PART I - PROJECT IDENTIFICATION INFORMATION

1. Program Official/Org. Sue Kemnitzer - EEC

2. Program Name HUMAN RESOURCES DEVELOPMENT PROGRAM

3. Award Dates (MM/YY) From: 04/92 To: 09/93

4. Institution and Address
   GA Tech Res Corp - GIT
   Administration Building
   Atlanta GA 30332

5. Award Number 9204048

6. Project Title
   A Workshop: Assessment and Evaluation of the Program for GEE for Women, Minorities and/or Persons with Disabilities, April 1992

This Packet Contains
NSF Form 98A
And 1 Return Envelope
NSF Grant Conditions (Article 17, GC-1, and Article 9, FDP-11) require submission of a Final Project Report (NSF Form 98A) to the NSF program officer no later than 90 days after the expiration of the award. Final Project Reports for expired awards must be received before new awards can be made (NSF Grants Policy Manual Section 677).

Below, or on a separate page attached to this form, provide a summary of the completed projects and technical information. Be sure to include your name and award number on each separate page. See below for more instructions.

PART II - SUMMARY OF COMPLETED PROJECT (for public use)

The summary (about 200 words) must be self-contained and intelligible to a scientifically literate reader. Without restating the project title, it should begin with a topic sentence stating the project's major thesis. The summary should include, if pertinent to the project being described, the following items:

- The primary objectives and scope of the project
- The techniques or approaches used only to the degree necessary for comprehension
- The findings and implications stated as concisely and informatively as possible

PART III - TECHNICAL INFORMATION (for program management use)

List references to publications resulting from this award and briefly describe primary data, samples, physical collections, inventions, software, etc. created or gathered in the course of the research and, if appropriate, how they are being made available to the research community. Provide the NSF Invention Disclosure number for any invention.

External publication in progress.

I certify to the best of my knowledge (1) the statements herein (excluding scientific hypotheses and scientific opinion) are true and complete, and (2) the text and graphics in this report as well as any accompanying publications or other documents, unless otherwise indicated, are the original work of the signatories or of individuals working under their supervision. I understand that willfully making a false statement or concealing a material fact in this report or any other communication submitted to NSF is a criminal offense (U.S. Code, Title 18, Section 1001).

Principal Investigator/Project Director Signature

Date

12/30/93

IMPORTANT:
MAILING INSTRUCTIONS
Return this entire packet plus all attachments in the envelope attached to the back of this form. Please copy the information from Part I, Block I to the Attention block on the envelope.
The National Science Foundation established the Graduate Engineering Education (GEE) Awards to encourage women, minorities and persons with disabilities to enter graduate study and research leading to doctoral degrees in engineering. The NSF/GEE program has been successful because it has promoted and facilitated a cultural climate within graduate engineering education that is accepting of women, minorities and disabled students. By involving a cohesive group of under-represented students within a department or college, the NSF/GEE program provides a critical mass that enables students to form their own network and an incentive for faculty to participate in the recruitment and advisement of women, minority and disabled graduate students. It is precisely this sort of involvement that individualized fellowship and traineeship programs have difficulty attaining. The participants of this workshop strongly recommend that NSF maintain and expand this program to include additional institutions and students. The initial five-year funding period for each of the 24 participating institutions is simply not sufficient to overcome the chronically low enrollment and number of graduate degrees awarded to women, minorities, and persons with disabilities.

The workshop participants agreed that the NSF/GEE program can provide a student with the personal, professional and technical growth and development for the successful transition from an incoming graduate student to successful professional. NSF should collect and disseminate data which characterizes the success of each NSF/GEE site. Several such measures are suggested in this report. The data should be compared with that for other programs for assessing achievement levels of graduate students in science and engineering.

