The Duke University Marine Laboratory, with funding from the Office of Naval Research, conducts an 8-week summer internship program for rising seniors from two high schools: East Carteret High School and West Carteret High School. The purpose of the program is to expose students to active, on-going research programs so that they may be able to understand what is involved in a career in marine science research.

Groups of interns are preselected by a committee of science teachers at each school and the applications are sent to the Duke University Marine Laboratory (DUML). At DUML, applications are reviewed and rated by a panel of three scientists: one from NOAA-NMFS, one from the University of North Carolina Institute of Marine Sciences, and one from DUML. Three interns are selected from each of the two schools. Interns are matched with research faculty at DUML who then contact the interns in the spring to begin the process of developing a research topic.

Interns arrive at DUML in early-mid-June to begin an intensive 8-week exposure to research under the supervision of a faculty member. The interns develop a project topic and a research plan, carry out the research, including data analysis, write a technical report and give an oral presentation of their research. If appropriate, the interns are encouraged to present their work with their mentor at a scientific meeting and/or develop a journal article.

The exposure to such an active research environment is hoped to encourage students at an early age to consider careers in science, particularly marine science.
THE 1993 PROGRAM

Advertising for the internship program for the summer of 1993 was conducted in December 1992. In February 1993, the high schools provided a pool of 10 applicants (6 from West Carteret and 4 from East Carteret). A selection committee consisting of Drs. Mark Fonseca (NOAA-NMFS), Richard Luettich (UNC Institute of Marine Sciences), and Joseph Ustach (DUML) reviewed the applications. Three interns were selected from each of the two high schools.

For the 8-week program, interns were allowed to select flexible time-frames within the period from early June to late August. Such flexibility had been encouraged by the participating high schools. The 1993 program spanned the period from June 7-August 20. Because the dates of the individual internships were so varied and resultant scheduling conflicts, oral presentations in a group setting were not conducted. However, all interns submitted a final paper prior to the end of their specific 8-week period. Information sheets for each intern (apprentice) are attached which provide biographical information as well as the name of the mentor, and project title/major tasks performed. Also attached are information sheets on each mentor.

Submitted by: William W. Kirby-Smith, Coordinator
Office of Naval Research High School Internship Program
Duke University, School of the Environment, Marine Laboratory
111 Pivers Island Road
Beaufort, NC 28516-9721
(919) 728-2111
Year: 1993
Dates: 06/14-08/02

Name: Tiffany Evon Jenkins
Address: P.O. Box 745
Beaufort, NC 28516
Phone: 919-728-1769

Address (School, '93-'94): East Carteret High School
Beaufort, NC 28516
Phone: 919-728-3514

Last Grade Completed: Junior
Type of School: Public
Sex: Female
Race/Ethnicity: African American/Black

Installation: Duke University, School of the Environment, Marine Laboratory
Beaufort, NC 28516-9721
Phone: 919-728-2111

Mentor: Dr. Celia Bonaventura
Title: Professor of Cell Biology
Principal Discipline of Research: Cell biology; physiology; structural biology

Major Tasks Performed: A study of the effects of reassociating Limulus subunits Vb and four

College of Preference: East Carolina University
Intended College Major: Biochemistry
Duke University, School of the Environment; Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH APPRENTICE

Year: 1993
Dates: 06/14-07/09; 07/19-08/13

Name: Jaime Elizabeth Leonard
Address: 4102 Bonham Street
         Morehead City, NC 28557
         919-726-5349
Phone:
Address (School, '93-'94):
         West Carteret High School
         Morehead City, NC 28557
         919-726-1176
Phone:
Last Grade Completed: Junior
Type of School: Public
Sex: Female
Race/Ethnicity: White
Installation: Duke University, School of the Environment,
             Marine Laboratory
             Beaufort, NC 28516-9721
             919-728-2111
Phone:
Mentor: Dr. William W. Kirby-Smith
Title: Assoc. Prof. in the Practice of Marine Ecology
Principal Discipline of Research: Marine ecology
Major Tasks Performed: The growth and death rate of the common marine mussel
and contributing factors
College of Preference: Elon, St. Mary's, UNC-Wilmington, Peace
Intended College Major: Undecided
INFORMATION FOR EACH APPRENTICE

Year: 1993
Dates: 06/07-06/18; 06/28-07/09; 07/26-08/20

Name: Jennifer Nikole Lewis
Address: 33 Graham Road
         Newport, NC 28570
Phone: 919-223-4143

Address (School, '93-'94): West Carteret High School
                          Morehead City, NC 28557
Phone: 919-726-1176

Last Grade Completed: Junior
Type of School: Public
Sex: Female
Race/Ethnicity: White
Installation: Duke University, School of the Environment,
              Marine Laboratory
              Beaufort, NC 28516-9721
Phone: 919-728-2111

Mentor: Dr. Peter A. Howd
Title: Assistant Professor
Principal Discipline of Research: Nearshore geological processes

Major Tasks Performed: Study of beach cusp formation
College of Preference: Duke Univ. or Appalachian State Univ.
Intended College Major: Physical Therapy or Mathematics
**Duke University, School of the Environment, Marine Laboratory**  
Beaufort, North Carolina  
**Office of Naval Research - High School Internship Program**

