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A Project of Technical Assistance to Historically Black Colleges and Universities and Minority Institutions

"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

FINAL REPORT

AFOSR Contract, F49620-94-C-0013

July 31, 1996

Supported by the Air Force Office of Scientific Research (AFOSR) Bolling AFB, DC
## UNIVERSITY OF THE DISTRICT OF COLUMBIA

### FINAL REPORT

AFOSR Contract, F49620-94-C-0013

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### Appendices
**Contract Overview**

Section 832 of the National Defense Authorization Act for Fiscal Year 1991 increased the statutory authority of the Department of Defense to provide infrastructure assistance to Historically Black Colleges and Universities and other Minority Institutions (HBCUs/MIs). Under this authority, the Air Force Office of Scientific Research (AFOSR) contracted with the University of the District of Columbia (UDC), and separately with Southern University at Baton Rouge, to provide technical assistance to HBCUs/MIs to enhance their ability to compete successfully for Air Force basic and applied research grants, contracts, and fellowships. Technical assistance was provided in structuring formal sponsored research programs, proposal development, acquainting HBCUs/MIs scientific faculties with Air Force research programs, and guidance in grant and contract management. The effort also included counseling and advising HBCUs/MIs to facilitate their adherence to related technical performance, and administrative and Federal regulatory requirements.

**Objectives**

* To enhance graduate and doctoral programs at HBCUs/MIs;

* To assist in the establishment of partnerships between defense laboratories and HBCUs/MIs;

* To enhance the awarding of fellowships, grants, and contracts to HBCUs/MIs;

* To enhance the ability of HBCUs/MIs to attract and retain scientific faculty members; and

* To provide other appropriate assistance designed to strengthen scientific disciplines at HBCUs/MIs.

**Scope**

* To develop and manage the technical assistance program;

* To query HBCUs/MIs to ascertain their needs for technical assistance;

* To identify and prioritize technical assistance requirements;

* To develop and disseminate informational and instructional materials to participating HBCUs/MIs; and

* To report program accomplishments.
Final Report


Section 4.2 - HBCUs/MIs Eligibility and Technical Assistance Participants

According to data reported by the Office of Civil Rights, United States Department of Education, 434 colleges and universities satisfy the definition for being designated Minority Institutions (MIs). Of these, 103 are further defined as Historically Black Colleges and Universities (HBCUs). One condition of this contract was to determine which of these Historically Black Colleges and Universities and other Minority Institutions (HBCUs/MIs) would be eligible for grants, contracts, and fellowships under AFOSR programs.

An institution must grant baccalaureate or higher degrees in at least one area of science, mathematics, or engineering in order for it or its faculty to be eligible for participation in this AFOSR sponsored program. Based on our findings, 132 HBCUs/MIs meet this requirement. Appendix A provides the names and addresses of eligible institutions, contact persons, their telephone and FAX numbers, and E mail addresses.

Another requirement of the contract was for UDC to offer/provide technical support to as many as fifteen of the eligible HBCUs/MIs. As expected, some of the institutions were already successful in their pursuit of sponsored programs and did not need the level of technical support that we offered. However, we involved some of these successful institutions by using them as models. Therefore, based on an initial screening and a follow-up survey, 42 HBCUs/MIs were identified as "participating HBCUs/MIs" in this effort. Appendix B lists these institutions. Included are institutions that were represented at videoconferences held at UDC on November 3, and 4, 1994; institutions with research faculty representation at the Rome Laboratory conference on October 16, 17, and 18, 1995; and those represented at the workshop for administrators held at North Carolina A&T State University on October 24, and 25, 1995. Of these, 28 institutions indicated a need for technical support, they are shown in bold lettering in Appendix B.

Section 4.3 - Technical Support Center

Throughout this contract, UDC operated a Technical Support Center (TSC) that offered on-going technical assistance to eligible HBCUs/MIs. The TSC was open during normal hours of the University and was accessible through a toll-free number. It responded to questions about grant and contract opportunities, fellowships, proposal writing, and grant management. Additionally, the TSC administered surveys to HBCUs/MIs, and notified them of upcoming conferences and specific Air Force grant and contract opportunities.
Two different DoD Broad Agency Announcements were sent to over 200 researchers and sponsored program administrators at HBCUs/MIs. Their interests in sponsored programs had been identified in digests previously compiled by the National Association for Equal Education Opportunity in Higher Education and the TRACTELL corporation. In addition, one of several surveys sent to HBCUs/MIs sought to ascertain whether or not they possessed satellite downlink capability, and whether or not the institutions/researchers were interested in receiving technical assistance with respect to the preparation of a response to the Broad Agency Announcement or to other DoD solicitations.

Key to the success of this contract was the establishment of an effective advisory council. The council worked through the TSC and served to insure that the thinking and concerns of HBCUs/MIs were properly reflected in all of our technical assistance efforts. We solicited members for the council that were familiar with HBCUs/MIs and the problems and obstacles related to grant and contract opportunities that confronted them. They represented a wide range of interests and experiences concerning the research infrastructures of HBCUs/MIs. Members of the advisory council were:

Dr. Rose Glee, Director  
Office of Sponsored Programs  
Southern University - Baton Rouge

Dr. Eugene Jones, President  
TRACTELL, Inc.

Dr. Ernestine Psalmonds, Vice Chancellor for  
Research Administration  
North Carolina A&T State University

Dr. Leslie Speller, Co-Project Director  
University of the District of Columbia

Dr. Samuel Sullivan, Co-Project Director  
University of the District of Columbia

Dr. Sheadrick Tillman, Associate Vice President for Operations and Planning  
Meharry Medical College

Dr. Demetrius Venable, Executive Vice President and Provost  
Hampton University
Meetings of the advisory council were held on November 3, 1994 in Washington, DC and on January 19, 1995 in Baton Rouge, LA. The council’s report is provided in Appendix C. In summary, the council’s recommendations were that:

* AFOSR program initiatives should be improved by having HBCUs/MIs participate in the development of an "Omnibus Plan" to address HBCUs/MIs program needs.

* Infrastructure should be as broadly construed as possible. The main thrust should be to improve the academic, administrative, and technical capabilities of HBCUs/MIs. In addition, infrastructure training should include instruction on the management of contracts and grants in sponsored programs offices.

* Technology enhancements to improve the flow of information on campuses should be considered a priority for AFOSR (DoD), (i.e., computer hardware and software upgrade, access to the internet, bulletin boards, distance learning, etc.).

* The primary goal of this program should be to increase the number of quality proposals submitted to DoD from HBCUs/MIs.

* AFOSR should include new initiatives in its programs that are designed to increase the number of minority scientists and scholars teaching at HBCUs/MIs. New initiatives should also focus more on increasing the number of minority graduate students at HBCUs/MIs.

* Air Force laboratories should be encouraged to increase their interactions and programs with HBCUs/MIs faculties and students.

* The Air Force Institute of Technology (AFIT) should audit graduate programs and make recommendations to enhance curricula and propose other changes, if required, and use some of its resources to improve programs at HBCUs/MIs.

In order to provided funds for the participation of additional faculty and sponsored program administrators in upcoming videoconferences and site visits, functions of the advisory council were not carried into the second contract year. This decision was reached following discussions with council members.
In keeping with other responsibilities, the TSC mailed applications for the AFOSR 1996 Summer Research Program for Faculty and Graduate Students to those on our list of researchers at HBCUs/MIIs. Eight researchers informed the TSC that they had submitted applications. The results of those submissions is:

Dr. Graham R. Allan  --  Accepted an award to work at Kirtland AFB
Department of Physics
New Mexico Highlands University

Dr. Alberto Caceres  --  Not approved
Department of Mathematics
University of Puerto Rico - Humacao

Dr. John J.C. Hwang  --  Not approved
Department of Mathematics
Morris Brown College

Dr. Mary Ann Jungbauer  --  Not approved
Department of Chemistry
Barry University

Dr. Fenglien Lee  --  Not approved
Department of Computer Science
Winston-Salem State University

Dr. Joe O. Omojola  --  Not approved
Department of Natural Sciences
Dillard University

Dr. Mark Purtill  --  Accepted an award to work at Rome Laboratory
Department of Mathematics
Texas A&M University, Kingsville

Dr. Raymond Williams  --  Not approved
Department of Mathematics and Computer Information Sciences
Mississippi Valley State University

Section 4.4 - Comprehensive Resource Referral and Matching Data Base System

By working through sponsored program administrators at eligible HBCUs/MIIs, we obtained resumes from research scientists who expressed an interest in participating in this technical assistance program. The call for resumes yielded a sizeable number of returns which were scrutinized for relevancy with respect to Air Force research requirements.
For some scientists at eligible HBCUs/MIs, Appendix D identifies their research interests that are in line with research priorities of Air Force directorates. It is expected that this listing will be useful as a desk guide to Air Force program and procurement personnel seeking to identify candidates for receipt of Broad Agency Announcements, other invitations or requests for proposals, and fellowship announcements.

Subsequent requests for information related to HBCUs/MIs research laboratories and facilities yielded no additional findings. The majority of the laboratories at participating HBCUs/MIs are dedicated to academic programs. A few have specific research laboratories. Included are:

* **Delaware State University** - Immunogenetics Research laboratory, Histochemistry laboratory, Biobehavioral Psychology laboratory, Biochemistry Research laboratories, Laser Physics laboratory, Cytogenetics laboratory, and others. Institution has access to Human Immunogenetics Research laboratory of the National Institutes of Health, Milton Hershey Medical Center - Pulmonary Biolaboratory, and University of Delaware Neuroscience/Neuropharmacology laboratory.

* **Dillard University** - Laser Physics and Spectroscopy laboratories. Institution has access to Cold Region Research and Engineering laboratory and University of Tennessee Materials laboratory.

* **Elizabeth City State University** - Institution has access to computer facilities in Research Triangle Park and the Southern Regional Network. New research laboratory facilities are currently under construction.

* **Fisk University** - Physics laboratory for materials research, including NASA Center for Photonics Research. Faculty have access to Oak Ridge National Laboratories; Meharry Medical College laboratories; Vanderbilt and Stanford universities laboratories; and Marshall and Lewis Space Flight Centers laboratories.