Several other important recommendations are contained in this report. However, it must be stressed that the NSF/GEE program fills a very critical need in the engineering pipeline that this country so desperately needs. While we applaud and encourage growth in NSF’s pre-college and undergraduate education and research initiatives, such programs by themselves will not be sufficient unless a program like GEE is nurtured and maintained.
The data requested below are important for the development of a statistical profile on the personnel supported by Federal grants. The information on this part is solicited in response to Public Law 99-383 and 42 USC 1865C. All information provided will be treated as confidential and will be safeguarded in accordance with the provisions of the Privacy Act of 1974. You should submit a single copy of this part with each final project report. However, submission of the requested information is not mandatory and is not a precondition of future award(s). Check the "Decline to Provide Information" box below if you do not wish to provide the information.

Please enter the numbers of individuals supported under this grant.
Do not enter information for individuals working less than 40 hours in any calendar year.

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☐ Decline to Provide Information: Check box if you do not wish to provide this information (you are still required to return this page along with Parts I-III).

1 Category includes, for example, college and precollege teachers, conference and workshop participants.

2 Use the category that best describes the ethnic/racial status to all U.S. Citizens and Non-citizens with Permanent Residency. (If more than one category applies, use the one category that most closely reflects the person's recognition in the community.)

3 A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment. (Disabled individuals also should be counted under the appropriate ethnic/racial group unless they are classified as "Other Non-U.S. Citizens.")

AMERICAN INDIAN OR ALASKAN NATIVE: A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia or the Indian subcontinent. This area includes, for example, China, India, Indonesia, Japan, Korea and Vietnam.

BLACK, NOT OF HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa.

HISPANIC: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific territories of Guam, American Samoa, and the Northern Marinas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; or the Philippines.

WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
ASSSESSMENT AND EVALUATION OF THE NSF PROGRAM FOR GRADUATE ENGINEERING EDUCATION FOR WOMEN, MINORITIES, AND/OR PERSONS WITH DISABILITIES

WORKSHOP PROCEEDINGS
APRIL 23-25, 1992

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GA 30332

William J. Wepfer
Workshop Coordinator

December 20, 1993
EXECUTIVE SUMMARY

The National Science Foundation established the Graduate Engineering Education (GEE) Awards to encourage women, minorities and persons with disabilities to enter graduate study and research leading to doctoral degrees in engineering. The NSF/GEE program has been successful because it has promoted and facilitated a cultural climate within graduate engineering education that is accepting of women, minorities and disabled students. By involving a cohesive group of under-represented students within a department or college, the NSF/GEE program provides a critical mass that enables students to form their own network and an incentive for faculty to participate in the recruitment and advisement of women, minority and disabled graduate students. It is precisely this sort of involvement that individualized fellowship and traineeship programs have difficulty attaining. The participants of this workshop strongly recommend that NSF maintain and expand this program to include additional institutions and students. The initial five-year funding period for each of the 24 participating institutions is simply not sufficient to overcome the chronically low enrollment and number of graduate degrees awarded to women, minorities, and persons with disabilities.

The workshop participants agreed that the NSF/GEE program can provide a student with the personal, professional and technical growth and development for the successful transition from an incoming graduate student to successful professional. NSF should collect and disseminate data which characterizes the success of each NSF/GEE site. Several such measures are suggested in this report. The data should be compared with that for other programs for assessing achievement levels of graduate students in science and engineering.

Several other important recommendations are contained in this report. However, it must be stressed that the NSF/GEE program fills a very critical need in the engineering pipeline that
this country so desperately needs. While we applaud and encourage growth in NSF’s pre-college and undergraduate education and research initiatives, such programs by themselves will not be sufficient unless a program like GEE is nurtured and maintained.
INTRODUCTION AND BACKGROUND

The United States is faced with a critical need for a larger number of highly trained engineers with graduate degrees. Current numbers of undergraduate engineering graduates have fallen over the past five years and are not adequate to supply the needs of highly technological industrial and government organizations. Furthermore, demographic trends clearly indicate that this need will only be met by the infusion of women, minorities, and persons with disabilities into the advanced levels of the engineering profession.

In response to this need, the National Science Foundation established the Graduate Engineering Education (GEE) Awards to encourage women, minorities, and persons with disabilities to enter graduate study and research leading to doctoral degrees in engineering. The first GEE awards were granted in 1990 to 14 institutions, and in 1991 another 10 institutions received awards.

