrumentation/equipment acquisitions proposed.

### 3. Budget.

(a) Equipment Proposal: Include a budget that identifies:

- Equipment to be purchased, cost per item and total cost. Indicate the proposed source(s) of the equipment. Include the name and phone number of a contact at the source(s) or a web site address listing the equipment and price.
- Installation cost of the equipment and cost of facility renovations to accommodate such equipment may be included in the budget.
- Contractor support for initial set up, calibration and other operational assistance may be included in the budget.

The cost of continued operation and maintenance must be met by normal support mechanisms and are not to be part of the equipment budget. Salaries and overhead are not appropriate for an equipment proposal.

(b) Research Proposal: Provide cost estimates sufficiently detailed for meaningful evaluation. The budget should be broken down into 12-month periods. Use an award start date of August 9, 2004. A total amount for each period should be shown as well as a total amount for the entire period of performance (36-month maximum). Any funds available from other sources (e.g., as cost sharing) should be shown in a separate column for each budget period. A sub award of funds provided under this solicitation to another HBCU/MI for collaborative research can be proposed; in such case, a similarly itemized budget for the proposed costs for the sub award must be included. Costs should be itemized as follows:

1. Salaries and Wages
2. Employee Benefits (provide approved rate agreement)
3. Permanent Equipment Costs (list items, source, and price)
4. Expendable Supplies and Materials
5. Travel (list location & purpose)
6. Publication and Report Costs
7. Computer Costs (provide details)
8. Other Direct Costs (list items)
9. Indirect Costs (provide approved rate agreement)

### **B. Supporting Information**

1. Proposal for Instrumentation Only: Describe how the proposed instrumentation/equipment will (1) enhance the quality of academic programs, particularly in science, mathematics, or engineering and, (2) indicate the educational departments and other

groups within or outside the institution that will use the instrumentation, as well as any other programs that will benefit from its use.

The proposal should explain how the new equipment would be used. For example, describe how it would enhance the quality of academic programs, particularly in areas of science, mathematics, or engineering, and how it would interface with existing equipment, if applicable. Any existing or planned mentoring programs or other after-hours educational activities should be discussed, as well as any educational outreach plans that involve high school students and/or high school teachers.

Describe any special circumstances regarding the acquisition or installation of new equipment. For example, does the facility require improved electrical or plumbing service to accommodate the new equipment? If so, these improvements should be budgeted.

Indicate the estimated useful life of the equipment and describe the plan to service and maintain it, including source(s) of funds.

Indicate if faculty members will require training for optimum use of proposed instrumentation. If so, this should be budgeted. Funds for extramural technical assistance may also be requested.

Include curriculum vitae for the principal investigator and other key personnel.

2. Research Proposal That Includes Instrumentation/Equipment Acquisition: Describe how the proposed instrumentation/equipment will (1) enhance the quality of research and research-related education in science, mathematics, or engineering and/or (2) establish new research capabilities or enhance current research capabilities for performing research in areas of interest to the DoD.

**C. Submission Date and Time. Proposals must be received by ARO no later than 4:00 p.m. Local Time on Thursday, December 18, 2003.**

The offeror is responsible for submitting the proposal to reach the Army Research Office no later than the stated date and time. Any proposal arriving after the deadline is "late" and will not be considered for an award, except for the following:

1. There is acceptable evidence that the properly addressed proposal was delivered to the Army Research Office by the deadline; or

2. The properly addressed proposal was sent by U.S. Postal Service Express Mail prior to December 16, 2003. The term "business days" excludes weekends and federal holidays.

In case the operation of the Army Research Office is interrupted and the office is unable to receive the proposal, the deadline is extended to the same time of the first day when the office is in operation.



Please note that proposals delivered by commercial carriers are considered "hand carried" and that no exceptions can be made to allow such proposals to be considered if, for any reason, they are received after the deadline. Offerors are advised that some proposals responding to past announcements that were sent via commercial carriers were delayed during shipment and arrived after the deadlines, typically by one or two days. To decrease the probability that proposals delivered by commercial carriers will arrive after the deadline and thus be ineligible to compete, offers are encouraged to schedule delivery to occur before the deadline date.

All proposals must be sent to the Army Research Office. Point of contact at delivery site is Jenny Haire, 919-549-4205. Please note the following special instructions:

Use the post office box address for delivery by U.S. Postal Service:

Army Research Office  
ATTN: AMSRL-RO-RT (HBCU/MI 2004)  
P.O. Box 12211  
Research Triangle Park, NC 27709-2211

Use the street address below for delivery by commercial carrier (e.g., Federal Express, etc):

Army Research Office  
ATTN: AMSRL-RO-RT (HBCU/MI 2004)  
4300 South Miami Boulevard  
Durham, NC 27703-9142

To obtain acknowledgement that your proposal was received at ARO, enclose the form at Attachment B along with a self-addressed, stamped envelope.

