University of Maryland Eastern Shore Dedicates Research Center

Federal and local officials dedicate the new research center. Left to right: Congressman C.A. Ruppersberger (Md-2); (obscured) Maryland State Delegate Bennett Bossman; Superintendent Mike Hill, National Park Service Assateague Island National Seahore; Maryland; State Representative D. Page Ellmore; Dr. Thelma Thompson, President of UMES; Mrs. Hytche, wife of former UMES President William Hytche; and U.S. Senator Paul Sarbanes.

On Tuesday, May 3, 2005 the University of Maryland Eastern Shore (UMES) officially opened the Coastal Ecology Teaching and Research Center (CETRL). The center is located in Berlin, Maryland, adjacent to the Assateague Island National Seashore. Located on Sinepuxent Bay, this laboratory is ideally situated to study this important environment, teach marine, estuarine and fisheries ecology and provide service to the community

In attendance at the ribbon cutting ceremony were U.S. Senator Paul Sarbanes, who helped secure the $3 million building funds, Rep. Wayne Gilchrest (MD1), state delegates, and other federal and state agency officials.

Originally envisioned in the mid-1980 by then-UMES President William P. Hytche and Senator Sarbanes, the center will enable UMES scientists and students to conduct ecological research on the Atlantic Ocean and coastal bays of Maryland and represents a major milestone in UMES history.

The new 11,000 square foot Center will also support the research mission of the NOAA Living Marine Resources Cooperative Science Center (LMRCSC), established in 2001 to conduct research congruent with the interests of NOAA Fisheries. The LMRCSC prepares students for careers in research, management, and public policy "...that support the sustainable harvest and conservation of our nation's living marine resources."

The CETRL includes wet labs, teaching labs, darkroom, biological collections rooms, auditorium, faculty offices and a library, and lies adjacent to a public boat ramp. Vital to Maryland's natural heritage as well as its economy, the coastal bays are a unique and incompletely understood ecosystem.

The Coastal Ecology Teaching and Research Center

Student Forum on Diversity at AFS Annual Meeting

In keeping with the theme of the 135th Annual American Fisheries Society (AFS) meeting that will take place in Anchorage, Alaska- "Creating a Fisheries Mosaic,"-the NOAA Living Marine Resources Cooperative Science Center (LMRCSC) is hosting a forum entitled "Diversity in Fisheries: Creating a Cultural Fisheries Mosaic," on Tuesday, September 13, from 1:00-2:15 pm, at the Fourth Avenue Theatre.

The forum will address concerns, needs, and challenges of minorities and underrepresented communities in fisheries. Participants will be asked to join in a discussion of how minority participation in fisheries science and related fields can be increased. The forum is being described as a "positive, interactive, problem-solving" event that will bring together individuals already in fisheries who can be mentors, and students considering fisheries as a career."

LMRCSC is NOAA research facility located on the campus of the University of Maryland Eastern Shore. Along with its research partners - Delaware State University, Hampton University, Savannah State University, the University of Maryland Marine Biotechnology Institute's Center of Marine Biotechnology and the University of Miami Rosenteil School of Marine and Atmospheric Sciences - the Center conducts ecological research on marine and estuarine systems in collaboration with NOAA National Marine Fisheries Service.

University of Maryland Eastern Shore Begins Series of NOAA Research Cruises

By Todd Christensen, Program Manager
NOAA Living Marine Resources Cooperative Science Center

It began inauspiciously enough. Fisheries, like other aspects of biology, can be an unpredictable enterprise, even without the vagaries of winter New England weather. The severe drop in temperature across the northeast the day before the cruise team left UMES portended many of the challenges associated with open ocean fisheries sampling. So it was hardly a foregone conclusion that the cruise would be a reality as January 17 came and passed. Rough seas, followed by mechanical issues with, ironically, the refrigeration unit, kept the Albatross at the dock for 24 hours, though this was a minor delay by winter cruise standards.

An ambitious series of projects had been developed by the LMRCSC scientists prior to the cruise in collaboration with NOAA Fisheries, in particular the Ecosystem Survey Branch. The study schedule set out by the research team would leave little room for additional delays, however the unpredictability of the weather would continue to pose challenges. Though sampling had been planned from New York to South Carolina, a day of trawling in the rough seas of the Hudson River Canyon ended with a report of a strong Nor'easter, sending the ship south. Studies resumed in the warmer and calmer waters of South Carolina and continued north to the Chesapeake Bay over the ensuing week. Ending much as it began, the trip would end one day early off Delaware Bay. Reports of bad weather, which would eventually bring significant snowfall to the northeast, effectively terminated the cruise.