The objectives of the NSF/GEE program include:

- Encourage those persons currently under-represented in engineering graduate programs in the US to obtain doctoral degrees in engineering.
- Expand the activities of educational institutions currently engaged in this effort.
- Increase the number of women, minorities and person with disabilities who qualify for engineering faculty and research positions.
- Recognize the need to increase financial support for graduate education for persons in under-represented groups in engineering.

Now that the NSF/GEE Program is in its second year, it was paramount that the participants meet to exchange their ideas, successes, and to discuss any difficulties that may have arisen. The NSF/GEE Workshop was held from April 23-25, 1992 on the Georgia Tech campus in Atlanta, Georgia. This workshop sought to provide both NSF and each of the program participants with feedback to improve future operation and ensure success.
The objective of this workshop was to evaluate the NSF/GEE program in terms of program content, management, and overall success in achieving the program’s goals. In addition the workshop provided recommendations for improving the participation of women, minorities, and person’s with disabilities in graduate engineering education. Among the issues to be addressed in this assessment and evaluation are:

- The overall goals of the NSF/GEE program.
- Student recruitment/selection of participants
- Leveraging-supplements of institutional funds for NSF/GEE participants.
- Industrial funds for NSF/GEE participants.
- Revision of the GEE guidelines to re-emphasize goals.
- Issues that impact women graduate students.
- Issues that impact minority graduate students.
- Issues that impact disabled graduate students.
- Issues that impact non-traditional students.
- Placement of NSF/GEE Fellows in faculty positions.

Specific workshop objectives included:

1. Gather information from NSF/GEE participants to document and disseminate (to US Universities) successful recruiting strategies for under-represented groups in engineering (women, minorities, and persons with disabilities).

2. Gather information from NSF/GEE participants to document those impediments that negatively impact under-represented groups during graduate study. Make recommendations and provide guidelines for removing such impediments.

3. Develop guidelines for a holistic approach to graduate engineering education.

4. Provide policy recommendations to NSF for improving the successful participation of under-represented groups in graduate engineering education.
The workshop participants included both students and Program Directors from participating NSF/GEE institutions, individuals actively involved in leadership positions related to graduate education for under-represented groups, and selected staff from the National Science Foundation. Appendix A contains a list of all workshop participants. The current NSF/GEE institutions include:

Arizona State University
City College of New York
Cornell University
Drexel University
Georgia Tech
Howard University
Marquette University
Michigan University
North Carolina State/NC A&T University
Northwestern University
Penn State
SUNY - Binghamton

Tennessee Tech
Texas A & M
Virginia Polytechnic University
University of California at Berkeley
University of Dayton
University of Florida
University of Illinois-Urbana
University of Kentucky
University of Maryland
University of Michigan
University of Virginia
University of Washington

Appendix B contains a copy of the Workshop Agenda. The Workshop break-out sessions were organized to address the following specific topics:

1. Student recruitment and selection
2. Financial management of GEE sites
3. Holistic graduate education
4. Mechanisms for measuring success of the GEE program
5. Impediments facing women, minorities and disabled graduate students.

The following sections detail the Workshop’s discussions and recommendations in each of these areas.
I. STUDENT RECRUITMENT AND SELECTION

OBJECTIVE: To document and disseminate successful recruiting and selection strategies for under-represented groups in engineering.

1. Access All Available Applicant Pools.

(a). Each NSF/GEE site should actively recruit from their undergraduate student body.

(b). Each NSF/GEE site should actively recruit from colleges and universities in their regions.

(c). Each NSF/GEE site should share lists of prospective under-represented undergraduates eligible for graduate school with other NSF/GEE programs.

(d). Each NSF/GEE site should request lists of prospective students from GEM, NSBE, and SHPE. In turn each NSF/GEE site should provide similar information on their under-represented undergraduate students to these same organizations. Each NSF/GEE site should make use of the GRE Minority Locator Service.

(e). Each NSF/GEE site should send representatives to career fairs and professional society meetings to recruit under-represented students. Of special note are the annual meetings held by NSBE, SWE, SHPE and AISES. These meetings provide a gathering of large numbers of prospective graduate students. Each NSF/GEE site should consider the possibility of sending their current NSF/GEE Fellows to these meetings for recruiting additional students.

