ENHANCING UNDERGRADUATE PARTICIPATION IN OCEANOGRAPHIC RESEARCH WITH A FOCUS ON HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINORITY INSTITUTIONS

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LONG-TERM GOAL
To significantly enhance participation of underrepresented groups in careers in ocean sciences and ocean engineering.

SCIENTIFIC OBJECTIVES
To provide more opportunities for participation of underrepresented undergraduate students in ocean sciences and ocean engineering research experiences at Woods Hole Oceanographic Institution. With a focus on recruitment of undergraduates from Historically Black Colleges and Universities and Minority Institutions (HBCU/MI).

APPROACH
The proposed method will enhance the participation of undergraduate students in both Woods Hole Oceanographic Institution Summer Student Fellowship Program and the Minority Traineeship Program. These are established programs with a record of accomplishment of involving undergraduate science and engineering majors in research in ocean sciences and ocean engineering.

We will initiate the process of establishing joint research projects between faculty and students in Historically Black Colleges and Universities and Minority Institutions, and Scientific Staff and Senior Technical Staff at Woods Hole Oceanographic Institution. The initial phase will involve visits by a few WHOI Scientific Staff to HBCU/MIs selected in concert with the ONR Program Manager.

WORK COMPLETED
Please see tables in “results” section outlining 1997 recruitment efforts. Four trainees were selected and information concerning their school affiliation and projects are listed under results. Plans are being made for faculty visits to selected universities and colleges in conjunction with the current application period.

RESULTS
Participation in the Woods Hole Oceanographic Institute has been enhanced by the following additional minority trainees:

1. **ONR Supported Minority Trainees, 1997:**
   a) Sharat Gadde: Yale University, Biology Major, Junior, Advisor: Dr. Donald M. Anderson, WHOI Biology Department, Project: Development of an ELISA assay to quantify brown tide *Aureococcus anaphagefferens* cells in field samples.
### 4. TITLE AND SUBTITLE
Enhancing Undergraduate Participation in Oceanographic Research with a Focus on Historically Black Colleges and Universities/Minority Institutions

### 16. SECURITY CLASSIFICATION OF:

<table>
<thead>
<tr>
<th>a REPORT</th>
<th>b ABSTRACT</th>
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### 17. LIMITATION OF ABSTRACT
Same as Report (SAR)

### 18. NUMBER OF PAGES
3

### 19a. NAME OF RESPONSIBLE PERSON

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**Standard Form 298 (Rev. 8-98)**  
Prescribed by ANSI Std Z39-18
b) Sharon Perez-Suarez: University of Puerto Rico, Geology Major, Graduated Senior, Advisor: Dr. Henry J. B. Dick, WHOI Geology and Geophysics Department, Project: Cayman Trough: An End Member for the Structure of the Lower Crust of a Mid-Ocean Ridge?


d) Erica Wescott: Clark Atlanta University, Biology Major, Junior, Advisors: Dr. John W. Farrington, Senior Scientist, WHOI, Marine Chemistry and Geochemistry Department, Mr. Bruce W. Tripp, WHOI, Rinehart Coastal Research Center, Project: PAHs in Boston Harbor: Bioavailability, Trends and Evaluations.

2. **WHOI Minority Traineeship Program, 1978-1997** (see Table 1):
   a) Approach: Individual and sustained mentoring. Try and recruit in early undergraduate career and have at least two summers in the traineeship program.

<table>
<thead>
<tr>
<th>Total number of Minority Trainees: (Mostly undergraduates, a few high school students in early years).</th>
<th>African-American</th>
<th>Hispanics (Latinos)</th>
<th>Native Americans</th>
<th>Asian/Pacific Islanders</th>
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<tbody>
<tr>
<td>56</td>
<td>28</td>
<td>13</td>
<td>5</td>
<td>10</td>
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</table>

3. **Applicant and Acceptance/Appointment Statistics-WHOI Summer Student Fellowship Program** (see Tables 2 and 3):

<table>
<thead>
<tr>
<th>Table 2: Number of Students Applicants</th>
<th>Acceptance/Appointment*</th>
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<tbody>
<tr>
<td>Male</td>
<td>122</td>
</tr>
<tr>
<td>Female</td>
<td>128</td>
</tr>
<tr>
<td>Total</td>
<td>250</td>
</tr>
<tr>
<td>Minority</td>
<td>11</td>
</tr>
<tr>
<td>International</td>
<td>42</td>
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</table>

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<thead>
<tr>
<th>Table 3: By Percentage (%) Applicants</th>
<th>Acceptance/Appointment</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>49%</td>
</tr>
<tr>
<td>Female</td>
<td>51%</td>
</tr>
</tbody>
</table>
**IMPACT/APPLICATION**

Increasing the opportunities for participation of undergraduates in the nation’s ocean sciences and ocean engineering research efforts significantly strengthens the overall research effort and is a wise investment for the future.

**TRANSITIONS**

Through national meetings, workshops and personal contacts we share our experiences with faculty and administrators of other academic institutions with “Research Experience for Undergraduate” type programs and graduate programs in ocean sciences and ocean engineering. We introduce students to career opportunities at our own institution, other institutions, government agencies and industry.

**REFERENCES**


**WEB SITE:**

Woods Hole Oceanographic Institution that describes the institution educational/internship opportunities: http://www.whoi.edu.