

MIMES REPORT

Minorities in Marine and Environmental Sciences

Winter 2000

South Carolina Department of Natural Resources
Marine Resources Division

Summary of 2000 Summer Intern Program

ANOTHER GREAT YEAR!

Our twelve-week program, funded by the National Science Foundation (NSF), Ocean Science Program is designed to give undergraduates “hands-on” experience in the fields of marine and environmental sciences. Since 1996, the program has given students the opportunity to conduct independent research projects under the guidance of marine scientists. Dedicated scientists serve as mentors to the students, explaining all facets of current research and the importance of conducting high quality research. The students are also exposed to other research being conducted at the Marine Resources Center, and are provided the opportunity to observe fellow interns working on a diversity of research projects.

On May 23, the staff at the Marine Resources Center, including the SCDNR/Marine Resources Division, NOAA/National Ocean Service, and the University of Charleston, welcomed six enthusiastic undergraduate students for a fun-filled summer. In the afternoon, they toured the facilities at the Center to see the variety of marine and environmental-related research projects that were being conducted by local



Ms. Broughton enjoyed her diverse chemistry experiences.



Students (front row, left to right) QuinnShauna Felder, Stephanie Stinson, Dr. Dionne Haskins, (back row, left to right) Jachelle Garrett, Tiffany Lee, Lateefah Scribner, Dana Broughton

scientists. After a day of program-orientations and a welcome social, the interns began their independent summer research projects.

Under the guidance of her mentors (Dr. Amy Ball and Mr. Brandon Eleby of the Marine Resources Division), Ms. QuinnShauna Felder, a junior at the College of Charleston in South Carolina, spent the summer developing a new technique for identifying red drum broodstock (*Sciaenops ocellatus*). The biology major conducted a project to determine whether mtDNA sequences alone can be used to identify the offspring of an SCDNR broodstock population. At the end of the program QuinnShauna stated that, “the training and discipline that I have gotten as a result of working in this program will definitely help me as I pursue my career in research.”

Ms. Dana Broughton, a junior and chemistry major at



Ms. Garrett checks oysters held in an outside tank.

Clemson University in South Carolina, assisted her mentor, Dr. Peter Moeller of NOAA/ National Ocean Service, with a variety of phytoplankton studies. Her project was to develop a universal method for the extraction of brevetoxin and okadaic acid, the toxins responsible for shellfish poisoning.

Ms. Jachelle Garrett, a senior, majoring in biology at the University of South Carolina worked under the direction of Dr. Amy Ringwood of the Marine Resources Division. Jachelle studied the effects of copper exposures on glutathione, lipid peroxidation, and metallothionein levels in embryos of the American oyster, *Crassostrea virginica* and commented that her experience “gave me a perspective that was beyond anything that I could have imagined.”

Ms. Lateefah Scribner, a senior at South Carolina State University in Orangeburg, SC, studied under Dr. Jack DiTullio of the University of Charleston. The chemistry major spent her summer conducting experiments to ascertain if dimethylsulfoxide (DMSO) functions as a free radical scavenger or an osmolyte and whether light and salinity affect the overall production of DMSO and dimethylsulfoniopropionate (DMSP).

Ms. Tiffany Lee, a marine biology major and senior at Savannah State University in Georgia, stated that “this summer training program has confirmed my decision that marine and environmental science is my field of choice.” Tiffany studied under the guidance of her mentors, Dr. Fred Holland and Mr. David Gillett. Tiffany’s project involved determining the tolerance level of the marine oligochaete, *Monopylephorus rubroniveus*, to sediment-bound copper. Ms. Lee also assisted her mentors with a study to ascertain the importance of the worm as a food source for mummichogs. At the end of the program, Tiffany said, “I enjoyed collecting the reference sediments. Playing in the mud and not getting in trouble was exciting.”

Ms. Stephanie Stinson, a senior majoring in biology at Newberry College in South Carolina, studied the vertical migration of bacteria in sediments, with the assistance of her mentor, Dr. Craig Plante of the University of Charleston.

The quality of research conducted by the summer students was most surely demonstrated through their dedication and enthusiasm for research as well as the commitment of the mentors and their research teams.

CLASSROOM TRAINING AND PEER INTERACTIONS

During the first weeks of the program, the interns received classroom instruction on a variety of topics to better prepare them for their work ahead. Research staff at the MRD taught three classroom sessions. Mr. Bruce Stender and Mr. Bill Roumillat held a workshop on the do’s and don’ts of scientific writing, while Mr. David Wyanski covered the basics of statistics. Finally, Dr. Fred Holland, Director of Marine Resources Research Institute (MRRI), spoke on the importance of watershed health to marsh and tidal creek communities. He also stressed how understanding ecological processes is vital to the sound development of coastal zone resources.

The six MRD undergraduate students also participated in joint activities with students of the College of Charleston’s Marine Biomedical Research summer internship program. All of the students presented their oral presentations, which were critiqued by members of both groups to improve further de-



Ms. Lee learned a lot about tidal creeks while collecting her samples.



Ms. Stinson examines study animals.

velopment of the presentations. Students from both groups also participated in an educational cruise of the Charleston Harbor followed by a joint lunch.