(f). Each NSF/GEE site should clearly communicate that NSF/GEE Fellowships are available. This information should be included in each program’s recruiting packages.

(g). Each NSF/GEE site should communicate the opportunities available and the success of their program to the relevant professional/technical societies such as IEEE, ASME, AIChE.

(h). Each NSF/GEE site should facilitate a more positive culture which educates undergraduates about the opportunities and benefits of graduate study. This outreach should begin with freshman and sophomores. An integral part of this outreach is the promotion of undergraduate research experiences along the lines of NSF’s REU Program.

(i). Each NSF/GEE site should encourage their current NSF/GEE Fellows to serve as role models for the undergraduate students. The NSF/GEE Fellows should be encouraged to assist with recruitment and mentoring of undergraduates.
2. Solicitation of NSF/GEE Fellowship Applications

(a). Each NSF/GEE site should solicit applications in a timely and expeditious manner. Applications for NSF/GEE Fellowships should be mailed early during the Fall semester/quarter. Applications deadlines should be clearly communicated. Announcements of awards should be made in early March so that students can advise schools of their decision by April 15.

(b). Each NSF/GEE site should communicate admission guidelines and historical data to each applicant.

(c). Each NSF/GEE site should advise prospective students on degree requirements and time-to-degree-completion data.

(d). Each NSF/GEE site should stress their welcoming and nurturing environment. Each NSF/GEE site must advise NSF/GEE applicants that they will be given the same privileges and responsibilities as all other graduate students.

(e). Each NSF/GEE site should clearly communicate their commitment to NSF/GEE Fellows through the completion of their degree. It is recognized that this commitment is contingent upon satisfactory progress toward the Ph.D.

3. Selection of NSF/GEE Fellows

(a). It is recognized that each NSF/GEE site uses a different selection process for NSF/GEE Fellows. It is also recognized that the NSF/GEE program will serve as a catalyst to maintain and improve current NSF/GEE site admission standards.

(b). Each NSF/GEE site should invite finalists for their NSF/GEE Fellowships for campus visits and interviews. Personal contact with faculty and current students (particularly current NSF/GEE Fellows) is paramount.

(c). Each NSF/GEE site should complement their existing selection process for prospective Fellows to include different weightings of quantitative measures (such as GPA and GRE scores) and subjective measures such as industrial experiences, interviews, and reference letters.

4. A Positive Culture for Graduate Education

(a). Each NSF/GEE site should continue to build a positive culture for graduate/professional education among its undergraduates, graduate students, and faculty.

(b). Each NSF/GEE site should encourage all faculty to participate in the recruitment process.
II. FINANCIAL MANAGEMENT

OBJECTIVE: To develop and document strategies for the successful financial management of NSF/GEE sites. A second objective is to develop strategies for raising non-NSF funds to enhance and ultimately supplant NSF funds.

1. Each NSF/GEE site should make the commitment to each NSF/GEE student for full funding for the duration of their study subject to satisfactory progress and performance.

2. Each NSF/GEE site should leverage NSF/GEE funds through research/teaching assistantship funds while maintaining the same level of funding to each student. This approach accomplishes two objectives: first it enables each site to attract more students into the NSF/GEE program; and second it enables each NSF/GEE fellow a broader variety of research and teaching experiences.

3. Each NSF/GEE site should develop and implement a plan to fund their programs at current or higher levels beyond the five-year NSF/GEE award. NSF/GEE sites need to consider the following sources for funding: alumni, industrial, foundation, endowment, and university. While future support may come from a variety of sources, it requires a strong and lasting institutional commitment to the diversity of their graduate student populations.

4. NSF/GEE sites should consider the following options for enriching their programs:
   
   (a). Provide seed money to faculty for their participation in recruitment, advisement, mentoring, and retention of students.

   (b). Provide seed money to enhance student recruitment activities.

   (c). Emphasize the intellectual and financial benefits to faculty advisors of prospective NSF/GEE students.
III. HOLISTIC GRADUATE EDUCATION

OBJECTIVE: To develop guidelines for a holistic graduate education.