Despite the storms which punctuated both the beginning and the end of the cruise, deft navigation and planning by scientists and crew alike resulted in at least success for all but one of these projects. Projects on marine fish diversity and composition, Hudson River fish assemblages, dietary habits of striped bass (*Morone saxatilis*), partitioning of polychlorinated biphenyls (PCBs) in fish tissues, migration of summer flounder (*Paralichthys dentatus*), and abundance, distribution and life history of spiny dogfish (*Squalus acanthias*) were completed, though many of the northernmost sites could not be sampled due to the weather. Others were completed only in part. Studies had been planned to compare the physiological responses of spiny dogfish to hook-and-line and trawl sampling, however no dogfish were collected by hook-and-line. In spite of this, blood samples collected from dogfish caught by trawl will yield valuable physiological data. Another study on the distribution and life history of goosefish (*Lophius americanus*) had to be scrapped when not a single goosefish was caught.

While the results of many studies will not be available until further analyses are conducted, some data were available immediately. For the Marine Fish Diversity and Composition study, 74 species were collected of which only 3 were very abundant. The catch was mainly spiny dogfish, tomtate (*Haemulon aurolineatum*) and scup (*Sterotomus chrysops*). Dogfish were only collected north of Cape Hatteras, while Scup was the most abundant at sites near South Carolina. A southern morphotype of Scup with an elongated dorsal spine was collected; more research into differences of morphometry and genetics between northern and southern demes is being conducted in collaboration with Peter Chase (NOAA Fisheries, Woods Hole) and George Sedberry (South Carolina Department of Natural Resources).

South Carolina tended to have high species diversity and a number of reef oriented specimens were collected, such as a young African pompano (*Alectis ciliaris*). Northern sites were mainly dominated by spiny dogfish, Atlantic mackerel (*Scomber scombrus*), butterfish (*Peprilus triacanthus*) and clearnose skates (*Raja eglanteria*). Summer flounder was collected mainly near the Chesapeake Bay.

In order to assess the movement of summer flounder south of Chesapeake Bay, a total of 73 fish deemed healthy by researchers at the time of capture were labeled with tags with contact information for MD Department of Natural Resources, which maintains a database of the tag numbers. An angler catching a tagged fish is instructed to report to DNR the location of the catch, which will be transmitted

Continued on Page 3.....

Albatross Cruise Report, continued.....

to LMRCSC investigators to determine the extent of migration of each fish. Twenty seven of the tagged fish received two tags in order to determine tag loss.

The process of planning, equipping and carrying out these projects was a tremendous step in the Center's development, providing students and faculty alike with experience in NOAA's open water fisheries research techniques, further solidifying the Center's relationship with NOAA and establishing the basis for future studies. Indeed, cruises devoted to LMRCSC research are planned aboard the R/V Delaware II for January, 2006 and January 2007, with additional dates currently under discussion.

Taking part in the cruise were the LMRCSC's Distinguished Research Scientist, Dr. Eric May, as well as UMES faculty Dr. Andrea Johnson and Dr. Joseph Love, technicians Jonathan Stoltzfus (UMES) and Meagan Cummings (NOAA Fisheries), graduate students Brandon Fortt, William Gardner, Lara Nagle and Sarah Wood, undergraduate students Matt Rhodes and Branson Williams, and NOAA Fisheries Scientists Dr. Vincent Guida and Peter Chase. The LMRCSC graciously thanks the NOAA Fisheries personnel and the crew of the Albatross IV who so kindly assisted in making this a successful and valuable experience. We look forward to future collaboration!

All photos from the research cruise courtesy of the NOAA Living Marine Resources Cooperative Science Center. For more information on this and other research conducted at the LMRCSC, contact Mr. Todd Christenson at tchristenson@umes.edu; or go to the LMRCSC website: www.umes.edu/osp/marine

2005 Environmental Entrepreneurship Program Awards

Strengthening NOAA's Commitment to Education

HIGH SCHOOL SCIENCE PIPELINE PROJECTS

Florida A & M University (FAMU) in Tallahassee, Florida- $500,000
FAMU, working with NOAA and other public and private partners will provide unique opportunities for approximately 80 underrepresented high school students (per year) over a three-year period to increase their knowledge and interests in the atmospheric, climate, coastal, ocean and environmental sciences through applied research, training, and demonstration projects.