Proposals submitted in whole or in part by electronic media (computer disk or tape, facsimile machine, electronic mail, etc.) will not be accepted.

3. Other Submission Requirements: All awards require certification of compliance with national policy requirements. Statutes and government wide regulations require some certifications be submitted at the time of proposal submission. These include Appendix A to 32 CFR Part 25 regarding debarment, suspension, and other matters; Appendix C to 32 CFR Part 25 regarding drug-free workplace; and Appendix A to 32 CFR part 28 regarding lobbying. Full text of these certifications may be found at:

<http://www.afosr.af.mil/oppts/afprop.htm> (Click on "Grant Certification')

## **V. Proposal Review and Selection**

### **A. Evaluation Criteria (Instrumentation/Equipment Proposals)**

The primary evaluation criteria, of equal importance, are:

1. The impact of requested equipment on the science, mathematics and/or engineering educational programs of the institution;
2. The impact on students and the number of students who will use the equipment or will benefit from its use in the science, mathematics and/or engineering curricula;
3. Degree to which the requested instrumentation will interface with or upgrade other programs and instruments and the impact relative to current capabilities;
4. Qualifications of the faculty to carry out the educational program, including the use and maintenance awareness of the instrumentation/equipment proposed for purchase;
5. Realism and reasonableness of cost.

### **B. Evaluation Criteria (Research Proposals)**

Research proposals will be evaluated using the following criteria. The primary evaluation criteria (of equal importance) are:

1. Scientific and technical merits of the proposed research.
2. Potential contributions of the proposed research to the mission of the ARO or AFOSR.
3. Likelihood of the proposed research to develop new research capabilities or enhance existing research capabilities and to broaden the university research base in support of national defense, and the potential to contribute to the education of future scientists and engineers in disciplines critical to the mission of the Department of Defense.

Other evaluation criteria (of less importance than 1, 2, and 3, but of equal importance to each other) are:

4. The qualifications, capabilities, experience, and research accomplishments of the Principal Investigator and other key personnel whose involvement is critical to achieving the objectives of the proposal.
5. The expected impact of the proposed involvement of and interaction with DoD or other federal laboratories, industry, or other existing research centers of excellence.
6. Budgetary realism and cost effectiveness of the proposal.

**C. Review and Selection Process** – Proposals will undergo concurrent evaluations by scientists and engineers of the ARO and AFOSR and ranked according to the above criteria. The most meritorious proposals will receive further consideration by an evaluation panel comprised of DDR&E, Service program managers and technical area experts. The panel will compile a list of finalists that will be recommended for award and the approval of the Deputy Director of Defense Research and Engineering (Basic Research).

**D. Selection Announcement and Award Dates** – Initial announcement of selectees will be made by the DoD Public Affairs Office at <http://www.defenselink.mil/releases/> on or about May 17, 2004 (search by title). Awards are expected to be in place by August 9, 2004. This date should be cited as the start date of the proposal performance period and the associated budget.

## **VI. Award Administration Information**

**A. Award Notices:** After the News Release is published, ARO will notify all principal investigators of the program outcome by letter. Those selected for an award are authorized to incur pre-agreement costs 90 days prior to award. Note: all pre-agreement costs are incurred at the recipient's risk (i.e., the Government is under no obligation to reimburse such costs if for any reason the recipient does not receive an award or if the amount of the agreement is less an anticipated and inadequate to cover such costs). Approximately four weeks after notification of award the Army procurement office will contact the university business office to initiate award negotiations. Initial contact will be made with the individual whose name and number is provided in section 4 of the Proposal Cover (Attachment A).

**B. Administrative Requirements:** In keeping with the provisions of 32 U.S.C. 6306 and with the intent of this program to increase university capabilities in science, mathematics, and engineering education and research, title to equipment acquired under this solicitation will be vested with the university without further obligation to the government. Additional information about ARO administrative requirements is available on-line at <http://www.aro.army.mil/research/terms99.htm>.

**C. Payment By Electronic Fund Transfer – CENTRAL CONTRACTOR REGISTRATION DATABASE (CCR):** All payments by the Government under any award resulting from this BAA shall be made by electronic funds transfer (EFT). PLEASE NOTE: Before ARO can make an award under this announcement, awardees (i.e., the college or university) must be registered in the DoD CCR database. Proposers should verify with their business offices that this has been done. To register in the DoD CCR database, go to <http://www.CCR.GOV> or call (888) 227-2423 for assistance.

### **D. Reporting Requirements:**

1. Instrumentation/Equipment Grants: An instrumentation grant requires a report 90 days after the end of performance period using Standard Form 269 (SF-269) or Standard Form 272 (SF-272) as required by Part 32 of the DoD Grant and Agreement

Regulations (32 CFR part 32). The report should indicate fulfillment of the proposed objective by the acquisition and use of the instrumentation. More specific guidance will be provided at time of grant award.