* **Langston University** - Biochemistry, Physiology, and Electron Micro research laboratories.

* **North Carolina Central University** - Computer Mapping Laboratory with remote sensing software.

* **St. Augustine’s College** - Institution has access to Environmental Protection Agency laboratory, National Institutes of Health laboratory, and Army Research Center laboratory.
* Texas A&M International University - Has completed Phase I construction of four teaching laboratories and a Physics/Mathematics laboratory. Phase II construction will soon commence and will contain two research laboratories.

* Texas A&M University - Kingsville - Engineering McNeil Laboratory with Engineering Computing Center, Dotterweich Laboratory for materials science. Institution has been funded at $1 million for intelligent controls research for the Office of Naval Research.

* University of the District of Columbia - Scientific Parallel Processing Applied Research Center, Materials Testing laboratory, Engineering Research Center (Biomechanics), Computer Information and System Management Institute, and Mortuary Science laboratory.

* Virginia State University - Laser Physics laboratory with Quantel Q-switched Nd and conducts laser-induced damage studies at semi-conductor surface. It also has specialized Chemistry and Life Sciences laboratories.

* Xavier University - Institute for Bioenvironmental Toxicology with full laboratory facilities and specialized Chemistry laboratories.

Section 4.5 - Infrastructure Needs Assessment

Following videoconferences held at UDC on November 3, and 4, 1994, and prior to conferences held at Rome Laboratory, and at North Carolina A&T State University, UDC and Southern University administered infrastructure needs assessment surveys to 165 HBCUs/MI s. Questions included whether or not the HBCU/MI had a formal sponsored research office, the name of its sponsored research administrator, and whether or not the institution required assistance in developing a research management infrastructure (including developing an office, identifying a responsible management individual, identifying staff support, developing a financial management system, etc.). Complete summaries of survey results are in Appendices E and F. They include the following:

* Does your institution have a formal sponsored research office? [24] Yes  [ 6] No

The six "No" responses were from: Barry University, Dillard University, Fort Valley State University, Johnson C. Smith University, Tougaloo College, and Texas A & M International University.

* Prior to viewing these videotapes, how familiar would you say faculty at your institution were with grant, contract, and institutional capacity building programs (fellowships for faculty and students) sponsored by the Air Force?
Those institutions indicating that they were very familiar with Air Force grant, contract, and fellowship programs include: Fayetteville State University, Fort Valley State University, and Elizabeth City State University. In addition, Delaware State and Elizabeth City State indicated that while some of their faculty were Active Participants in Air Force programs, others were either only Vaguely Familiar (40% - Elizabeth City State; 90% - Delaware State), Very Familiar (30% - Elizabeth City State), or Active (10% - Delaware State; 30% Elizabeth City State).

* One issue addressed in the videotapes is how to develop a structured research program. This includes infrastructure development, identification of grant and contract opportunities, proposal writing, and grant and contract management.

Do you feel that your institution needs additional information in one or more of these areas? [28] Yes   [2] No

The two indicating that their institutions required no additional information were: Mississippi Valley State and West Virginia State.

If yes, which of the following topics represent key areas of need for your institution?


[19] Strengthening the Research Capacity (Identification of Capable Faculty to Perform Research, Providing State-of-the-Art Training for Faculty, Securing Expert Support for the Conduct of Research, etc.)

[20] Identification of Grant and Contract Opportunities (Marketing of the Institution, Developing a File of Grant and Contract Opportunities, Securing Subscriptions to Grant and Contract Announcement Periodicals, Amassing Publications Regarding Grant and Contract Opportunities, etc.)

Section 4.6 - Videoconferences and Site Visits

During this contract, UDC produced four conferences. Each was designed around the theme, "Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research." The theme calls for HBCUs/MIs to re-examine their research missions, their institutional commitments to research, as well as the research capabilities of their faculties - and then, to develop courses of action for meeting the challenge. Each conference addressed this theme by focusing on different ways of getting HBCUs/MIs more involved in DoD sponsored programs.

Parts I and II

Live Videoconferences: Infrastructure Development and Air Force Programs
Hosted by the University of the District of Columbia

On November 3rd, in Part I, UDC presented technical information regarding the challenges confronting HBCUs/MIs in their attempts to establish effective sponsored program operations. It featured the following topics and presenters:

Program Overview

Dr. Samuel Sullivan, Project Director
University of the District of Columbia

Dr. Rose Glee, Project Director
Southern University - Baton Rouge

Effective Sponsored Research Infrastructures

Dr. Ernestine Psalmonds, Vice Chancellor for Research
North Carolina A&T State University
Search for Research Opportunities

Robert Goodman, Esq.
Consultant

Developing a Successful Proposal

Mr. John Rodman, President
FEDIX, Inc.

Government Contract Environment

Larry Harris, Esq.
Pettit & Martin

Managing Sponsored Grants and Contracts

Ms. Cynthia Belton, Technical Assistance Specialist
University of the District of Columbia

Detailed information regarding available assistance through the UDC Technical Support Center and through the Southern University technical assistance effort were provided. There was also a call-in segment that gave downlink site participants the opportunity to ask questions of presenters. Appendix G is a brochure used to announce both Parts I and II.

Part II, held on November 4th, highlighted the Air Force Materiel Command (AFMC). The morning session comprised presentations by personnel from the AFOSR and from Air Force research laboratories. They introduced HBCUs/MIs representatives to Air Force research and capability enhancement support programs. The session was hosted by Brigadier General Richard R. Paul, Director for Science and Technology of the Air Force Materiel Command, and Dr. Helmut Hellwig, Director AFOSR. Presenters were:

Program Overview

Dr. Harold Weinstock, Program Manager
Air Force Office of Scientific Research

Mission and R&D Activities of Air Force Laboratories

Dr. George C. Mohr, Chief Scientist
Armstrong Laboratory
Colonel Dayton L. Silver, Vice Commander/Director of Operations
Phillips Laboratory

Mr. O. Lester Smithers, Deputy Director
Wright Laboratory

Dr. Darryl P. Greenwood, Chief Scientist
Rome Laboratory

Colonel George K. Haritos, Deputy Director/Commander
Air Force Office of Scientific Research

The afternoon session featured presentations by five HBCUs/MIs presidents on some of the obstacles that inhibit them from fully participating in research programs supported by the AFMC. The session also featured a panel discussion with audience questions on the topic, "Linking HBCUs/MIs with AFMC Laboratories." Mr. Anthony J. DeLuca, SAF/SB, Pentagon, was the session’s moderator. Members of the panel were:

Wright-Patterson AFB OH

Dr. Helmut Hellwig, AFOSR/CC
Bolling AFB DC

Gen. Julius Becton, Jr. (U.S. Army, Ret)
Prairie View A&M University

Dr. Earl S. Richardson, President
Morgan State University

Dr. Robert C. Detweiler, President
California State University - Dominguez Hills

Dr. Modesto A. Maidique, President
Florida International University

Dr. Lois Stovall Williams, President
Knoxville College

In all, eighty-three sites indicated that they had downlink capabilities and that they would downlink Parts I and II. Others indicated that they did not have this capability and requested copies of the videoconference tapes.
In addition to the actual videoconference, a formal luncheon was held on November 4th, to facilitate increased direct dialogue between officials from HBCUs/MIs and AFMC personnel. Luncheon speakers included Dr. Samuel Myers, President of the National Association for Equal Opportunity in Higher Education, and Dr. Helen Marquez, Director, Student Development Programs, the Hispanic Association of Colleges and Universities. The luncheon was successful in providing an opportunity for on-site participants, including presidents, and Air Force personnel to begin a dialogue for future involvements.

Thirty representatives from HBCUs/MIs were on-site participants in these videoconferences and activities. Additionally, twenty-seven Air Force personnel actively participated in the videoconference on November 4th.

Videoconference evaluation forms were sent to downlink site coordinators prior to the broadcasts. A summary of returned forms is provided in Appendix E. As with subsequent surveys of HBCUs/MIs faculty and sponsored program administrators, this one revealed that most respondents were not familiar with Air Force grant, contract and fellowship programs. Most also were of the opinion that they and their institutions needed help in developing a structured research program, developing an infrastructure, learning to network, and learning how to write an effective proposal.

**Part III**

*Conference and Site Visit for HBCU/MI Research Scientists Hosted by Rome Laboratory*

The Rome Laboratory Conference and Tour was held at the former Griffiss AFB in Rome, NY. Forty-two faculty researchers from 24 HBCUs/MIs participated in the two and one-half day Rome event. Appendix H is a list of attendees. Appendix I is a copy of the conference program.

As the conference began, faculty researchers completed a Rome Tour Participant Survey. The survey asked generally the same questions that were being asked of sponsored program administrators. Its results are given in Appendix J. As shown, in advance of their visit to Rome, 32 of the researchers (82%) indicated that their faculties were either "Unfamiliar" or "Vaguely Familiar" with Air Force grant, contract, and fellowship programs. Only two were active participants in Air Force work. All responded that their institutions required additional assistance in improving their structured research programs. The most requests for assistance were for: Strengthening the Research Capacity, and Networking. These were followed by: Proposal Writing, and Identifying Grant and Contract Opportunities. The group offered a number of suggestions for added Air Force involvement in strengthening sponsored research at their respective institutions. These are also summarized in Appendix J.
Appendix K shows results of the survey administered to participants at the end of the conference. It revealed that about half of the scientists indicated had made specific contacts with Rome scientists that they intended to pursue. Also, about half indicated their intention to develop and submit "white papers." The majority found the mini-sessions to be highly useful. The level of detail allowed them ample time to become intimately familiar with the specific kinds of research sponsored by Rome Laboratory, with which the majority was not previously familiar. Ninety-six percent of the faculty researchers indicated that they are now more familiar with the AFOSR, and 65% marked that they would consider a summer research opportunity at Rome Laboratory. Seventy-two percent indicated that they feel there are realistic opportunities at Rome Laboratory in areas within their fields of interest. All rated the conference and tour as "good" or "excellent."