Jackson State University (JSU) in Jackson, Mississippi - $499,999
JSU will introduce a total of 40 to 54 high school students per year, over four years, to marine, environmental sciences and meteorology through a combination of classroom studies and exercises, field trips and hands-on applied field research in collaboration with NOAA and other public and private partners.

Miami Dade College (MDC) in Miami, Florida - $499,785
Miami Dade College will work with NOAA and other public and private partners to provide unique opportunities for approximately 120 high school students (in two cohorts of 60 each) in hands-on training, field-based learning, and learning opportunities through a five-year high school pipeline project.

Universidad del Turabo (UDT) in Puerto Rico - $496,189
UDT, NOAA Sea Grant and other public and private partners will provide opportunities for high school students in GIS, environmental science and research and entrepreneurship in the east central region of Puerto Rico (over a four-year period).

The University of Alaska (UAF) in Fairbanks, Alaska - $494,591
The University of Alaska-Fairbanks, will provide unique opportunities for approximately 50 high school students (in grades 9 – 12) each year through a three-year education and training pipeline project. Methods include: developing 5 courses each year, 10 high school dual-credit classes, a work-study program with public-private entities, and mentoring using 2 and 4 year students and local professionals.

Since 2001, more than 500 students have taken courses and participated in education and science training programs funded by Environmental Entrepreneurship Grants

ENVIRONMENTAL DEMONSTRATION PROJECTS

Clark Atlanta University (CAU) in Atlanta, Georgia - $499,995
Clark Atlanta University will create a program to engage students (over a 3-year period) in hands-on training learning the business aspects of aquaculture systems. Working side-by-side with practitioners, the students will gain experience in coastal environmental restoration, management and pollution prevention. Professors from the CAU business school will perform an economic assessment and viability of the system and develop additional technical and entrepreneurial skills. Students will also benefit through summer internships at partner work sites, and visits to the NOAA Galveston lab.

The City College of New York (CUNY) - $499,314
CUNY will partner with NOAA's Cooperative Remote Sensing Science and Technology Center (CREST) to introduce over 60 students (over a 3-year period) to applied research applications and constructing a business model that will allow the development of potential business ideas in oceans, satellites, fisheries sciences.

Northwest Indian College (NIC) in Bellingham, Washington - $496,058
Northwest Indian College will partner with NOAA's Northwest Fisheries Science Center to train a total of (9-18) students over a 3-year period in collaborative field-based learning experiences using a compliment of entrepreneurial and technical skills designed to lead to shellfish aquaculture business opportunities.

Oxnard College in California - $500,000
Oxnard College will partner with NOAA's Channel Islands National Marine Sanctuary (and other organizations) to engage a total of 80 (or more) students in a 5-year program that will instruct students on the commercialization and restoration of white abalone hatchery operations. This will be done by academic studies and hands-on experiences in various laboratories, aquariums, and research at sea.

Savannah State University (SSU) in Georgia - $492,978
Savannah State University will partner with NOAA's Marine Fisheries Galveston Lab and other public-private organizations to offer hands-on experiences to 46 undergraduates and 4 graduate students (majoring in Marine Science and Engineering), in GIS-based restoration and beneficial use of dredge material site monitoring, over a five-year period. Other components of the program include offering student's internships and entrepreneurial training, and conducting an annual Summit on Environmental Entrepreneurship.

The National Oceanic and Atmospheric Administration's Educational Partnership Program with Minority Serving Institutions

NOAA's Educational Partnership Program is designed to provide financial assistance to minority serving academic institutions for the support of collaborative research and training of students in the NOAA-related sciences. The program's goal is to increase the number of students who are trained and graduate in sciences directly related to NOAA's mission. It also seeks to increase collaborative research efforts between NOAA scientists and researchers at minority serving academic institutions, as defined by the Department of Education.