VISITING SCIENTISTS - OUTSTANDING MINORITY ROLE MODELS

One important aspect of the training program is to allow interactions between interns and visiting minority scientists. During July, minority scientists representing several areas of expertise visited the Marine Resources Division to discuss intern research projects, career goals and success strategies with the students, including the importance of considering graduate school. Dr. Dionne Hoskins, a recent Ph.D. graduate of the University of South Carolina shared her experiences as a graduate student and as a fishery biologist for NOAA and professor at Savannah State University. While Dr. Cecil Jennings, a professor at the University of Georgia discussed the expectations of graduate schools and student preparations. Both scientists gave an oral presentation on their current research projects to the staff at the Marine Resources Center. Lastly, Rear Admiral Evelyn Fields, Commander of NOAA Corps, spoke about professional opportunities available today for minority students, especially those with advanced degrees.

PREPARATIONS FOR THE LAST DAY!

August was a period of intensive activity as interns and mentors worked together to develop written reports of research results and prepare for oral presentations. On August 13, the students gave oral presentations of their research projects to staff from all research facilities at the Marine Resources Center, family members, as well as visitors from the

University of South Carolina's GANN Ph.D. program. During the closing ceremony, the mentors, along with Dr. John Miglares, MRD Deputy Director, presented the six students with certificates of achievement. Students were then treated to lunch at a favorite, local seafood restaurant.

STUDENT UPDATES



Veronica

Veronica Cline, a 1996 intern, received a master's degree in geology from the University of Texas at El Paso in spring of 1999. She currently is a developmental geologist at ADD Process in California. Another 1996 intern, Lovee McKinney received a bachelor's degree in Business from Newberry College in spring of 1998. She currently is pursuing a law degree at the University of South Carolina in Columbia.



Lovee



Marla

Two 1997 interns, Marla Taylor and Naomi Walker, graduated in spring of 1999. Marla received a bachelor's degree in biology from Southern University, Louisiana. She currently is a biology and physical science teacher in New Orleans. Naomi received her bachelor's degree in biology from Grambling State College. In 1998, Naomi participated in the Minority Medical Education Program (MMEP) in Nashville Tennessee, sponsored by Fisk and Vanderbilt Universities. In spring of 2000, two 1997 interns, Marc Maynor and Monica



Naomi



Marc

Rawlinson, received their bachelor's degrees. Marc received a chemistry degree from Claflin University, and he entered the Ph.D. chemistry program at the University of Kentucky last fall. Prior to graduation, he participated in a summer intern program at the University of Minnesota and at Georgia Institute of Technology.



Monica



Alexis

Monica graduated summa cum laude from South Carolina State University in Orangeburg.

Alexis Epps and Latoya Smalls, two 1998 interns, graduated in the spring of 2000. Alexis received a biology and an animal science degree from New Mexico

State University with honors. After graduation, she entered an internship program at the Center for Disease Control (CDC) in Fort Collins, Colorado. This fall, Alexis entered the veterinary pathobiology graduate program at the University of Missouri at Columbia.



Latoya

Latoya received a marine science degree from Coastal Carolina University, South Carolina. Prior to graduation, she presented the findings of her 1999 (SSU-HBOI) internship at the ASLO/AGU meeting in San Antonio, Texas and at the ASLO meeting in Copenhagen, Denmark.

Another 1998 intern, Endia Johnson participated in a 10-week summer intern program at the Medical University of South Carolina during the summer of 2000.

Three 1999 interns graduated in the fall of 1999. Shamara Bullock received a bachelor's degree in biology from the University of Maryland Eastern Shore (UMES).



Shamara

She currently is working with an accounting firm. Taconya Piper also received a bachelor's degree from UMES. Prior to graduation, she presented a poster on her summer 1999 research project at the Estuarine Research Federation '99 conference held on September 25-30, 1999 in New Orleans, Louisiana. Taconya entered the Marine Estuarine Environmental Science graduate program at the University of Maryland Eastern Shore in January 2000.



Wanda

Wanda Lewis graduated from the New Mexico State University with a biology degree and a minor in chemistry. She gave an oral presentation on her 1999 Marine Resource Division research project at the New Mexico Alliance for Minority Participation/Waste



Endia



Taconya

Management Education and Research Consortium Annual Conference and at her home institution. She currently is a chemist at Abbott Labs in Chicago, Illinois. Another 1999 intern, Raissa Menendez-Delmestre participated in a summer internship program at the Smithsonian during the summer of 2000. She will be an exchange student in Switzerland next year. Celere Leonard, a 1999 intern, presented her research project at ASLO meeting in Copenhagen, Denmark in June 2000 and at the ESA conference in Snowberg, Utah in August 2000. Celere is currently working for the Chesapeake Research Consortium in Annapolis, Maryland.



Raissa



Celere

News from the 2000 interns has already begun to come in. QuinnShauna Felder continued to work part-time this fall at the MRD with her summer research team to develop mtDNA analyses to study the population genetics of groupers. Tiffany Lee participated in a career workshop at the 2000 conference of the Southeastern Association of Fish and Wildlife Agencies – Minorities In Natural Resources Committee in Baton Rouge, Louisiana.

Congratulations to all of our past interns on their recent accomplishments. Keep up the great work!!

Alumni of the Minority Intern Program, what are you doing these days? We would love to know how all of our previous interns are doing and where they are now. We would appreciate telephone numbers, home addresses, and e-mail addresses to keep in touch. Thanks!

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Minority Intern Program's web page: www.dnr.state.sc.us/marine/minority