A survey to track the progress made by these scientists regarding their intentions following the Rome Laboratory visit revealed the following:

Question 1. *Did you make contacts with Rome scientists that you intend to follow-up?*

On the original survey there were 24 YES answers to this question. Ten responded to the follow-up survey with six of these indicating that they had made progress and that the contact was helpful.

Question 2. *Will you pursue submitting a "white paper" to at least one contact that you made?*

There were 26 YES responses on the original survey. Of these, 11 returned our follow-up survey. Eleven "white papers" were sent to Rome scientists.

Question 3. *Would you consider a summer research opportunity at Rome Laboratory?*

Of the 26 answering YES on the original survey, only 12 responded to the follow-up survey. Five indicated that they had applied.

From all indications, the trip to Rome Laboratory was a tremendous success. Several researchers thought that a similar conferences at other laboratories would be helpful.

Part IV

*Conference and Site Visit for HBCUs/MIIs Sponsored Program Administrators
Hosted by North Carolina A&T State University*

The A&T conference was entitled "Infrastructure Building for Effective Sponsored Program Operations." At the conference, we continued the process of providing assistance in infrastructure development. The conference design made it possible for participants to
focus on specific problems that seem to limit the development of their institution’s sponsored program operation, and to discuss strategies used by others to successfully address them.

Thirty-one sponsored program administrators from 28 HBCUs/MIs attended the A&T conference. Appendix L is a list of attendees. Our objective during the sessions was to offer the North Carolina A&T sponsored research administration as a successful comprehensive model which could be adapted in whole or in part, depending on the resources of the particular institution. Also, our approach was to engage institutions in discussions about the kinds of structures, issues, obstacles, and strategies that characterized their sponsored research operations. The conference program is shown in Appendix M.

The conference emphasized experience sharing among participants. They discussed common hurdles that many HBCUs/MIs have had to overcome in order for them to build more effective sponsored programs. Such hurdles included:

* Limited resources
* Heavy teaching loads
* Small or no sponsored program operations
* Ineffective infrastructure
* Inefficient distribution of sponsored program information
* Writing effective proposals

Some suggestions brought forward as having worked, and therefore possibilities for helping others overcome these hurdles were:

* Utilize students and under loaded faculty
* Publish newsletters and bulletins
* Develop plan for sharing indirect cost revenue
* Treat the institution as a business
* Develop capability statement
* Conduct proposal writing workshops
* Network and collaborate with other institutions

* Develop research thrusts

The segment on experience sharing was followed by a pre- and post-award functions workshop, led by A&T’s Vice Chancellor for Research, Dr.Earnestine Psalmonds. During her presentation she stressed the importance of the hierarchal positioning of the sponsored research function within an institution, emphasizing the need for maximum support from administration. She highlighted for the group that the sponsored program function will vary from institution to institution by dint of the individual institutional characteristics. Key determinants in defining the nature and extent of the sponsored program operation include: administrative commitment, institutional goals and objectives, institutional consensus, faculty capabilities, institutional size, relationship between academic and research programs, and track record. She viewed as a priority three principle duties for sponsored research administration: increase productivity, improve efficiency and effectiveness, and provide needed support services.

Dr. Psalmonds also stressed the need for team building within the institution and for providing continuous training and informational support to faculty researchers and departmental administrators. She noted the importance of structuring the administration of sponsored programs by key functions related to pre-award and post award phases and of guiding and supporting faculty researchers through these necessary processes. At A&T, for example, the sponsored research office has specific functional areas which handle: marketing and opportunities announcements; proposal review clearances and tracking; teaming and confidentiality agreements; and adherence to institutional policies and procedures with respect to establishment of research centers, institutes, and/or new degree programs.

With respect to post-award, the A&T research administration conducts project initiation meetings; goes over all contract/grant and regulatory requirements with all parties; conducts project close out audits; and maintains all administrative contacts with sponsoring organizations. Dr. Psalmonds’ presentation underscored the institution’s, as opposed to the individual’s, responsibility to fulfill the requirements of grants and contracts.

The site visit, tour, and discussions proved highly useful to the group of sponsored program administrators. Of the 28 participant institutions, 22 rated the workshop "excellent," and three rated it "good." The majority of institutional representatives identified "Overview of the Organizational Structure" as the most useful topic. Issues related to support from lead administration, incentives for faculty involvement, managing timely submissions of proposals, working with faculty with little experience, and maintaining federal and private sector relations received the greatest attention. Other broad areas of interest to participants included: administrative monitoring tools, pre-award tasks, and post-award tasks.
Section 4.7 - Video Taping of Symposia and Site Visits

Global Communications Group, Inc., our sub-contractor, videotaped the four conferences and site visits. One hundred and seventy-five edited versions of each part were produced and mailed to all HBCUs/MIIs eligible institutions and to others that were involved with this project. **Copies are provided with this report.**

**Part I** -  
(Two tapes)  
*A Live Videoconference: Infrastructure Development and Programmatic Information*  
Hosted by the University of the District of Columbia  
Washington, DC  
November 3, 1994

**Part II** -  
(Three tapes)  
*A Live Videoconference: Air Force Research and Capability Enhancement Support Programs*  
Hosted by the University of the District of Columbia  
Washington, DC  
November 4, 1994

**Part III** -  
(One tape)  
*A Conference and Site Visit for HBCUs/MIs Research Scientists*  
Hosted by Rome Laboratory  
Rome, NY  
October 16, 17, and 18, 1995

**Part IV** -  
(One tape)  
*A Conference for HBCUs/MIs Sponsored Program Administrators*  
Hosted by North Carolina A&T State University  
Greensboro, NC  
October 24, and 25, 1995

Reactions to the videotape series have been very positive. Sponsored program administrators are sharing the tapes with other administrators and they are making them available to chairpersons for viewing by faculty in their departments. Administrators seem more energized to work with faculty, to help them obtain more information about Air Force research opportunities, and to encourage them to follow-through with their intentions to pursue Air Force sponsored grants, contracts, and fellowships.

This concludes our final report.
On behalf of the University of the District of Columbia and all Historically Black Colleges and Universities and Minority Institutions, we take this opportunity to thank our Program Manager, Dr. Harold Weinstock, for his many expressions of support during this contract. As a result of this effort, we believe that progress has been made and that HBCUs/MIs are closer to achieving the goal of our theme, "Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research."

Submitted by:

Samuel Sullivan, Co-Project Director

Leslie Speller, Co-Project Director
Appendices
Appendix - A
UNIVERSITY OF THE DISTRICT OF COLUMBIA

A Project of Technical Assistance to
Historically Black Colleges and Universities
and
Minority Institutions

"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

Alphabetical List

HBCUs and MIs that Offer the Baccalaureate Degree to Students Majoring in an Area of Science, Mathematics, or Engineering

July 31, 1996

Supported by the Air Force Office of Scientific Research (AFOSR)
Bolling AFB, D.C.
<table>
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<th>Institution/Address</th>
<th>Contact/Title</th>
<th>Phone/Fax/E-Mail</th>
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<tbody>
<tr>
<td>Alabama A&amp;M University</td>
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Appendix - B
UNIVERSITY OF THE DISTRICT OF COLUMBIA

A Project of Technical Assistance
to
Historically Black Colleges and Universities
and
Minority Institutions

"Meeting the Minority Challenge in Science and Technology:
Institutional Capacity Building for Air Force Research"

PARTICIPATING HBCU/MIs

Alabama A&M University
Barry University
Bowie State University
California State University, Dominguez Hills
Clark Atlanta University
CUNY, City College
Delaware State University
Dillard University
Elizabeth City State University
Fayetteville State University
Fisk University
Florida International University
Fort Valley State College
Grambling State University
Hampton University
Howard University
<table>
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<tr>
<th>HBCU/MIs</th>
<th>University/Location</th>
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<tr>
<td>Jackson State University</td>
<td>Texas A&amp;M International University</td>
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<tr>
<td>Knoxville College</td>
<td>Texas A&amp;M University - Kingsville</td>
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<tr>
<td><strong>Langston University</strong></td>
<td>Texas Southern University</td>
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<tr>
<td>Lincoln University, Pennsylvania</td>
<td>Tugaloo College</td>
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<tr>
<td><strong>Mississippi Valley State University (Revised)</strong></td>
<td>University of Puerto Rico - Humacao</td>
</tr>
<tr>
<td>Morgan State University</td>
<td>University of Puerto Rico - Rio Piedras</td>
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<tr>
<td><strong>Morris Brown College</strong></td>
<td>University of Texas at Brownsville</td>
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<tr>
<td>New Mexico Highlands University</td>
<td>University of the District of Columbia</td>
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<tr>
<td>North Carolina A&amp;T State University</td>
<td>University of the Virgin Islands</td>
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<td><strong>North Carolina Central University</strong></td>
<td>Virginia State University</td>
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<tr>
<td>Prairie View A&amp;M University</td>
<td>Wilberforce University</td>
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<tr>
<td><strong>Southern University and A&amp;M College</strong></td>
<td>Winston-Salem State University</td>
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<td>St. Augustine College</td>
<td>Xavier University of Louisiana</td>
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HBCUs/MIs in **BOLDLETTERING** are those that indicated their need for technical support.
Appendix - C
MEMORANDUM FOR THE RECORD

TO: Members of the Advisory Council

FROM: Robert O. Goodman (Recorder)

SUBJECT: Advisory Council Meeting, January 19, 1995
         The Hilton Hotel, Baton Rouge, L.A.

         The University of the District of Columbia (UDC), Southern University - Baton Rouge (SUBR), and the Air Force Office of Scientific Research (AFOSR) Advisory Council winter meeting was held in Baton Rouge, LA, January 19, 1995.