A holistic graduate education provides the personal, professional, and technical growth and development for the successful transition from incoming graduate student to successful professional. A critical element of this process is to educate the student about the politics/culture of the process; that is, informing the student about the unwritten rules.

1. Assist the student in learning the politics/culture or unwritten rules of the system:
   
   (a). Educate the student about the role of the advisor, mentor, and role model.
   
   (b). To assist the student in the selection of a major advisor and mentor. Assist the student in establishing criteria for the selection of a major advisor and mentor.
   
   (c). Advise the students of the various campus communities, organizations and networks that exist and are available for graduate students.
   
   (d). To provide the student with a realistic set of expectations, responsibilities, and goals.
   
   (e). Advise and encourage the students to use campus counseling services.

2. Promote the scientific/technical growth and development of the student:

   (a). Assist the student in the selection of a major advisor based in large part on mutual technical interests.

   (b). Develop the student’s ability for research. This development can be facilitated by empowering the student as a part of a research program or team.

   (c). The student must be given meaningful research responsibilities early in their graduate study.

   (d). Expose students to their professional societies and networks. Participation in technical conferences at both the local and national level should be encouraged.

3. Promote the professional growth and development of the student:

   (a). Promote activities to enhance the student’s verbal and written communication skills

   (b). Promote the importance of both independent initiative as well as team efforts.

   (c). Promote the development of leadership and entrepreneurial skills.

   (d). Develop and nurture the student’s ability for teaching. Teaching assistantships and internships provide a mechanism to accomplish this objective.

   (e). Promote student participation in technical and professional conferences.
(f). Expose students to the world of the professor. Encourage students to address questions such as "What is it like to be a professor?; How do I get a faculty job?; What do I need to do to succeed as a professor?: Encourage dialogue between graduate students and faculty to address these questions.

(g). Promote the placement of Ph.D. graduates in industry, academia, and governmental sectors.

4. Promote the personal growth and development of the student.

(a). Stress the importance of the major advisor and mentor as advocates and friends of the student.

(b). Promote the student’s development of his/her networks both on and off-campus.

(c). Promote the development of leadership skills.

(d). Promote the development of creativity and innovation.

(e). Encourage students to take full advantage of campus counseling and support services.

(f). Empower the student to maximize their growth and development as a person and a professional.

(g). Promote the advantages of diversity in the campus community and in the nation.

5. Promote the importance of graduate education within the university community.

(a). Assist faculty in the enhancement of their advising and mentoring skills.

(b). Provide mechanisms for mediating disputes between graduate students and faculty advisors.

(c). Establish clear guidelines that delineate the duties and responsibilities of graduate students as well as their rights and privileges.

The NSF/GEE program is a model for holistic graduate education because it involves a cohesive group of under-represented students and encourages these students to form their own networks. Furthermore, the NSF/GEE program encourages faculty participation in the recruitment and advisement of women, minority, and disabled graduate students.
IV. MECHANISMS FOR MEASURING THE SUCCESS OF THE NSF/GEE PROGRAM

OBJECTIVE: To develop measures for evaluating the success of the NSF/GEE Program. Some of these measures will be site-specific while others will be global in nature. Furthermore, some measures will be quantitative and easy to evaluate while the more qualitative ones are more difficult to evaluate. Finally, it must be recognized that each NSF/GEE Site has different circumstances, goals and objectives and as a consequence there will be a variation in the evaluation measures for each site.

1. Measures by which each NSF/GEE Site can evaluate their success:

   (a). The number of NSF/GEE Fellows who graduate with Ph.Ds.

   (b). The time-to-degree for NSF/GEE Fellows with consideration of departmental and university averages as well as individual circumstances.

   (c). Placement of NSF/GEE Fellows in academia, government, and industry.


   (e). The number of students attracted to program who otherwise would not have gone to graduate school.

   (f). The number of NSF/GEE Fellows who entered graduate study after employment in industry or government.

   (g). The number of students attracted to the NSF/GEE program based on selection criteria established.