The City College of the City University of New York
NOAA's Cooperative Remote Sensing Science and Technology Center (CREST)
Dr. Reza Khanbilvardi, Director
T-107 Steinman Hall
City College of CUNY
140 Street @ Convent Avenue, New York, NY 10031
Phone: 212-650-8379
Fax: 212-650-8097
Email: noaa-crest@ccny.cuny.edu
Web: http://icerd.engr.ccny.cuny.edu/noaa/
Partners Institutions:
Lehman College
Bronx Community College
Hampton University
University of Puerto Rico at Mayaguez
Bowie State University
University of Maryland Baltimore County
Columbia University

University of Maryland Eastern Shore
NOAA's Living Marine Resource Cooperative Science Center
Dr. Joseph Okoh, Acting Director
LMRCSC Building
University of Maryland Eastern Shore
Princess Anne, Maryland 21853
Phone: 410-651-6023
Fax: 410-651-7869
Email: jokoh@mail.umes.edu
Web: http://www.umes.edu/osp/marine/
Partner Institutions:
Delaware State University
Hampton University
Savannah State University
University of Maryland Marine Biotechnology Institute
University of Miami

Florida A&M University
NOAA's Environmental Cooperative Science Center
Dr. Larry Robinson, Director
ECSC/Florida A&M University
Science Research Center
Tallahassee, Florida 32307
Phone: 850-412-3521
Fax: 850-412-7785
Email: larry.robinson@famu.edu
Web: http://www.ecsc.famu.edu
Partner Institutions:
Delaware State University
Jackson State University
Morgan State University
South Carolina State University

Howard University
NOAA's Center for Atmospheric Sciences
Dr. Vernon Morris, Director
NCAS/Howard University
525 College Station
Washington, DC 20059
Phone: 202-806-5450
Fax: 202-667-7865
Email: vmorris@howard.edu
Web: http://www.gs.howard.edu/atmosci/default.htm
Partner Institutions:
Jackson State University
University of Texas at El Paso
University of Puerto Rico at Mayaguez

NOAA Research Cruise, A student perspective
By Brandon Fortt

(Brandon Fortt is (pictured) a Graduate Research Fellow at the NOAA Living Marine Resources Cooperative Science Center at the University of Maryland Eastern Shore. These are excerpts from his journal during a research cruise aboard the R/V Albatross IV. Brandon can be reached at bcfortt@umes.edu.

There seemed to be a guiding light greeting us as we arrived January 17th at Woods Hole. I realized how privileged I was to be a part of the Albatross IV crew. The weather was far from favorable. I can remember my reaction when my advisor, Dr. Eric May, asked me how I felt about being in the middle of the Atlantic, in the middle of January, for two weeks. I'm shivering now, as I write this, just thinking about it. Despite the rush of cold air that greeted us, I was anxious to get my sea legs. The purpose of this research cruise was for the students of the LMRCSC to gain experience through a series of studies. However, the importance of patience and discipline were basic, but crucial, lessons I had to refresh while aboard the Albatross IV.

The weather delayed our departure. This gave those not prepared for the rough seas time to allow the Dramamine to enter our systems before we had a chance to introduce our stomach contents to the northern Atlantic waters. I was reminded of a line from Linda Greenlaw's recent book All Fisherman Are Liars: "The only thing worse than feeling that you are going to die is the realization that you probably won't". We were briefed on the studies and our corresponding duties and assigned watches. The watch system we first adopted was a 6 hours on-6 hours off regimen and, because of this, it was hard to keep my days straight. Everyday waking up felt like Monday once we left Wood's Hole. After a weather delay our first scheduled sample area was around the Carolinas. While we were prepared for rough seas and our duties it still left us with time on our hands. It was decided after we left that would conduct a few trawls in the north. These were the coldest of days and required a lot of sorting of smaller benthic invertebrates, mostly starfish. This was mainly for Dr. Vince Guida's work. While not as glorious as pulling up a net full of diverse fish species, I was still eager to get to the sorting table just to see what we would find. The beam trawl that we used took about 35-45 minutes to release the net and bring it back on board, so after awhile I we learned to patiently await the coming of the beautiful species found in the northern Atlantic Ocean. Unfortunately, after waiting what seemed to be hours the crew of the Albatross IV worked to bring up our first beam trawl and our "full net of new species to be discovered", the beam appeared…but no net! I can only imagine the expletives among the crew. However, after sharing laughs I noticed this was a very professional operation and everyone was very laid back. Apparently, patience is a virtue but nothing beats a good sense of humor. We steamed onward toward the tip of North Carolina.