ATTENDEES

The University of the District of Columbia
   Dr. Samuel Sullivan, Associate Provost & V.P. Academic Affairs
   Dr. Leslie C. Speller, Chair, Department of Physics
   Mr. Lawrence Barnes, Director, Grants Administration
   Robert 0. Goodman, Esq. Attorney at Law & Consultant

Air Force Office of Scientific Research
   Dr. Harold Weinstock, AFOSR Program Manager
   Lt. Col. Eddie Mims, USAF OSDBU - HBCU Program Manager

Knoxville College
   Dr. Lois S. Williams, President

Tractell, Inc.
   Dr. Eugene Jones, President

North Carolina State A&T University
   Dr. Ernestine Psalmonds, Vice Chancellor for R&D

Morgan State University
   Dr. Conrad Williams, Professor of Physics

Southern University - Baton Rouge
   Dr. Rose Glee, Director, Sponsored Programs Office

Hampton University
   Dr. Demetrius D. Venable, Executive V.P.& Provost (Excused)
INTRODUCTION

Dr. Sullivan opened the meeting with an overview of the background, objectives and scope of the Technical Assistance contract. Participants introduced themselves and gave a brief statement of their background and their involvement with this project.

VIDEOCONFERENCE FOLLOW-UP SURVEY

Discussed the "Follow-up Survey" on the UDC/AFOSR Videoconference "Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research," held 4 November 1994 on the UDC campus. To date, there have been nine responses. The broadcast was received on 87 campuses. Each of the nine respondents had science and/or engineering programs at the Bachelor and above levels.

PRE-BROADCAST ACTIVITY

HBCUs/MIs were contacted to determine their downlink capability and to inform them of the videoconference agenda and date. From these initial contacts, a database of institutions, media persons and other personnel, telephone numbers and facsimile numbers were compiled. Source lists included but were not limited to: (a) the 99 institutions on the Black College Satellite Network (BCSN) - (Note: Colleges and universities on that list that do not have satellite downlinks receive programs through local cable access stations.) (b) the 1994 Higher Education Directory, 12th Edition, (c) An Inventory of the Capabilities of the HBCUs/MIs, a NAFEO/DoD Survey, Third Edition (1993), (d) a list of directors of sponsored program offices at colleges where they were identified, and (e) lists of key personnel in the HBCU/MI community, e.g., deans, chairs, department heads, faculty, etc. Information concerning the event was sent to presidents and chancellors at each institution via mailing, facsimile, and telephone. Recommendations: To improve coverage and ensure a timely response, pre-broadcast activity should include the use of: 1) Tractell, Inc.'s mailing list and e-mail address system, 2) the CBD Special Notices section, and 3) the FEDIX/MOLIS bulletin board, points of contact and mailing lists.

EVALUATION OF THE VIDEOCONFERENCE

Statistical data would be useful in evaluating the effect and impact of the conference. The following points among others, were discussed:

1. The quality of the reception of the program.
2. The number of people that viewed the program.
3. Did the institution video tape the program?
4. Were the program content useful to the audience?
5. What changes, if any, would the participants recommend?
6. Were the day, time and length of the broadcast satisfactory?
7. Did the date of the broadcast fit into the college calendar?
8. Will edited/indexed videotapes be made available?
9. The shelf life of the material taped at the conference.
10. Strategic planning for the next event.
11. The role of DTIC and other defense agencies.
12. Improve reaction time by HBCUs/MIs to program announcements.

Recommendations: A key person should be appointed by the president and paid by conference sponsors to gather needed information on subsequent videoconferences. Downlink sites should be instructed to contact the uplink site when broadcasts are being received, or report difficulties encountered, if any. That person would be responsible for posting information for general consumption, contacting key staff and faculty, senior leadership of the institution, monitoring the broadcast and gathering data to evaluate the "success" of the event. The uplink site should provide agenda, abstracts of the information to be covered, resumes of presenters, and technical data on frequency, channel and range of coverage of the event. Media personnel must be contacted and kept in the loop. DTIC should be consulted about editing capabilities, storage and distribution of videoconference material.

AFOSR: Infrastructure assistance for fiscal years 1995 - 1996. AFOSR/Air Force Material Command should consider including computer hardware and software upgrades at HBCUs/MIs to assist in overcoming existing communication barriers at these schools, e.g., Internet.

INFRASTRUCTURE ASSISTANCE

Discussed the need for infrastructure assistance to increase the number of African American scientists, engineers and mathematicians graduating from HBCUs. The output of scientists, engineers and mathematicians has been relatively constant since the early 1970s. Some reasons noted for this flat output rate at HBCUs show that majority institutions now heavily recruit minority students. Some universities with a handful of blacks in the '60s now have hundreds.

It is important to note that Black colleges enroll only 16 percent of black college students, but graduate nearly one third of those earning a bachelor’s degree. More than 40 percent of blacks who receive a Ph.D. first attended a Black college. In the sciences, it is more than 50 percent. (Source: The Washingtonian, November 1994.)

The decline in African American Ph.D.’s will have a long term negative effect on the ability of HBCUs to function as research institutions. AFOSR’s ASPIRE program was initiated to resolve this potentially debilitating and urgent problem. There will be two schools chosen for ASPIRE awards. Although the word "minority" is deleted from the criteria for ASPIRE awards, the design of the program ensures that HBCUs and Minority Institutions will participate.
Several members indicated that while the information concerning Air Force programs may be available, infrastructure needed to implement them is not. We should construe infrastructure broadly to include not only facilities, instrumentation, and technology, but administration systems and human resource development. Without administrative systems (read sponsored programs offices) and qualified technical personnel to manage research programs, especially contract administration, there will not be successful research initiatives.

PARTNERING

Partnering with majority colleges, universities and federal agencies has been offered as a strategy to improve academic programs and research capabilities of the HBCUs and MIs. The perception that some majority institutions want to partner with HBCUs and MIs, only if they get the lion’s share of project funding, is a concern. The exact percentage that should be split between the partners was not at issue, but the minority partner should obtain a fair share of the funding. Depending on the strength of the minority partner, possibly as much as 75 percent of the funding should go to the HBCU or MI.

PIPELINE ISSUES

One approach to increasing the number of minority (African American) graduate students suggests that students should remain at the HBCU where they received their undergraduate degrees for their graduate degrees. Others stated that a better way would be to have minority students attend other institutions for their graduate education experience. The consensus of opinion at the table was that the latter strategy was preferable to the former. Anecdotal comments suggest that HBCUs have success with graduate students because they provide support systems, a nurturing environment and role models for their students.

One panelist observed that a large percentage of faculty at HBCUs are foreign born non-African Americans, and that the percentage is growing. This result must be reversed if the HBCU as an institution is to survive and prosper in the 21st century. Several sources were cited to support this contention. It was suggested that the AFOSR program should focus on this potential problem in the out years of this technical assistance effort. Considerable support was voiced for a more focused program by AFOSR to increase the number of African-American graduate students and to assist in solving this "real problem." It was further suggested that such an initiative should be started at those colleges and universities with a "track record" in research and development and with the concomitant capabilities and facilities.

RETENTION

When students are admitted to a university or college there is an implied contract between the institution and the student. It should be that if students apply themselves and "play by the rules," they will graduate in a reasonable period. While no statistical evidence was offered in support of this contention, popular opinion was that with an aggressive
retention strategy there would be enough minority students sufficient to supply our projected needs.

The issue of role models was discussed. Dr. Anthony Johnson, a physicist at Rutgers University, is an example of the type of role model that would attract and retain minority and majority students. A strong orientation to research also attracts students. Having this orientation at HBCUs and MIs would increase the number of students interested in science, engineering and mathematics careers.

There is also a need to return to basics to prepare students for advanced educational opportunities. HBCUs/MIs by concentrating on the basics will give students these skills. High schools in minority communities are not preparing students for the challenge of undergraduate education. HBCUs and MIs must concentrate on giving students exposure to calculus, biology, computer science and other academic disciplines. AFOSR (DoD) could make a serious effort to support HBCUs and MIs by strengthening engineering, science and mathematics programs at these institutions.

DoD’s goals are too global. They should be focused on the specifics of increasing participation of HBCUs and MIs, and increasing the numbers of minority students graduating from these schools prepared to enter graduate education in S.E.M.& T. The mission of DoD is spelled out in the legislation authorizing this program and does not necessarily include this noteworthy goal. Pub. L. 99-661, section 1207 and its progeny are focused on the institutional infrastructure not the individual. An argument can be made that infrastructure enhancement includes faculty, administration, facilities and equipment and developing human resource potential, i.e., students.

Endlessly debating whether HBCUs and MIs should be teaching institutions or research institutions do not bring us any closer to improving the output of these institutions. They are not monolithic entities and serve a variety of needs. HBCUs and MIs must identify the long term (strategic) requirements for the mission they have set for themselves. Where there is congruence with the objectives and direction of Air Force projects and programs and the mission of these institutions, both can come to the table and discuss how and if they can work together to reach mutually stated goals.

How can we identify those colleges and universities that meet or do not meet the needs of Air Force programs? The simple answer is they must identify themselves. Institutions must make a commitment from the top, if they want to "play in this game." Funds may not be available to build buildings and other facilities (bricks and mortar) but there can be programs to provide and enhance research services.

How many undergraduates do you need to produce one Ph.D.? The ratio is estimated to be 161:1. That would argue for emphasis and priority being placed on undergraduate education and a simultaneous focus on graduate programs. This would further indicate a need for technical assistance in both areas.
ARTICLE

At the beginning of the afternoon session copies of the article, "A Separate Peace," an interview with the Honorable William H. Gray, published in the November 1994 issue of the Washingtonian magazine was distributed. (The author, national editor Ken Adelman, a newspaper columnist, has conducted more than 70 "What I've Learned" interviews since 1988.)

INSTITUTIONAL QUESTIONNAIRE

Dr. Glee reviewed the Institutional Questionnaire that was prepared and analyzed under her supervision. There was a 30 percent response to the questionnaire. The questionnaire highlighted needs in the following areas:

Sponsored programs offices and personnel  
Matching and cost sharing funds  
Technical assistance for funds management  
Contract management versus grant management  
Collaboration and partnership relationships

There was limited interest in training for proposal development and submission. Historically, as many as 80 percent of the proposals submitted from HBCUs to Wright Paterson Laboratories were considered non-competitive in terms of presentation and substance. The sponsored programs office is important, but it alone cannot guarantee that the quality of proposals will be improved.