**INFORMATION FOR EACH APPRENTICE**

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<table>
<thead>
<tr>
<th>Name</th>
<th>Julianne Murdoch</th>
</tr>
</thead>
</table>
| Address     | 2704 One Iron Street  
Morehead City, NC 28557                                                |
| Phone       | 919-726-4668                                                        |

| Address (School, '93-'94) | West Carteret High School  
Morehead City, NC 28557                                                   |
| Phone                   | 919-726-1176                                                        |

| Last Grade Completed    | Junior                                                              |
| Type of School          | Public                                                              |
| Sex                     | Female                                                              |
| Race/Ethnicity          | White                                                               |

| Installation            | Duke University, School of the Environment,  
Marine Laboratory  
Beaufort, NC 28516-9721                                         |
| Phone                   | 919-728-2111                                                        |

| Mentor                  | Dr. Joseph Ustach                                                   |
| Title                   | Executive Officer, Duke/UNC Oceanographic Consortium               |
| Principal Discipline of Research | Marsh ecology                                                  |

| Major Tasks Performed   | Study of the effect of predation by protozoa on the size of bacteria |
| College of Preference   | Meredith College                                                   |
| Intended College Major  | Biology major; foreign language minor                              |
Year: 1993  
Dates: 06/14-08/16  

<table>
<thead>
<tr>
<th>Name:</th>
<th>Jason Grant Salter</th>
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<tbody>
<tr>
<td>Address:</td>
<td>Star Route Box 336</td>
</tr>
<tr>
<td></td>
<td>Harkers Island, NC 28531</td>
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<td>Phone:</td>
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<td>Type of School:</td>
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<tr>
<td>Mentor:</td>
<td>Dr. Richard B. Forward, Jr.</td>
</tr>
<tr>
<td>Title:</td>
<td>Professor of Zoology</td>
</tr>
<tr>
<td>Principal Discipline of Research:</td>
<td>Physiology of marine animals</td>
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<td>Major Tasks Performed:</td>
<td>Research on the daily abundance of crab larvae</td>
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<tr>
<td>College of Preference:</td>
<td>Duke University</td>
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<tr>
<td>Intended College Major:</td>
<td>Pre-medicine</td>
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</table>
INFORMATION FOR EACH APPRENTICE

Year: 1993
Dates: 06/07-07/30

Name: Lucile Smith
Address: Rt. 4 Box 73
West Beaufort Road
Beaufort, NC 28516
Phone: 919-728-2466

Address (School, '93-'94): East Carteret High School
Phone: 919-728-3514

Last Grade Completed: Junior
Type of School: Public
Sex: Female
Race/Ethnicity: White

Installation: Duke University, School of the Environment,
Marine Laboratory
Phone: 919-728-2111

Mentor: Dr. Christopher A. Scholz
Title: Assistant Professor
Principal Discipline of Research: Marine geology and geophysics

Major Tasks Performed: Study of the geological aspects of four river deltas in Lake Malawi

College of Preference: Peace College; then transfer to a major college and go on to graduate school

Intended College Major: Undecided
Duke University, School of the Environment, Marine Laboratory
Beaufort, North Carolina
Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1993
Dates: 06/14-08/02

Name: Celia Bonaventura

Installation: Duke University, School of the Environment
Marine Laboratory
Beaufort, NC 28516-9721
Phone: 919-728-2111

Sex: Female

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Cell biology; physiology; structural biology

Number of Years of Mentorship: 4

Number of Apprentices this Year (1993): 1
Year: 1993
Dates: 06/14-08/16

Name: Richard B. Forward, Jr.

Installation: Duke University, School of the Environment
              Marine Laboratory
              Beaufort, NC 28516-9721

Phone: 919-728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Physiology of marine animals

Number of Years of Mentorship: 5

Number of Apprentices
this Year (1993): 1
Duke University, School of the Environment, Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1993
Dates: 06/07-06/18; 06/26-07/09; 07/26-08/20

Name: Peter A. Howd

Installation: Duke University, School of the Environment
Marine Laboratory
Beaufort, NC 28516-9721

Phone: 919-728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Nearshore geological processes

Number of Years of Mentorship: 1

Number of Apprentices this Year (1993): 1
Duke University, School of the Environment, Marine Laboratory
Beaufort, North Carolina
Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1993
Dates: 06/14-07/09; 07/19-08/13

Name: William W. Kirby-Smith

Installation: Duke University, School of the Environment
Marine Laboratory
Beaufort, NC 28516-9721

Phone: 919-728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Marine ecology

Number of Years of Mentorship: 10

Number of Apprentices this Year (1993): 1
INFORMATION FOR EACH MENTOR

Year: 1993
Dates: 06/07-07/30

Name: Christopher A. Scholz

Installation: Duke University, School of the Environment
Marine Laboratory
Beaufort, NC 28516-9721

Phone: 919-728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Marine geology and geophysics

Number of Years of Mentorship: 1

Number of Apprentices this Year (1993): 1
Duke University, School of the Environment, Marine Laboratory
Beaufort, North Carolina

Office of Naval Research - High School Internship Program

INFORMATION FOR EACH MENTOR

Year: 1993
Dates: 06/07-07/30

Name: Joseph Ustach

Installation: Duke University, School of the Environment
Marine Laboratory
Beaufort, NC 28516-9721
919-728-2111

Phone: 919-728-2111

Sex: Male

Race/Ethnicity: White

Highest Degree Held: Ph.D.

Principal Field of Research: Marsh ecology

Number of Years of Mentorship: 4

Number of Apprentices this Year (1993): 1