The twenty-four hour clock drives life and work, but aboard the Albatross IV it seemed my stomach was my clock. The meals during this cruise were a topic that I always found myself discussing. The flip side is that, while my stomach was set to defined meal times, it was continuing to do flips. This, I'm sure most of the other researchers can agree with. The captain was getting us to our destination as quickly and safely as possible, but we would have our share of rough seas. When I read fishing stories, one important detail is the height of the waves, or the wind speed. I couldn't completely relate before to the details until this trip. I wonder if Francis Baird ever got thrown out his bunk!

The off hours during steam time were filled with numerous activities such as playing Scrabble, Poker and computer solitaire, movie watching, or catching up on much needed beauty sleep.

Once we reached the warm Carolina waters, we found many species that were new to me since I had never been fishing anywhere besides the eastern shore of Maryland. Sorting of the different species seemed to be taxing work. First, we had to identify them, then sort through thousands of pounds of fish that all needed to be measured and weighed. Perhaps the hard work during our shifts helped out my bout with seasickness. It seemed that a strong stomach, and plenty of elbow grease could make the difference in a situation like this.

Once we reached our sampling areas it seemed the days went by quickly. Everyone on board was previously made aware of the trawl and winch and its dangers. Since we were not

Continued on Page 7.....

Brandon's Perspective, Continued.....

Brandon Fort on the deck of the Albatross

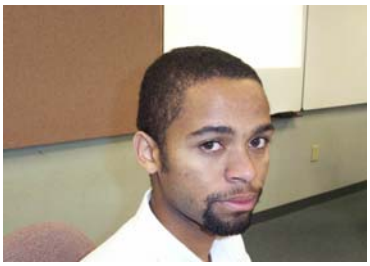
allowed on deck while they were in operation we stood huddled by the weighing and processing stations until the net of the Yankee otter trawl is dropped into the sorting box. When the net came in, there was a pause before we rushed to the checker. I learned that staring at the horizon helped to prevent seasickness, so I patiently waited for the 30-minute trawls. Usually I had but one thought in my mind, what was for dinner?

By this time in the cruise we had already encountered schools of spiny dogfish, and we were starting to catch huge striped bass. The routine catch seemed to be squid, spiny dogs, and stingrays. I was eagerly anticipating another mysterious or unusual specimen, such as the mammoth stingray we encountered and cornet fish. Since the research I would conduct on board involved the movement of summer flounder, I was pleased when they began to appear in the trawls. My job was to tag the fish with t-bar tags while fellow graduate student William Gardner helped collect scale samples. During the southern portion of this trip, most of us received excellent hands-on experience assisting with fish identification procedures, necropsies, and extracting gut contents from live striped bass, the same way you would "burp" a baby!

Though the final day of steaming was the roughest, I believe that this research cruise was definitely the best experience I've had during my time at UMES.

The next EPP/MSI Education and Science Forum will be in Tallahassee, Florida, 2006, hosted by Florida A&M University's Environmental Cooperative Sciences Center (ECSC).

Thomas Searles Moves Forward



Thomas Searles

According to 03-04 Undergraduate Scholar Thomas Searles, his career goals are on track.

Thomas has always wanted to be an astronaut. He wants to be a research scientist in government or the private sector, and then enter the Astronaut program at NASA.

So why intern at NOAA? An internship with NOAA was essential in reaching educational and hopefully, professional goals. According to Thomas, "My NOAA research internship opportunity gave me hands-on exposure to how physics and mathematics relates to marine science. The experience also made my applications to graduate schools stand out."

The Morehouse College graduate received his B.S. degree in Physics and Math this year, and has been accepted to the Ph.D. program in Physics at Rice University for the fall.

Higher education achievements are a family affair for the Searles. The Albany, Georgia native is the youngest of three children. His father is an English instructor, his mother is a nurse. One sister is studying for a master's degree in Art History, the other will be a pharmacist.

Thomas spent his first summer as an EPP Undergraduate Scholar with the NOAA Undersea Research Program, or NURP, where he conducted research on wireless communications for SCUBA divers. His research required diving and he obtained certification in open water SCUBA.