The question of whether contracting out training in the above areas of need, including the preparation (writing) of proposals, would be a good strategy to pursue? Institutions need infrastructure assistance in many forms, tailored to the needs of the institution. One size does not fit all. Training programs should be made available on an as required basis.

One need is that of sponsored program offices and personnel. The program and structure offered by Dr. Psalmonds were accepted as a generic paradigm for efficient operation of a sponsored programs office. While an institution may not be able to start at that level, it may be possible to attain that level of sophistication, over time. Moreover, that structure may be customized to the individual needs of the institution.

AFOSR should provide assistance by installing and maintaining accounting systems, research equipment and personnel training programs. In the past, AFOSR has allowed as much as 20 percent of the contract or grant to be used for equipment purchases. With the reorganization and downsizing of Air Force Material Command (AFMC) laboratories, some equipment may become available for distribution to HBCUs/MIs under the surplus equipment program. The availability of scientists at laboratories where programs are being downsized should also be investigated. Scientists should be recruited as faculty members at HBCUs/MIs.
PLANNING

It was agreed that there should be a DoD Omnibus plan, "roadmap," to address the requirements and direction of the HBCU/MI program. There should be a single plan that describes the focus and support available for DoD's HBCU/MI program. The U.S. Air Force Secretariat is preparing an outline for such a plan for the Air Force.

Would the Air Force consider funding salaries for the establishment, or enhancement of sponsored program offices? Some HBCUs/MIs may not necessarily want or need hands-on assistance or direct interaction with their programs. They may opt for a review and audit of sponsored programs offices, their management and systems, and request recommendations for achieving the next level of proficiency.

VENUES FOR INTERACTION WITH COLLEGE PRESIDENTS AND CHANCELLORS

NAFEO Spring 95 National Conference will be held in Washington, D.C. (AFOSR could set up a workshop at the National Conference for the senior leadership of these institutions.) Disadvantage: During this annual meeting, presidents and chancellors are in high demand and as a result, AFOSR may not be able to get a sufficient number of them to be present for the workshop.

Hold regional conferences specifically for senior leadership within the region selected. Disadvantage: It is difficult to get presidents to attend these regional meetings. At the recent Videoconference held November 4, 1994, many schools were represented, but only a few presidents/chancellors were able to attend.

Ask to be put on the program for the annual Presidential Peer Seminar held annually in Hilton Head, South Carolina during the first week in August. About 30-40 presidents and chancellors attend this meeting. Disadvantage: A few HBCU institutions are not members of NAFEO and may not attend.

Ask UDC to coordinate a committee or task force of senior leadership to prepare a report on their needs and requirements after studying the plan to be prepared by the Air force Secretariat, or other projects of interest to AFOSR. The deliverable would be an analysis of what is needed at each institution to participate in the AFOSR program. The report should reflect the needs of the institutions bottom up, not top down.

SUMMARY

AFOSR program initiatives should be improved by having HBCUs/MIs participate with it in the development of an Omnibus plan to address HBCU/MI program needs.

Infrastructure should be as broadly construed as possible. The main thrust should be to improve the academic, administrative and technical capabilities of HBCUs/MIs. In
addition, infrastructure training should include instruction on the management of contracts and grants in sponsored programs offices.

Technology enhancements to improve the content and flow of information on campus should be considered a priority for AFOSR (DoD), i.e., computer hardware and software upgrade, access to the internet, bulletin boards, distance learning, etc.

One of the primary goals of this program should be to increase the number of quality proposals submitted to DoD from HBCU/MIs.

Advisory council meetings should be held regularly, and as required.

AFOSR should include new initiatives in its FY 1996 programs that are designed to increase the number of African American scientists and scholars teaching at HBCU/MIs. New initiatives should also focus more on increasing the number of graduate students at HBCU/MIs.

Air Force laboratories should be encouraged to increase their interaction and programs with HBCU/MI faculty and students.

The Air Force Institute of Technology (AFIT) will be asked to audit graduate programs and make recommendations to enhance curricula and propose other changes, if required, and use some of its resources to improve those programs at HBCUs/MIs.
Appendix - D
"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

Research Areas of Select HBCUs/MIs Faculty

by

Air Force Research Directorates

July 31, 1996

Supported by the Air Force Office of Scientific Research (AFOSR)
Bolling AFB, D.C.
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| Dr. Nicholas Pinto |
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# Phillips Laboratory

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230 College Hall  
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ssedwick@tamuk.edu | | | | Dr. Robert Serth |
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(713) 313-1876 (FAX)  
gra_hayes@tsu.edu | | | | Dr. Ravi Bhatnagar |
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ymartin@vsu.edu | | | | |
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prjmclean@alpha.ccsu.edu | Dr. Linda Hayden | | | |
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| Dr. Furney Brown  
  Director, Governmental Affairs and Special Projects |                                |                                | Dr. Prodyot Dutt          |                          |
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  (512) 593-3409 (FAX)  
  ssedwick@tamuk.edu |                                |                                |                               |                          |
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amstronggg@wssu1.adp.wssu.edu | | Dr. Richard Jou  
Dr. Fenglien Lee | | |
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UNIVERSITIES AND MINORITY INSTITUTIONS

FOLLOW-UP SURVEY

1. Prior to attending the videoconference were you acquainted with Air Force Materiel Command grant, contract, and institutional capacity building programs (fellowships for faculty and students)?


2. Prior to attending the videoconference were you acquainted with Air Force Office of Scientific Research grant, contract, and institutional capacity building programs (fellowships for faculty and students)?


3. Do you feel that the videoconference provided you with information you did not previously have regarding the Air Force Materiel Command’s programs?

   [11] Yes   [0] No

   The Air Force Office of Scientific Research’s programs?

   [11] Yes   [0] No

4. To your Knowledge, did your institution receive the satellite transmissions on November 3rd and 4th for Parts I and II of the videoconference?


5. The first part of the videoconference addressed basic issues of how to develop a structured research program at HBCUs and MIs, including infrastructure development, identification of grant and contract opportunities, proposal writing, and grant and contract management.

   Do you feel that your institution is in need of this kind of information and support, generally?

   [10] Yes   [1] No

E - 1
Which topic areas represent key areas of need for your institution?


[ 7] Strengthening the Research Capacity (Identification of Capable Faculty to Perform Research, Providing State-of-the-Art Training for Faculty, Securing Expert Support for the Conduct of Research, etc.)

[ 6] Identification of Grant and Contract Opportunities (Marketing of the Institution, Developing a Datafile of Grant and Contract Opportunities, Securing Subscriptions to Grant and Contract Announcement Periodicals, Amassing Publications Regarding Grant and Contract Opportunities, etc.)


[ 7] Proposal Writing (Structuring Proposals, Conceptualizing Ideas for Fundable Proposals, Editing Proposals, etc.)

[ 5] Grant and Contract Management (Meeting Grant and Contract Obligations, Adhering to Legal and Regulatory Requirements, Managing Fiscal Reporting Requirements, Abiding by Cost Principles and Allowable, etc.)

6. Now that the videoconference segment of the Technical Assistance effort is completed and you have personally met and spoken with key Air Force personnel, have you had any follow-up contact with the Air Force Materiel Command and/or Air Force Office of Scientific Research?


If Yes, was this contact self-initiated or Air Force initiated?


What was the nature and extent of the contact? In two cases, Col. Mims contacted the institutions. In one case an AFOSR team visited the institution. In another case, there were faculty discussions with Air Force personnel.

7. Does your institution have science and/or engineering programs at the Bachelor and above levels?


8. Does your institution have faculty who are actively engaged in scientific and technological research? [11] Yes [ 0] No
9. Has your institution performed grant or contract work for the Air Force or Department of Defense?


If Yes, please describe the kinds of projects for which you have been funded? Biomedical Research, Environmental Research, General Engineering, Computer Science, Physics, Plasma Research, Parallel Processing.

10. What are your institution's greatest needs in its attempts to increase sponsored programs in science and technology?

Identification of mutual match between current Air Force research needs and the kind of research undertaken by the institutions. The overview of what the laboratories do was very important and informative. We need more of that kind of interfacing. Funds are needed to enhance institutional research capability. The institutions require infrastructure and start-up capital. The institutions need to be made continually aware of research opportunities. We need financial assistance for minority students pursuing majors in these fields. The institutions need technical assistance in developing their science, engineering, and computer technology programs. Funds are also needed to support faculty release time.

11. What do you feel the Air Force can do to assist your institution in becoming more competitive with respect to scientific and technological research?

The institutions require that grant and contract opportunities allow for faculty release time and summer salary. Some programs will not support three-quarters or more faculty release time. We need the Air Force to make every effort to alert us to research opportunities (i.e., special seminars, direct contact with institutional faculty, etc.) Infrastructure development support is what we need. We would like to see the Air Force involved in K-12 educational pipeline projects. We require assistance with faculty development. We need computing and scientific equipment. Also we need financial support for our students.

RESPONDENTS

California State University - Dominguez Hills
City College of New York
Delaware State University
Elizabeth City State University
Florida International University
Knoxville College
Morgan State University
Texas A&M International University, Lariat
Texas Southern University
University of Puerto Rico - Rio Piedra Campus
Virginia State University

E - 3
Appendix - F
"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

U.S. AIR FORCE OFFICE OF SCIENTIFIC RESEARCH
TECHNICAL ASSISTANCE TO HISTORICALLY BLACK COLLEGES AND UNIVERSITIES AND MINORITY INSTITUTIONS

FOLLOW-UP SURVEY


The six institutions indicating they did not have a formal office include: Barry University, Dillard University, Fort Valley State University, Johnson C. Smith University, Tougaloo College, and Texas A & M International University.

3. Prior to viewing these videotapes, how familiar would you say faculty at your institution were with grant, contract, and institutional capacity building programs (fellowships for faculty and students) sponsored by the Air Force?


Those institutions indicating that they were very familiar with Air Force grant, contract, and fellowship programs include: Fayetteville State University, Fort Valley State University, and Elizabeth City State University. In addition, Delaware State and Elizabeth City State indicated that while some of their faculty were Active Participants in Air Force programs, others were either only Vaguely Familiar (40% - Elizabeth City State; 90% - Delaware State), Very Familiar (30% - Elizabeth City State), or Active (10% - Delaware State; 30% Elizabeth City State).