   (h). Evaluate NSF/GEE drop-outs and terminal MS students to identify issues and problems.

   (i). Conduct a longitudinal study of all NSF/GEE Fellows to include personal interviews.

   (j). The overall increase of women, minority, and disabled graduate students and the number of Ph.D degrees awarded to women, minorities, and disabled students at each site.

2. Perhaps the single most important measure is the extent to which the NSF/GEE Program has successfully facilitated a cultural change in each participating institution.

   (a). The extent to which the NSF/GEE Program has resulted in an increase in white male faculty advisors of women, minority, or disabled graduate students. Alternatively, has there been an increase in the number of white male students choosing women or minority faculty advisors?

   (b). Has the NSF/GEE Program been a catalyst for graduate program development. Has the pipeline of women, minority and disabled students grown?
V. IMPEDIMENTS FACING WOMEN, MINORITY, AND DISABLED GRADUATE STUDENTS

OBJECTIVE: To document impediments that negatively impact under-represented groups during graduate study. To make recommendations and provide guidelines for removing such impediments.

1. Financial impediments include the need to provide adequate resources (stipends, tuition, fees, health insurance,...) for the full duration of study. It is the responsibility of each NSF/GEE site to clearly communicate and discuss this issue with each prospective graduate student. Successful recruitment, retention and graduation of women, minority, and disabled graduate students involves careful planning to meet the financial needs of the student.

2. Societal impediments include:
   
   (a). Many women and minority students must overcome family pressures and responsibilities in their pursuit of graduate study.

   (b). Women, minority, and disabled students must overcome negative attitudes and stereotyping by some faculty.

   (c). Women with Ph.D.s face a different set of societal expectations and pressures.

   University communities must provide a positive environment that encourages students to attain their highest levels of achievement. Universities must promote the advantages of diversity among faculty and students.

3. Personal/Knowledge impediments include:

   (a). Many under-represented students cannot visualize themselves as a Ph.D. recipient.

   (b). Many under-represented students hold the view that a near-perfect GPA is required to matriculate into all graduate programs at all universities.

   (c). Many under-represented students have not been informed about the graduate school process.

   (d). Disabled students face severe transportation and logistical impediments.

University communities must continually promote and provide information about graduate school opportunities. Universities must encourage their students to pursue graduate education. Universities must continually strive to meet the special needs of disabled students.
WORKSHOP RECOMMENDATIONS

1. NSF should reinstate the GEE Program. The GEE initiative is working because it not only provides the necessary resources but also because it has encouraged and promoted a cultural climate that is accepting of women, minority and disabled students. However the five-year funding of the 24 participating sites will not be sufficient to institutionalize these changes. Given the chronic low enrollment of under-represented groups in engineering graduate programs, NSF should expand the GEE program to include a longer time period and to involve additional sites.

2. NSF should establish clear and defendable measures of success for NSF/GEE sites and the program as a whole. Several such measures are suggested in this report. This data should be collected and disseminated.

3. NSF should continue and perhaps expand its support of pre-college programs and the NSF/REU programs. These activities play a key role in promoting graduate education particularly among women and minority students. These programs complement the efforts and objectives the GEE initiative.

4. Each NSF/GEE site should conduct a mentoring workshop for their faculty. Mentoring should develop student survival skills as well as guiding the student through the transition to their professional career.

5. NSF should hold a GEE workshop every two years to review progress and individual experiences at each site.

6. The NSF/GEE Program provides an excellent model for graduate education for all students and should be publicized for its success.

7. Each NSF/GEE site should strive to incorporate as many of the relevant recruiting and selection procedures delineated in this report.

8. Issues associated with disabled students have not been fully addressed. Additional initiatives targeted specifically to disabled graduate students need to be considered.

The following recommendations are suggested for implementation at each NSF/GEE site:

1. Each NSF/GEE site should share lists of prospective under-represented undergraduates eligible for graduate school with other NSF/GEE programs.

2. Each NSF/GEE site should request lists of prospective students from GEM, NSBE, and SHPE. In turn each NSF/GEE site should provide similar information on their under-represented undergraduate students to these same organizations.