Thomas worked at the NOAA Fisheries Galveston Lab in Texas his second summer. His research involved ecological modeling of coral reef systems where he utilized his mathematics training.

Before starting graduate school, Thomas will teach mathematics at the Upward Bound Program at Morehouse for high school students this summer. He will also work as a research assistant at the Micro-Optics Research and Engineering Laboratory located on the Morehouse campus.

Thomas credits his mentors and advisors for continued help in reaching his goals, thus far: Dr. Willie Rockward in the Physics Department at Morehouse; and Jacqueline Rousseau, his mentor and Director of the EPP/MSI.

Cooperative Science Centers

Howard University Weather Camp

Fox Televison Channel Five conducted a live broadcast of the NOAA Center for Atmospheric Science (NCAS) Weather Camp from the Howard University observation field site in Beltsville, Maryland on Tuesday, July 19, 2005 from 6:00am-9:00am. The broadcast covered 7:40am radiosonde launch and the 8:40am ozonsonde launch. The reporter talked to participants about their camp experiences.

The camp has been sponsored by NCAS and EPP since 2002. For three weeks, the camp offers high school students the opportunity to explore career options in atmospheric science and related fields. During the camp, rising high school juniors and seniors gain knowledge and insight in meteorology, atmospheric sciences, physics, environmental science and applied physical sciences through a number of hands-on activities. Additionally, the participants have the opportunity to visit major organizations in the field of atmospheric sciences including NOAA, NASA, and Mitretek.

NCAS conducts collaborative research with the NOAA National Weather Service. The Center's research and training programs contribute to improving the accuracy of weather and climate forecast models, particularly in predicting precipitation.

For more information on other activities at Howard University, please go to their web site: ***www.gs.how.edu/atmosci/default.htm***

2003-2004 Undergraduate Scholars, Durrell Jones and Isha Mary Renta are now graduate students at Howard University

FAMU Sponsors Summer Camps

Environmental Science Summer Camp

The Florida A&M University (FAMU) Environmental Sciences Institute hosted an environmental sciences summer camp for students entering grades 9 through 12 in the fall, and for middle and high school teachers, June 6-24, 2005. The camps encouraged middle and high school students to enhance their knowledge of environmental science among and teachers.

The students participated in marine and estuarine sciences through hands-on laboratory experiments, field trips, seminars by environmental scientists, tours of research laboratories, and studying the habitats of diverse ecosystems.

Summer Institute on High Performance Computing for High School Students

Twelve Tallahassee, Florida area high school students participated in a High Performance Computing Institute sponsored by Florida A&M University and the U.S. Army High Performing Computer Research Center, May 31-June 10, 2005. Held on the FAMU campus, the program ran from 9:00am to 3:00pm each day.

The student participants experienced computational science applications and learned how to model and solve scientific problems using HPC supercomputer systems. The participants also learned scientific programming utilizing physics, and used scientific software to solve problems in computational chemistry.

Students presented their work at the end of the program during an awards banquet.

For more information on these camps and other activities at Florida A&M University, please go to their web site: ***www.ecsc.famu.edu.***

New Faculty and Staff

Second Graduate Scientist Receives Doctorate

Vanessa Nero (Graduate Scholar 2004) successfully defended her dissertation in May 2005 and became the second Graduate Scientist to receive a Ph.D. The degree was awarded in Biology from the University of Miami.

Vanessa currently works as a Research Ecologist at the NOS/Center for Coastal Fisheries for Habitat Research in Beaufort, North Carolina.

Vanessa entered the Ph.D. program at Miami after receiving a B.S. degree in Biology from Notre Dame University.

Michael Edwards Receives Graduate Degree

Michael Edwards (Graduate Scholar 2002) received a Masters degree in Earth and Atmospheric Science from the City University of New York (CUNY).

Michael is a Cartographer in NOS/National Geodetic Survey Office and has a B.S. degree in Environmental Science from Medgar Evers College of CUNY.

Dr. Laster Joins EPP Staff

Dr. Meka Laster joined the EPP/MSI staff as a Program Planning Specialist in April of this year. A native Washingtonian, Dr. Laster began her career in NOAA as an Electronics Engineer with the National Weather Service and has served in numerous leadership roles, including Project Manager for the Valid Time Event Code Project.