4. One issue addressed in the videotapes is how to develop a structured research program. This includes infrastructure development, identification of grant and contract opportunities, proposal writing, and grant and contract management.

Do you feel that your institution needs additional information in one or more of these areas?

[28] Yes [2] No

The two indicating that their institutions required no additional information were: Mississippi Valley State and West Virginia State.

If yes, which of the following topics represent key areas of need for your institution?

[12] Developing a Research Management Infrastructure (Office of Sponsored Research, Identifying a Responsible Individual for Management of the Research Function,
Identifying Staff Support for Management of the Research Function, Developing a Financial Management System for Grants and Contracts, etc.)

[20] Strengthening the Research Capacity (Identification of Capable Faculty to Perform Research, Providing State-of-the-Art Training for Faculty, Securing Expert Support for the Conduct of Research, etc.)

[22] Identification of Grant and Contract Opportunities (Marketing of the Institution, Developing a File of Grant and Contract Opportunities, Securing Subscriptions to Grant and Contract Announcement Periodicals, Amassing Publications Regarding Grant and Contract Opportunities, etc.)

[22] Networking Within the Air Force Infrastructure (Identifying Specific Air Force Research Needs, Maintaining On-going Working Relationships with Air Force Programs, etc.)

[18] Proposal Writing (Structuring Proposals, Conceptualizing Ideas for Fundable Proposals, Editing Proposals, etc.)

[17] Grant and Contract Management (Meeting Grant and Contract Obligations, Adhering to Legal and Regulatory Requirements, Managing Fiscal Reporting Requirements, Abiding by Cost Principles and Allowable, etc.)

5. Please list the names and telephone numbers for persons at your institution who have performed grant or contract work for the Air Force?

Nineteen (19) institutions indicated that no faculty or staff members have performed contract work for the Air Force. Four (4) institutions indicated that one faculty had performed such work. Two (2) indicated that four faculty had worked on Air Force projects. Two (2) institutions were unsure if it has had any Air Force work.

6. What are your institution’s greatest needs in its attempts to increase sponsored programs in science and technology?

Eleven (11) of the institutions identified a need for increased administrative capacity (i.e., more staff specifically focused on faculty research support). Twelve (12) indicated a need to re-tool and strengthen research capacity, including training for faculty and students. They expressed a need for state-of-the-art equipment and laboratories, including provisions for distance learning and interactive instructional devices. Seven (7) indicated a need for matching faculty expertise to research opportunities that incorporate the instruction of students. The remaining institutions varied in their expressions of need to include: a) increased campus resources for faculty research; b) release time for faculty; c) a formal office of sponsored research; d) publicity about the institution, its viability and capabilities; e) long term commitments to research in concert with the institution’s mission; f) incentives for principal investigators; g) more focused approach to research; and h) opportunities for students.

7. What do you feel the Air Force can do to assist your institution in becoming more competitive with respect to scientific and technological research?
The institutions offered a variety of ideas about what assistance they would like the Air Force to provide. These include:

- Air Force consultancy with respect to curriculum development/modification.
- Establishment of a sponsored research office in the science division, including systematic training.
- Provide early and frequent notification about upcoming opportunities.
- Provide alerts to the Federal Register and the Commerce Business Daily.
- Send Requests for Proposals electronically.
- Intensive hands-on technical assistance for planning and preparation of responses.
- Consultations with program officers.
- Access to samples of past successful proposals and programs.
- Possible collaborations with other institutions and contractors.
- Identification of sources to approach for resource donations.
- Conduct workshops and meetings for interested faculty and grants office staff.
- Visits to the institutions to assess what is needed from the Air Force’s perspective.
- Preview proposals and feedback before submission.
- Provide summer pay opportunities for the retraining of faculty.
- Conduct technical workshops on campus.
- Employ HBCU/MI faculty to work in Air Force research on-site.
- Establish funded programs in Avionics, Electronics, and Manufacturing Technology.
- Provide speakers for faculty, staff, and students.
- Provide funding for high ticket equipment.
- Provide training in responding to contract cost proposal requirements.
o Initiate intergovernmental personnel actions for near retirement Air Force personnel and place them on HBCU campuses.

o Continue financial support to small undergraduate programs.

o Identify specific guidelines for proposal development.

o Clearly state research needs and objectives.

o Develop short-term internships.

o Provide scholarships for advanced degrees.

o Provide on-site training in Air Force procurement procedures.
Appendix - G
THE UNIVERSITY OF THE DISTRICT OF COLUMBIA

presents

"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

A Project of Technical Assistance to Historically Black Colleges and Universities and Minority Institutions

Supported by the Air Force Office of Scientific Research (AFOSR) Bolling AFB, D.C.

Conducted by the University of the District of Columbia under contract with the Air Force Office of Scientific Research Bolling AFB, DC
PROJECT OVERVIEW

The Air Force Office of Scientific Research (AFOSR) has contracted with the University of the District of Columbia (UDC) to provide Technical Assistance to Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MI) to enhance their ability to compete successfully for Air Force basic and applied research grants and contracts. The Technical Assistance to be provided includes assistance in structuring formal sponsored research programs, assistance in proposal development, identification of expert support for proposed projects, guidance in grant and contract management, and development of a database of HBCU/MI capabilities. The Technical Assistance effort also seeks to provide counseling and advice to HBCUs and MI that will facilitate their adherence to related technical performance, administrative, and Federal regulatory requirements.

On November 3, 1994, UDC will present the first of a two-part videoconference, with technical information regarding the challenges confronting HBCUs/MIs in the establishment and management of sponsored research, proposal development, and grant and contract management. At that time, detailed information will be provided regarding follow-on technical assistance available through a formal UDC AFOSR Technical Assistance Center.

To augment these efforts on November 4, 1994, AFOSR will present the second phase of the videoconference, to introduce HBCU/MI institutions to the research and capability enhancement support programs of AFOSR, and to discuss with the HBCU/MI community, problems and obstacles that inhibit their participation in AFOSR-supported research programs.

The UDC AFOSR Technical Assistance Center is available from 9:00 a.m. until 5:00 p.m., Monday through Friday, by toll-free number: 1-800-259-7250.

ANNOUNCING

TECHNICAL ASSISTANCE VIDEOCONFERENCES
(Downlinked to your institution or to a nearby site.)

PART I
Thursday, November 3, 1994
1:00 p.m. - 4:00 p.m. EST

1. EFFECTIVE SPONSORED RESEARCH INFRASTRUCTURE
2. SEARCHING FOR RESEARCH OPPORTUNITIES
3. MECHANISMS FOR ENHANCING RESEARCH CAPABILITIES
4. PROPOSAL DEVELOPMENT
5. GRANT AND CONTRACT MANAGEMENT
6. LIVE CALL-IN INQUIRY AND RESPONSE

Developed and produced by the University of the District of Columbia.

PART II
Friday, November 4, 1994
10:00 a.m. - 5:00 p.m. EST

HOSTED BY
BRIGADIER GENERAL RICHARD R. PAUL
DIRECTOR FOR SCIENCE AND TECHNOLOGY
AIR FORCE MATERIEL COMMAND

1. LIVE, CALL-IN INTERACTION WITH AIR FORCE MATERIEL COMMAND RESEARCH ADMINISTRATORS
2. RESEARCH THRUSTS OF AIR FORCE LABORATORIES
3. AFOSR RESEARCH THRUSTS
4. PANEL OF HBCU AND MI PRESIDENTS

Developed by AFOSR with assistance from the University of the District of Columbia.
Appendix - H
UNIVERSITY OF THE DISTRICT OF COLUMBIA

"Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research"

ROME LABORATORY CONFERENCE AND TOUR

October 16, 17 and 18, 1995

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Appendix - I
"Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research"

Program

Rome Laboratory Conference and Tour

coordinated by

The University of the District of Columbia

and

Southern University and A&M College

October 16, 17 and 18, 1995

Rome, New York

Supported by the
Air Force Office of Scientific Research (AFOSR)
Bolling AFB, D.C.
Program

OCTOBER 16, 1995

3:00 - 6:00 p.m.  Check-in and Registration
                 Paul Revere Lodge

6:30 - 8:00 p.m.  Orientation Dinner Meeting
                 The Beeches

OCTOBER 17, 1995

6:30 - 7:35 a.m.  Breakfast
                 Paul Revere Lodge

7:40 a.m.         Depart Lodge for Rome Laboratory

8:00 - 8:05 a.m.  Conference Overview
                 Dr. Rose Glee
                 Dr. Samuel Sullivan
                 Project Directors

8:05 - 8:10 a.m.  Remarks
                 Dr. Harold Weinstock
                 Program Manager

8:10 - 8:15 a.m.  Welcome to Rome Laboratory
                 Col. Ted Bowlds
                 Commander

8:15 - 8:35 a.m.  The Worldwide Web
                 Mr. Scott Gregory
                 Web Master

8:35 - 8:45 a.m.  Palace Knight Program
                 Ms. Anne Taylor
                 Chief of Education and Training

Overview of Directorates

8:45 - 9:00 a.m.  Command, Control
                 and Communications (C3)
                 Col. Charles O. Cornell
                 Deputy Director

9:00 - 9:15 a.m.  Electromagnetics
                 and Reliability (ER)
                 Col. F. Brendel Kreighbaum
                 Director of Reliability

9:15 - 9:30 a.m.  Intelligence and Reconnaissance (IR)
                 Col. Del Atkinson
                 Director

9:30 - 9:45 a.m.  Surveillance and Photonics (OC)
                 Maj. Gary Barmore
                 Deputy Director
9:45 - 10:00 a.m.  Break

Tour of Rome Laboratory Facilities

10:00 - 10:45 a.m.  Group 1 - Command, Control and Communications (C3)  Col. Charles O. Cornell
Group 2 - Electromagnetics and Reliability (ER)  Mr. John J. Bart
Chief Scientist for Reliability