3. Each NSF/GEE site should communicate the opportunities provided by the NSF/GEE program to the various professional/technical societies such as IEEE and ASME.
4. Each NSF/GEE site should make the commitment to each NSF/GEE student for full funding for the duration of their study subject to satisfactory progress and performance.

5. Each NSF/GEE site should develop and implement a plan to fund their programs at current or higher levels beyond the five-year award.
APPENDIX A
### NSF/GEE WORKSHOP
#### April 23-25, 1992

**WORKSHOP PARTICIPANTS**

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<td>Georgia Tech (90)</td>
<td>Dr. William J. Wepfer</td>
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<td>Ms. Sue Scheff</td>
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<td>Dr. Amde M. Wolde-Tinsae</td>
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<td>Dr. Eric A. Grulke</td>
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<td>Dr. Maria B. Ventrice</td>
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<td>Dr. Ralph Lowry</td>
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<td>Arizona State University (91)</td>
<td>Dr. David Montgomery</td>
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### NSF/GEE WORKSHOP
April 23-25, 1992

**Workshop Participants (Continued)**

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<tr>
<td>Drexel University (91)</td>
<td>Dr. Nihat Bilgutay</td>
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<td>Dr. Preston L. Ransom</td>
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<td>Penn State (91)</td>
<td>Dr. Michael M. Reischman</td>
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<td>North Carolina State University &amp; North Carolina A&amp;T (91)</td>
<td>Dr. H. Martin</td>
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<td>University of Washington (91)</td>
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<td>Dr. Ira Tolbert</td>
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<td>NSF</td>
<td>Dr. Lucy Morse</td>
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<td>Dr. Marshall Lih</td>
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<td>GEM</td>
<td>Dr. Howard Adams</td>
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NSF/GEE WORKSHOP
April 23-25, 1992

WORKING GROUPS

DISCUSSION TOPICS

1. Student recruitment and selection
2. Financial management of GEE sites
3. Holistic graduate education
4. Mechanisms for measuring success of GEE program
5. Impediments facing women, minorities, and disabled graduate students

Group 1 (Topics 1, 3, 5)
Dr. Nixon (CUNY)
Dr. Gulari (Michigan)
Dr. Bilqutay (Drexel) Group Leader
Ms. Scheff (Kentucky)
Dr. McGoff (SUNY-Binghampton)
David Levine (GT)
Lillian Rodriguez (Marquette)
Rosie Sanders (Texas A&M)
Ida Jones (Virginia)

Group 2 (Topics 2, 4, 1)
Dr. Grulke (Michigan State)
Dr. Schneider (Marquette)
Dr. Ransom (Illinois) Group Leader
Dr. Morris (Virginia)
Dr. Ira Tolbert (SUNY-Binghampton)
Maria Mendez (CUNY)
Sheila Carmody (GT)
Derek Graham (GT)
Julio Navarro (Texas A&M)

Group 3 (Topics 3, 5, 2)
Dr. Heck (GT)
Dr. O’Brien (Virginia Tech)
Dr. Ventrice (TN Tech) Group Leader
Dr. Wolde-Tinsae (Maryland)
Dr. Harris (Howard)
Agnes Carpenter (CUNY)
Etty Katz (GT)
Julie Avera (TN Tech)

Group 4 (Topics 4, 1, 3)
Dr. Lowry (Virginia) Group Leader
Dr. Reischman (Penn State)
Dr. Earle (Florida)
Dr. Marre (Dayton)
Reginald Blake (CUNY)
Carmen Sidbury (GT)
Dale Wesson (Michigan State)
Sally Pardue (TN Tech)

Group 5 (Topics 5, 2, 4)
Dr. Rutledge (Northwestern) Group Leader
Dr. Erdman (Texas A&M)
Dr. Glass (Washington)
Dr. Torn (Cornell)
Peggy Jones (Dayton)
Susan Carlson (GT)
Lawrence Norris (Northwestern)
Karen Ramsey (TN Tech)
Melissa Buie (Michigan)

Un-attached
Dr. Morse (NSF)
Dr. Wepfer (GT)
Dr. Lih (NSF)
Dr. Adams (GEM)
APPENDIX B
NSF/GEE WORKSHOP  
April 23-25, 1992