As a member of the EPP team, Dr. Laster will manage the EPP Faculty/Staff Exchange Program, develop a post-doctoral program component, coordinate the development of an EPP Strategic Plan, monitor and oversee the EPP student tracker database, and assist with the development of the EPP program baseline assessment and the new cooperative science center.

Dr. Laster received a Bachelor of Science degree in Electrical Engineering from Rensselaer Polytechnic Institute, and a masters and doctorate in Engineering Management from George Washington University.

She is a member of the Institute for Electrical and Electronics Engineers and the American Society of Engineering Education.

Fact:
To date, NOAA has hired 27 Scientists through the Graduate Sciences Program

2005-2006 Undergraduate Scholars

Twenty-eight undergraduates from minority-serving institutions in nine states and Puerto Rico began work this summer with scientists from, NOAA, the National Oceanic and Atmospheric Administration.

"Working with our scientists on challenging research projects this summer will give these students a chance to enhance their education while helping NOAA carry out its mission," said retired Navy Vice Adm. Conrad C. Lautenbacher, Ph.D., Undersecretary of Commerce for Oceans and Atmosphere and NOAA Administrator.

All of the students are pursuing studies in a NOAA-related science and have completed their sophomore or junior class requirements. For ten weeks the students conducted reserarch in NOAA line offices. During the academic year, the students receive tuition and fee assistance, and funds for other allowable expenses.

"This is the largest class of students we have had since NOAA began its Educational Partnership Program in 2001," said Jacqueline Rousseau, director of NOAA's Educational Partnerships Program with Minority Serving Institutions. "It is encouraging that there are so many qualified students interested in pursuing opportunies to intern at NOAA."

A minimum of a 3.0 grade point average is required for acceptance into the program, developed to encourage more minority students to study the sciences and consider NOAA as a career.

Marcus Atkinson, Mathematics
North Carolina A&T University
Assignment: National Weather Service
Research: Transcribing weather broadcast dictionary

Markeitta Benjamin, Meteorology
Jackson State University (Mississippi)
Assignment: National Weather Service/National Center for Environmental Prediction
Research: Evaluation radar products from WRF simulations

Marques Bivins, Business Management
Florida A&M University
Assignment: NOAA Grants Office
Research: Reengineering grants closeout processes

Reginald Black, Marine Biology
University of Maryland Eastern Shore
Assignment: National Ocean Service/Chesapeake Bay Office
Research: Sonar scanning of oyster reefs and the effects of ghost crab pots

2005-2006 Undergraduate Scholars

Brandi Brehon, Math and Computer Science
Elizabeth City State University (North Carolina)
Assignment: National Ocean Service/Center for Coastal Ocean Science
Research: Analysis of statistical methods used in environmental science research

Rejane Frederick, Biochemical Research
Juaniatia College (Pennsylvannia)
Assignment: National Ocean Service/National Marine Sanctuaries
Research: Elevating the value and significance of maritime heritage resources in the states through the Coastal Zone Management Program

Ashley D. Heard, Marine Science and Art
University of Hawaii at Hilo
Assignment: National Ocean Service/Center for Coastal Ocean Science
Research: Effects of sonar on marine mammals

Michael Hicks, Mathematics
Paine College (Georgia)
Assignment: NOAA Center for Atmospheric Sciences at Howard University
Research: Nurmerical Solutions of two dimensional La Place's equation using finite elements

Toni-Ann Hylton, Environmental Science
Florida A&M University
Assignment: National Ocean Service
Research: Marine toxins in pharmaceuticals

Courtney Jackson, Computer Engineering
Bethune Cookman College (Florida)
Assignment: National Ocean Service/Center for Coastal Ocean Science
Research: SAS development

2005-2006 Undergraduate Scholars

Timothy L. Jones, Optical Engineering
Norfolk State University
Assignment: NOAA Satellite and Information Service/ National Oceanographic Data Center
Research: Modifications of alternative dissemination methods (ADM) system

Kiera-Nicole Lee, Chemistry
South Carolina State University
Assignment: NOAA Satellite and Information Service/ National Oceanographic Data Center
Research: The seasonal cycle of dissolved inorganic nutrients and oxygen in the surface waters in Hawaii

Tyronza Lee, Biology
Jackson State University (Mississippi)
Assignment: National Marine Fisheries Service
Research: How to determine the health of a marine mammal