11:00 - 11:45 a.m.  Group 2 - Command, Control and Communications (C3)  Col. Charles O. Cornell
Group 1 - Electromagnetics and Reliability (ER)  Mr. John J. Bart

11:50 a.m.  Depart Rome Laboratory for The Beeches

12:00 - 2:00 p.m.  Lunch at The Beeches

2:15 p.m.  Depart The Beeches for Rome Laboratory

Tour of Rome Laboratory Facilities Continued

2:30 - 3:15 p.m.  Group 1 - Surveillance and Photonics (OC)  Mr. James W. Cusack
Division Head for Photonics and Mr. Jerry Genello
Ms. Maria Amodio

3:30 - 4:15 p.m.  Group 2 - Surveillance and Photonics (OC)  Mr. James W. Cusack
Mr. Jerry Genello
Ms. Maria Amodio
Group 1 - Intelligence and Reconnaissance (IR)

4:25 p.m.  Depart Rome Laboratory for the Lodge

6:30 p.m.  Dinner at The Beeches

OCTOBER 18, 1995

6:30 - 7:35 a.m.  Breakfast  Paul Revere Lodge

6:30 - 7:40 a.m.  Lodge Check-out
7:40 a.m.  Depart Lodge for Rome Laboratory

Detailed Research Interests: Concurrent Mini-Sessions and Roundtable Discussions

8:00 - 9:10 a.m.  Group A

* Artificial Intelligence Technology (C3)  Mr. Donald Roberts
               Mr. Craig Anken
               Mr. Douglas White

* Electronic Reliability (ERG)  Mr. John J. Bart

* Speech Processing (IR)  Mr. Steve Smith

9:15 - 10:25 a.m.  Group B

* Communications Networks (C3)  Mr. Joseph Zdanowicz
               Mr. Dan Hague

* Electromagnetic Materials (ERH)  Dr. John T. Schott
       (Teleconference)

* Optical Neural Networks (OC)  Capt. Robert P. MacDonald
               Mr. Wesley Foor

10:30 - 11:40 a.m.  Group C

* Space Communications (C3)  Mr. Thomas Blake
               Mr. Brian Spink
               Mr. William Cook

* Imagery Exploitation (IR)  Mr. Jerry Nethercott

* Electromagnetic Technology (ERG)  Mr. Michael Seifert

11:45 - 11:55  Closing Remarks  Dr. Darryl Greenwood
               Chief Scientist

Noon  Depart Rome Laboratory for The Beeches

12:15 p.m.  Lunch at The Beeches

1:00 p.m.  Depart The Beeches for Syracuse Airport
OCTOBER 17, 1995

TOUR ASSIGNMENTS - Group 1

Dr. Murty A. Akundi  Dr. Mary Ann Jungbauer  Dr. Nicholas J. Pinto
Dr. Hendrik Angad-Gaur  Dr. Samuel Lakeou  Dr. Mark Purtill
Dr. H. John Caulfield  Dr. Reginald Lindsey  Dr. Carey E. Stronach
Dr. Warren E. Collins  Dr. Noureddine Melikechi  Dr. Daniel Suson
Dr. Maria Dunn  Dr. Harry Morgan  Dr. John Trimble
Dr. Rose Glee  Dr. Seetala V. Naidu  Dr. Kraig A. Wheeler
Dr. Juan H. Hinojosa  Dr. Amos O. Olagunju
Dr. Richard S. Jou  Dr. Joe Omojola

TOUR ASSIGNMENTS - Group 2

Dr. Gloria Long Anderson  Dr. Danny Hubbard  Dr. Omid M. Omidvar
Dr. Gerald V. Bruno  Dr. Booker Juma  Dr. Brajendra N. Panda
Dr. John K. Coleman  Dr. Edmond B. Koker  Dr. Robert Serth
Dr. Oscar H. Criner  Dr. Fengliyen Lee  Dr. Samuel Sullivan
Dr. Gary L. Duerksen  Dr. Antonio Martinez  Dr. Larry K. Sveum
Dr. Matthew Edwards  Dr. Steven H. Morgan  Dr. Rajender Trehan
Dr. Singli Garcia-Otero  Dr. A.N. Murty  Dr. Raymond Williams
Dr. Merritt Helvenston  Dr. David R. Noakes
**Detailed Research Interests: Concurrent Mini-Sessions and Roundtable Discussions**

**SUMMARY OF CHOICES**

for

**OCTOBER 18, 1995**

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<th>Time</th>
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<td>8:00 - 9:10 a.m.</td>
<td>Group A</td>
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<td>* Artificial Intelligence Technology (C3)</td>
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<td>10:30 - 11:40 a.m.</td>
<td>Group C</td>
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<td>* Space Communications (C3)</td>
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<td>* Imagery Exploitation (IR)</td>
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<td>* Electromagnetic Technology (ERG)</td>
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Appendix - J
"MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH"

U.S. AIR FORCE OFFICE OF SCIENTIFIC RESEARCH
TECHNICAL ASSISTANCE TO HISTORICALLY BLACK COLLEGES AND UNIVERSITIES AND MINORITY INSTITUTIONS

ROME TOUR PARTICIPANT SURVEY

2. Does your institution have a formal sponsored research office? [34] Yes [4] No

Although four faculty researchers indicated that they did not have a formal sponsored research office, one of these institutions actually does have a formal office. One faculty researcher from another institution indicated that he did not know whether or not there was a formal sponsored research office.

3. How familiar would you say faculty at your institution are with grant, contract, and institutional capacity building programs (fellowships for faculty and students) sponsored by the Air Force?


Faculty researchers indicating that their institutions were very familiar with Air Force opportunities include: Fisk, New Mexico Highlands, Dillard, Alabama A & M, and University of Puerto Rico at Humacao. The two indicating that they were active participants were from Texas A & M at Kingsville.

4. Do you feel that your institution is in need of additional information in one or more of these areas in order to effectively improve its structured research program? This includes infrastructure development, identification of grant and contract opportunities, proposal writing, and grant and contract management.

[39] Yes [0] No

If yes, which of the following topics represent key areas of need for your institution?


[31] Strengthening the Research Capacity (Identification of Capable Faculty to Perform...
Research, Providing State-of-the-Art Training for Faculty, Securing Expert Support for the Conduct of Research, etc.)

[24] Identification of Grant and Contract Opportunities (Marketing of the Institution, Developing a File of Grant and Contract Opportunities, Securing Subscriptions to Grant and Contract Announcement Periodicals, Amassing Publications Regarding Grant and Contract Opportunities, etc.)


[24] Proposal Writing (Structuring Proposals, Conceptualizing Ideas for Fundable Proposals, Editing Proposals, etc.)

[14] Grant and Contract Management (Meeting Grant and Contract Obligations, Adhering to Legal and Regulatory Requirements, Managing Fiscal Reporting Requirements, Abiding by Cost Principles and Allowable, etc.)

5. What are your institution’s greatest needs in its attempts to increase sponsored programs in science and technology?

A variety of needs were identified, including:

- Improve the research infrastructure.
- Encourage more faculty participation by reducing teaching loads and giving financial encouragement to faculty members with research grants.
- Match faculty expertise with sponsored programs.
- Hire more faculty so that other faculty can have release time to pursue proposals.
- State-of-the-art instrumentation.
- Graduate programs in science and mathematics.
- Acquisition of research faculty who can obtain funding to support graduate programs.
- A formal sponsored research office.
- Funds for equipment in the area of material characterization.
- Financial support for students to be exposed to research at the undergraduate level.
1. Convincing the administration that research should be given a high priority.
2. Networking with key people in the Air Force.
3. Funds for scientific journal subscriptions and research associate personnel.
4. Cluster research teaming.
5. Provide seed money for new faculty researchers.
6. More faculty in science, engineering, and mathematics.
7. Provide forums for faculty skills utilization.
8. Strengthen the research capacity of science faculty.
9. Motivate faculty to write proposals.
10. Institutional policy for directing indirect cost dollars back into research.
11. Providing maintenance funding for infrastructure to support research.
12. Improvement in library, computers, and laboratories.
13. Institutional support areas need improvement (i.e., procurement, administrative services, etc.)

7. What do you feel the Air Force can do to assist your institution in becoming more competitive with respect to scientific and technological research?

The institutions offered a variety of ideas about what assistance they would like the Air Force to provide. These include:

1. Support for faculty research through grants and contracts.
2. Summer programs for faculty and students.
3. Set up seminars for HBCU top administrators to explain the benefits that Air Force funding can provide to their campuses.
4. Help develop a research program of interest to the Air Force wherein top-line experts so that we can develop a critical mass of excellence in the field.
5. Provide on-campus seminars on Air Force opportunities.
6. Identify small projects within the capabilities of HBCU institutions.
Establish contacts between lab researchers and university professors.

Summer faculty fellowships and followup grants.

More conversations with Air Force scientists on research needs.

Assist in equipment purchase.

Help administrators and policy makers at HBCU and MI institutions understand the significance and importance of research.

Most military areas are tightly focused. Faculty do not see how they fit in. The Air Force/military needs to identify more broad, basic opportunities for research.

Develop faculty on loan programs.

Help establish partnerships/cooperative arrangements with laboratories.

Provide research training opportunities for faculty.

Help develop collective research efforts between major HBCUs with graduate/research programs and smaller HBCUs.

On-going communications with HBCUs.

Provide summer internships for students and faculty.

Provide seed monies or initiation grants to faculty.

Establish research and equipment grants.

Provide faculty enhancement and exchange programs.

Help develop ways and means of establishing research programs.

Liaison with key research faculty.

Make easily available unclassified documents detailing specific research accomplishments in Air Force research.

Donate equipment and/or fund on-going programs.

Participate in our long-range research program.

Provide surplus equipment.
Include HBCU/MI institutions on a routine mailing list or E-mail transmission.

Provide technical assistance in the area of proposal development for research related to the Air Force.