2. Research Grants: Reporting requirements for research grants are governed by 'ARO Terms and Conditions,' incorporated herein by reference and available electronically at <http://www.aro.army.mil/forms/forms2.htm#fm18>. The web site provides complete details (See 'Reporting Instructions' (ARO Form 18)). If the grantee does not have access to the Internet, copies of ARO Form 18 are available by calling the ARO Information Line at 919-549-4375. Additional guidance will be provided at time of grant award.

Attachment A: PROPOSAL COVER

This proposal is submitted to the Army Research Office for consideration under:  
ARO Broad Agency Announcement DAAD19-03-R-0014, titled:

**FY 2004 DoD Instrumentation and Research Support Program  
for Historically Black Colleges and Universities and Minority Institutions (HBCU/MI)**

*(Check only one)*

\_\_\_\_\_ INSTRUMENTATION

Proposal Number \_\_\_\_\_  
*(to be completed by DoD )*

\_\_\_\_\_ RESEARCH

\_\_\_\_\_  
\_\_\_\_\_  
(Indicate topical area and name of research  
program manager with whom discussed  
(see section III.B. of this solicitation.)

**1. THE PRINCIPAL INVESTIGATOR**

*(if there are Co-PIs, indicate one as primary for record and correspondence purposes):*

\_\_\_\_\_  
(Title) (First Name) (MI) (Last Name) (Signature )

\_\_\_\_\_  
(Phone number, including Area Code) (Fax Number) (E-mail address)

\_\_\_\_\_  
(Organization)

\_\_\_\_\_  
(Department/Division)

\_\_\_\_\_  
(Street/ P.O. Box)

\_\_\_\_\_  
(City) ( State) ( Zip Code)

CURRENT DoD CONTRACTOR OR GRANTEE: YES \_\_\_ NO \_\_\_ (If yes, give Agency Name,  
Contract/Grant Number, Point of Contact, Phone Number)

**2. THE PROPOSAL**

\_\_\_\_\_  
TITLE OF PROPOSAL *(Be brief and descriptive; use key words suitable for indexing and retrieval;  
avoid acronyms and mathematical or scientific notation.)*

\_\_\_\_\_  
Total Funds Requested from DoD

\_\_\_\_\_  
Proposed Start Date  
(Month/Day/Year)

3. CERTIFICATIONS:

By signing and submitting this proposal, the proposer is providing the certification at Appendix A to 32 CFR Part 25 regarding debarment, suspension, and other matters; the certification at Appendix C to 32 CFR Part 25 regarding drug-free workplace; and the certification at Appendix A to 32 CFR Part 28 regarding lobbying. Note: It is not necessary to send copies of these agreements with your proposal.

4. THE INSTITUTION:

NAME AND ADDRESS OF UNIVERSITY OFFICIAL AUTHORIZED TO OBLIGATE CONTRACTUALLY

*(Note: Negotiation and award processes usually can be completed more quickly if the individual named below is a financial officer of the institution.)*

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(Title)      (First Name)      (MI)      (Last Name)      (Phone Number, Including Area Code)

---

Name of Grantee (University)      (Fax Number)

---

Street Address (P.O. Box Numbers Cannot Be Accepted)      (E-mail Address)

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(City)      (State)      ( Zip Code)

DUNS + 4 No.<sup>1</sup> \_\_\_\_\_

Taxpayer Identification No. (TIN) \_\_\_\_\_

Commercial and Government Entity (CAGE) Code: \_\_\_\_\_

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Signature of Authorized University Official

<sup>1</sup> The institution's number in the data university numbering system or DUNS + 4 is a unique 13-character identification number for organizations and subsidiaries. Dun & Bradstreet Corporation assigns these numbers. You can receive a DUNS + 4 number by calling Dun & Bradstreet at 1-800-333-0505 or go to the Dun & Bradstreet web site at <http://www.dnb.com/>. To facilitate payment under any award, the institution must be registered in the Central Contract Registry (CCR). CCR uses the DUNS + 4 as a unique identifier for each organization. Information on registering in the CCR may be found at <http://www.CCR.GOV/> or 1-888-227-2423.

Attachment B: ACKNOWLEDGMENT RECEIPT

Date:

Dear Principal Investigator:

The proposal that you submitted to the Army Research Office for the Fiscal Year 2004 Department of Defense Instrumentation and Research Program for Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs) has been received.

\_\_\_\_ Your proposal has been assigned Proposal No. \_\_\_\_\_ for the purpose of evaluation and tracking. Please reference this number when inquiring about your proposal.

\_\_\_\_ Your proposal will not be evaluated for the following reason(s):

Announcement of selectees is expected on/about May 17, 2004 via DoD News Release posted at <http://www.defenselink.mil/releases/> after which ARO will send written notification each principal investigator.