Precious Lewis, Biology
Tennessee State University
Assignment: National Weather Service/Office of Hydrology Development
Research: Clustering stations for precipitation frequency analysis for Puerto Rico and the US Virgin Islands

Vincent Long, Electrical Engineering
Florida A&M University
Assignment: National Ocean Service/Operational Oceanographic Products and Services
Research: Upgrading tide stations

Justin Martin, Computer Engineering
Columbia Union College (Maryland)
Assignment: National Marine Fisheries Service/Office of Science and Technology
Research: Analysis through optics and IDL

2005-2006 Undergraduate Scholars

J'shuntme McCollough, Engineering/Physics
Morgan State University (Maryland)
Assignment: National Weather Service/Centers for Environmental Prediction
Research: Verification of model forecasts

Shelia Milton, Mathematics
Paine College (Georgia)
Assignment: NOAA Satellite and Information Service/ Office of Systems Development
Research: Tie point analysis of GOES operational satellites and trend plotting of POES high resolution infrared radiation sounder (HIRS) instrument

Krizia Negron-Hernandez, Environmental Science
University of Puerto Rio-Piedras
Assignment: Oceans and Atmospheric Research/Weather and Air Quality
Research: Distribution of surface winds in hurricanes

Soralis Pimentel, Electrical Engineering/Meteorology
University of Puerto Rico- Mayaguez
Assignment: NOAA Satellite and Information Service
Research: Global positioning system receiver and inter-satellite communication RF design

Jenelle Rogers, Information Systems
Columbia Union College (Maryland)
Assignment: National Ocean Service
Research: The value of printed outreach material as research tools

Marcus Rountree, Environmental Science
North Carolina Central University
Assignment: NOAA Research/Office of Scientific Support
Research: Examination of local impacts of atmospheric mercury emissions

2005-2006 Undergraduate Scholars

Samuel Sturdivant, Marine Biology
University of Maryland Eastern Shore
Assignment: National Ocean Service/Gray's Reef National Marine Sanctuary
Research: Assessing and tracking resident male loggerheads (Caretta caretta) in and around gray's Reef National Marine Sanctuary

Cre'Shannan Thompson, Mathematics/Computer Science
Clark Atlanta University (Georgia)
Assignment: National Ocean Service/National Geodetic Survey
Research: Data structures with java

Tyronza Thompson, Computer Science
Jackson State University (Mississippi)
Assignment: National Ocean Service/ National Marine Sanctuaries
*Research: Discovering **The San Agustin** using ArcGis mapping*

Sinclair White, Mathematics/Electrical Engineering
Albany State University (Georgia)
Assignment: NOAA Marine and Aviation Office
Research: Assessment of the NMAO scientific computer senor suite

Branson Williams, Environmental Science
University of Maryland Eastern Shore
Assignment: National Ocean Service/Chesapeake Bay Office
Research: Estimation of relative abundance of economically and ecologically important juvenile bluefish and blue crabs in the Virginia portion of the Chesapeake Bay

Lauren Wyatt, Marine Science/Biology
University of Miami
Assignment: National Ocean Service/Chesapeake Bay Office
Research: Measuring the amount of nutrients, pesticides and the growth and reproductive parameters of grass shrimp

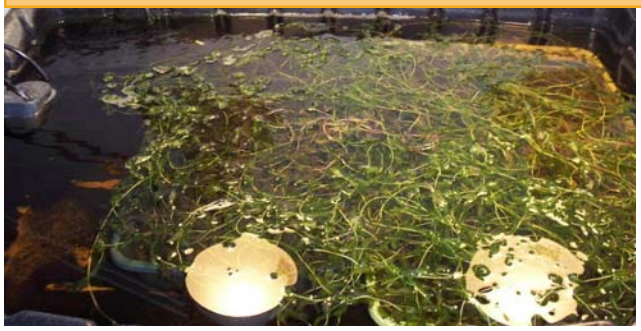
2005-2006 Undergraduate Scholars

Several Undergraduate Scholars participated in the annual Chesapeake Bay Restoration Day sponsored by NOAA

The Undergraduate Scholars received advice on leadership from Vice Admiral Lautenbacher

Photos by Chantell Haskins

Strengthening NOAA's Commitment to Education Through Partnerships



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