7. Comments.

Comments provided by the group tended to emphasize the importance and significance of the Rome Laboratory tour and conference. The majority felt that this was an important step toward providing a forum for intimate knowledge about specific laboratory needs. Several stressed that on-going follow up is important. They stressed the importance of being allowed to talk directly with scientists of the Air Force. Some praised UDC and the Air Force for conceiving of the conference and tour, and further indicated a need for developing collaborative projects between and among the HBCUs and MIs. Respondents would like to see similar communication of detailed research interest areas from other Air Force organizations, either in writing or in forums. Others indicated that they hoped the remaining Air Force laboratories would follow suit.
Appendix - K
MEETING THE MINORITY CHALLENGE IN SCIENCE AND TECHNOLOGY: INSTITUTIONAL CAPACITY BUILDING FOR AIR FORCE RESEARCH

EVALUATION FORM
ROME LABORATORY CONFERENCE AND TOUR
October 16, 17, and 18, 1995
Rome, New York

Fields of Interest:

Alarm System Design, False Alarms, Virtual Reality
Artificial Intelligence, Software Engineering, and Statistics
Applied Physics and Environmental Science
Applied High Temperature Superconductivity
Chemical Engineering, Data Reconciliation and Gross Error Detection
Chemistry (Nonlinear Optical Properties Calculation)
Computational Physics - Detector Simulation
Computer Science (Parallel Processing, Image Processing, Computational Geometry, Numerical Analysis)
Condensed Matter and Solid State Physics
Database Systems, Multimedia Systems
Digital Signal Processing, Image Processing, Natural Network
Environmental Chemistry
Experimental Condensed Matter
Geophysics
Material Science
Mathematics and Computer Science (2)
Molecular Orbital Calculations (sigma and pi electron interactions on alpha-diketones)
Nonlinear Optics - Laser Spectroscopy - Lasers & Laser Amplifiers
NMR-NQR-Magnetization: Solid State Physics/Material Science
Optics
Parallel Computing, Numerical Computation
Photochemistry
Photorefractive Materials
Physical Chemistry, Surface Science
Physics (Condensed Matter)
Physics, Material Research
Polymer and Inorganic Chemistry
Solid State Physics, Superconductivity
Spectroscopy, Atomic and Molecular Physics

K - 1
1. Did you make contacts with Rome scientists that you intend to follow-up?   [24] Yes   [16] No

2. Will you pursue submitting a "white paper" to at least one contact that you made?  

3. How were the mini-session discussions on specific research areas useful to you?

Responses were are follows:

o Expanded my awareness of what was being done.

o Gave me insight into future possibilities.

o Provided insight on Rome Laboratory’s artificial intelligence applications in image 
   processing, speech processing, signal processing, aircraft and resource scheduling, 
   etc.

o They allowed me to see where and how I can contribute to the research being done 
   at Rome.

o Provided me ideas. However, would have liked to have gotten an idea of research 
   methods.

o More aware of specific areas that use basic sciences - chemistry and physics.

o Discussion on how to submit a "white paper," and how to get involved with lab 
   scientists.

o Not useful to me (research not in my specific area) - (5)

o Opportunities to contact Rome scientists and collaborate with other HBCUs.

o Discussions needed to be more two-way. Also needed more information on relevant 
   projects to which HBCU/Mi contributions can be made.

o Wished there was time for presenting HBCU/MI capabilities and on-going research 
   to the scientists.

o Discovered that the Air Force labs are phasing out research on high temperature 
   superconductivity.

o The few I was interested in were too short.

o Put me in contact with the Rome Lab scientists with whom I share specific research 
   interests.
They surely were useful. I work in the area of high performance numerical computations. Although there were no talks specifically in my area, I will call to find out more.

I got the opportunity to meet with five individual technical people one-on-one.

Allowed time for questions and answers and one-on-one meetings with lab researchers.

Helped focus on those directorates that might be useful.

Provided information on knowledge-based software.

4. In what ways was the tour of Rome Laboratory useful to you?

Faculty researchers responded as follows (where respondents provides similar answers, only one summary response appears):

Saw equipment and experiments new to me, especially in optics and in virtual reality. Met specific scientist and discussed my interests in theoretical NLO. Met interesting colleagues and plan collaborations with some of them.

Opened opportunities for me and my faculty members to engage in summer research and/or funded research.

Gave me a unique opportunity to talk to some scientists and discuss possibilities of research.

Gave me ideas to do research on.

Made me aware of other laboratories that perform research in biosciences.

Provided me information that I will pass on to other faculty on my campus regarding software engineering.

Found some match with Rome’s work in Computer Science and Mathematics for other faculty on my campus.

Became aware of research focus.

Helped me understand better the research and development culture of the U.S. Air Force.

Provided very good interaction with other faculty from similar institutions. I now have a good feel for the opportunities for research available at Rome Laboratory.

Introduced the idea of electromigration failure research.
 Learned about research areas of mutual interest and about the AFOSR.

 Making contacts and networking.

 I am now able to provide better advice to students at my institution in terms of preparation (electives) for the workforce.

 Very interesting to learn of advances in communications technology.

 Educational and inspirational.

 Saw the importance of surface science and materials in Air Force research and opportunity for me in summer participation.

 Most useful with regard to general information regarding AFOSR and Hanscom, AFB.

5. Are you now more familiar with AFOSR Summer Research Programs? [38] Yes [2] No

6. Would you consider a summer research opportunity at Rome Laboratory?


7. Do you feel there are realistic grant/contract opportunities at Rome Laboratory in areas that are within your fields of interest?


8. What overall rating would you give the Rome Laboratory Conference and Tour?


ADDITIONAL COMMENTS:

I would like to thank you for the efforts and the hard work in organizing the meeting at Rome laboratory last week. I sincerely hope that we will be able to build up a cooperation - a working relationship - between Rome laboratory and our respective institution. For my part, I intend to follow up as soon as possible. I am hopeful that my research and my expertise can be of some help to Rome laboratory. - Dr. N. Melikechi, Delaware State University

Thanks for giving me an opportunity to visit the Rome lab and develop some contact. Hope to hear from you again about any similar opportunities. Since I am not a U.S. citizen, I may not be eligible. - Dr. B. Panda, Alabama A&M University

The best aspect was making good contacts with other HBCU scientists. - Dr. J. Caulfield, Alabama A&M University
Appendix - L
UNIVERSITY OF THE DISTRICT OF COLUMBIA

"Meeting the Minority Challenge in Science and Technology:
Institutional Capacity Building for Air Force Research"

SPONSORED PROGRAM
WORKSHOPS AT NORTH CAROLINA A&T STATE UNIVERSITY

October 24 and 25, 1995

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Appendix - M
"Meeting the Minority Challenge in Science and Technology: Institutional Capacity Building for Air Force Research"

Workshop Program

"Infrastructure Building for Effective Sponsored Program Operations"

coordinated by

The University of the District of Columbia

and

Southern University and A&M College

October 24 and 25, 1995

North Carolina A&T State University
Greensboro, North Carolina

Supported by the
Air Force Office of Scientific Research (AFOSR)
Bolling AFB, D.C.
Workshop Program

OCTOBER 24, 1995

3:00 - 5:45 p.m. Hotel Check-in and Registration
                 Greensboro Hilton

6:00 - 8:30 p.m. Orientation Dinner Meeting
                 Triad East - Greensboro Hilton

OCTOBER 25, 1995

7:00 - 8:00 a.m. Breakfast
                 Greensboro Hilton
                 Check-out

8:10 a.m. Depart for North Carolina A&T State University
          Webb Hall Auditorium

8:30 - 8:40 a.m. Welcome
                 Dr. Edward B. Fort, Chancellor
                 North Carolina A&T State University

8:40 - 8:50 a.m. Workshop Overview
                 Dr. Rose Glee, Project Director
                 Southern University and A&M College

8:50 - 9:00 a.m. Remarks
                 Dr. Harold Weinstock, Program Manager
                 Air Force Office of Scientific Research

9:00 - 9:10 a.m. Sponsored Program Issues at HBCUs and MIs
                 Dr. Samuel Sullivan, Project Director
                 University of the District of Columbia

9:10 - 9:55 a.m. Experience Sharing
                 Participants
10:00 - 10:30 a.m.  Tour of Sponsored Research Offices  Ms. Mary Atkinson  Director of Sponsored Programs  North Carolina A&T State University
Division of Research
Dowdy Administration Building
* Tour Group 1

10:40 - 11:35 a.m.  An Effective Sponsored Research Program  Dr. Earnestine Psalmonds  Vice Chancellor for Research  North Carolina A&T State University
* Infrastructure and Pre-award Issues
Question and Answer Period

12:00 - 1:15 p.m.  Lunch

1:30 - 2:30 p.m.  An Effective Sponsored Research Program  Dr. Earnestine Psalmonds
* Post-award Issues
Question and Answer Period

2:40 - 3:10 p.m.  Tour of Sponsored Research Offices  Ms. Mary Atkinson
* Tour Group 2

3:15 - 3:25 p.m.  Wrap-up

3:30 p.m.  Departures to Greensboro Airport
TOUR ASSIGNMENTS - Group 1

Mr. Thomas E. Crittenden  Dr. Glenda Island  Dr. Herbert C. Smitherman
Ms. Dorothy L.M. Crumbly  Ms. Dianne Kirnes  Dr. Asoka Srinivasan
Ms. Enid Garcia-Ortiz  Dr. Annette Lopez de Mendez  Dr. Alan Tipton
Dr. Rose Glee  Mr. Elijah K. Martin, Jr.  Ms. Jill Triplett
Dr. Barbara E. Hayes  Dr. Edwin A. Martinez  Dr. Harold Weinstock

TOUR ASSIGNMENTS - Group 2

Dr. Jaswant Bajwa  Ms. Yvonne E. Martin  Ms. Susan Steiner
Mr. Lawrence H. Barnes  Dr. James A. McLean  Dr. Samuel Sullivan
Dr. Furney E. Brown, Jr.  Mr. Joseph J. Monti  Ms. Karen Staab
Mr. George Carpenter  Ms. Gwen Marie Moolenaar  Ms. Beverly J. Warren
Mr. Lemile D. Chandler  Dr. Mildred Huff Ofosu  Mr. Marvin Watkins
Mr. Clifford V. Johnson  Dr. Alden H. Reine