AGENDA

Thursday, April 23, 1992

4:00 - 5:30 p.m.  Registration/Check-In  
(Marriott Courtyard Hotel)

6:00 - 6:30 p.m.  Reception  
(Gordy Room, Wardlaw Building)

6:30 - 7:30 p.m.  Group Dinner (Gordy Room, Wardlaw Building)  
Introduction & Conference Overview

7:30 - 9:00 p.m.  Session 1 - The GEE Program

Dr. Lucy Morse, NSF  
"Current Status and Future Plans"

Dr. Howard Adams, GEM  
"The Role of Faculty in Mentoring and Retention"

Dr. Donna C. Llewellyn  
"Fireproofing for Ph.D. Students"

Assignment of Working Groups, Recorders, Group Leaders, General Discussion

Friday, April 24, 1992  
(Alumni House/Faculty Club, Georgia Tech Campus)

7:30 - 8:15 a.m.  Continental Breakfast

8:15 - 8:30 a.m.  Conference Housekeeping
• Review of Objectives
• Procedure for Assessing Performance

8:30 - 10:00 a.m.  Session 2 - GEE Success Stories/Case Studies
GEE Site 1 - Recruitment  
- Dr. Lowry (Virginia)
GEE Site 2 - Women Graduate Students  
- Dr. Ventrice (Tennessee Tech)
GEE Site 3 - African American Graduate Students  
- Dr. Nixon (City University of New York)
GEE Site 4 - Hispanic American Graduate Students  
- Dr Erdman (Texas A&M)
GEE Site 5 - Financial Management  
- Dr. Grulke (Michigan State)

10:00 - 10:15 a.m.  Refreshment Break
Friday, April 24, 1992 (Continued)

10:15 - 11:45 a.m.
Session 3 - Working Groups (5 Groups of 8-10)
Topic 1 Student recruitment and selection.
Topic 2 Financial management of GEE Sites.
Topic 3 Holistic Graduate Education: Preparation for an Academic or Industrial Career
Topic 4 Mechanisms for Measuring Success of GEE Program.
Topic 5 Impediments facing women, minorities, and disabled graduate students.

12:00 - 1:15 p.m.
Luncheon - Reports from the five Working Groups

1:30 - 3:00 p.m.
Session 4 - Working Groups (5 Groups of 8-10)
• Rotate groups and topics
• Rotate groups leaders and recorders

3:00 - 3:30 p.m.
Reports from the 5 Working Groups

3:30 - 3:45 p.m.
Refreshment Break

3:45 - 5:00 p.m.
Session 5 - Working Groups (5 Groups 8-10)
• Rotate groups and topics
• Rotate groups leaders and recorders

5:00 - 5:30 p.m.
Reports from the 5 Workshop Groups

5:45 - 7:00 p.m.
Reception

7:00 - 8:30 p.m.
Dinner - Speaker: Dr. John A. White, Georgia Tech

8:30 - 10:00 p.m.
Workshop Chairperson and Working Group Leaders assemble Draft Report Outline

Saturday, April 25, 1992
(Alumni House/Faculty Club)

7:30 - 8:15 a.m.
Continental Breakfast

8:15 - 8:30 a.m.
Conference Housekeeping
<table>
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<th>Time</th>
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<tr>
<td>8:30 - 10:00 a.m.</td>
<td>• Distribution of Draft of Workshop Report-Outline</td>
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<td>• Session 6 - Working Groups (5 Groups of 8-10)</td>
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<td>10:00 - 10:45 a.m.</td>
<td>• Discussion of Draft of Workshop Report</td>
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<tr>
<td>10:00 - 10:45 a.m.</td>
<td>• Reports from the 5 Working Groups</td>
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<td>10:30 - 10:45 a.m.</td>
<td>• Refreshment Break</td>
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<td>10:45 - 12:00 noon</td>
<td>• Conference Wrap-up/Evaluation</td>
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<td>12:00 - 1:00 p.m.</td>
<td>• Final Luncheon</td>
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