



Biology Marine Biology



Notes

from the Chair:

It has been a busy year in the department. We continue to have strong interest in both our undergraduate and M.S. programs and fall 2005 enrollment in our Ph.D. program is likely to approach 8-10 students. We may have the first Ph.D. in Marine Biology graduate from UNCW by the end of next academic year. Biology has not escaped the construction on UNCW campus - Friday Hall is scheduled for renovations beginning January 2006 (though there is always the chance for delays....) and considerable time has been spent planning for the move-out of all faculty, classes, and labs. The building has been a constant for our department for over 2 decades but is long overdue for a change. The renovation promises to provide a major upgrade with floor plan improvements that will help future classes and research labs. The department also will be changing its name, effective 1 July 2005, to the Department of Biology and Marine Biology. This name change reflects our longstanding degrees in both Biology and Marine Biology and will help highlight our marine biology programs to potential students, visitors, and community members who may not be familiar with the university.

– continued on page 2

Marine Ornamental Fish Lab at UNCW: Mariculture of Nemo

The marine ornamental industry is worth millions of dollars worldwide. Most marine aquarium fish are still caught from the wild and imported into the US and other countries primarily from the Philippines and Indonesia. Unfortunately, destructive collecting techniques are still being used in many areas and these are detrimental to coral reefs. The Marine Aquarium Council (MAC) has launched a campaign to provide certified fish that are collected only with nets. This means training collectors and educating consumers. Consumers can help with conservation measures by purchasing only certified wild-caught or tank-raised fish. Unfortunately, cultured or tank-raised fish are limited in variety. It is estimated that fewer than five percent of marine aquarium fish species have been cultured to date.

In order to improve culture efforts, the Department of Biology and Marine Biology at UNCW has initiated culture efforts for marine ornamental fish under the direction of associate professor Ileana E. Clavijo. She heads this project with the help of many graduate and undergraduate

students. To date the lab has successfully cultured four species of anemonefishes including the well-known *Amphiprion percula* popularized by the movie Finding Nemo. To date, students have completed five Honors Theses and numerous Directed Individual Studies (DIS). Research has included studies of aggression in juveniles, effects of diet on growth and coloration, and pair bonding behavior. Among the recent graduates who completed research in the lab are Michelle Johnston, Karen Johnston, Kevin Kolmos, Ulrika Lidstrom, Adam Mangino, Jamie Mankiewicz, Tanique Rush, Aaron Watson, Ben Westrope, Jacqueline Wilkie and Daniel Wroblewski.

Clownfishes are better known by scientists as anemonefishes because they associate with anemones in a symbiotic relationship. Culture is simplified in Dr. Clavijo's lab by substituting an artificial substrate for the anemone so the fish can lay eggs.

– continued on page 5



Newsletter

We consider involvement with research to be one of the most important opportunities we can provide to both undergraduate and graduate students and many continue to be actively involved with research in our department. During 2004/2005, 19 students completed honors thesis research, including Jennifer Herrick, Ulrika Lidstrom, Sydney Seidel, Kathryn Boe, Charles Foster, Stacy Ballard, Andrea Barber, Leslie Cauble, Christine Covington, Kimberly Fern, Jodie Gless, Heather Jordan, John Knowles, Kevin Kolmos, Marquita Lewis, Andreas Linke, Monica Lorenzo, Mary McArthur and Aaron Watson. Seventy-nine undergraduate directed independent research projects and 51 graduate directed independent research projects were completed during the

past year in addition to student participation in internships (5), work as laboratory research assistants, and volunteering in various research projects. In spring 2005, Dr. Alina Szmant taught a semester long coral reef course with 10 weeks of in-the-field work on the Caribbean island of Curacao.

Contributing to this student involvement is the continued active research efforts of our faculty. During 2003/2004, biology faculty participated in over \$8 million of grant funded activities (>100 total funded research projects), with \$2.7 million in new grants (51 new awards). The numbers are still coming in for 2004/2005, but it looks to be a similarly busy time. There were 68 papers published in national or international journals during the 2004/2005 academic year, 19 co-authored with students, and 134 presentations at national or international meetings, 78 with student co-authors.

Dr. David Webster received the Chancellor's Teaching Excellence Award, recognizing not only his excellent classroom teaching but his extensive involvement with student research over the past decade. Dr. Frederick Scharf received the Conference of Southern Graduate Schools 2005 Achievement Award for New Scholars. Dr. Joel Mintzes returned from his Fulbright-Technion Fellowship which supported a stay at the Israel Institute of Technology in Haifa. As always, many faculty have been recognized through invitations to meetings or to speak at other universities, journal editorships, review panels, appointments to state, federal and international boards, as well as through public or individual citations. The department started 2 new awards for graduating seniors, including the Department of Biology and Marine Biology James F. Merritt Service Award (awarded to John Knowles) and the Marine Biology Achievement Award (awarded to Adam Branson). Carter Esch and Melissa Clouse received the department's first Departmental Teaching Awards designed to recognize graduate students demonstrating excellence in teaching.

“Contributing to this student involvement is the continued active research efforts of our faculty.”

There have been several changes in faculty and staff this year. In the fall semester, Dr. Bongkeun (BK) Song joined our faculty. Dr. Song is a marine microbiologist who earned his Ph.D. degree from Rutgers University and conducted postdoctoral research at Princeton University. His interests range from taxonomic to environmental and community questions. Dr. Richard Satterlie, Frank Hawkins Kenan Distinguished Professor, also joined our faculty last fall. Dr. Satterlie received his Ph.D. from the University of California, Santa Barbara, and comes to us from the University of Arizona. Dr. Satterlie works on neurobiology of invertebrates. In the spring semester, Dr. Steven Brewer joined our faculty. Dr.

Brewer received his Ph.D. from the University of California, Davis, and most recently came to us from Rhodes College, Tennessee. His research examines aspects of terrestrial plant ecology, with field work in places ranging from the mountains of Belize to the swamps of North Carolina. Dr. Joseph Pawlik

will be returning full-time to the department this August after a 2 year stint as a Associate Program Officer at the National Science Foundation. Drs. Fritz Kapraun and Neil Hadley will be entering phased retirement next year, with both continuing to teach courses during spring semester over the next few years. Dr. Laela Sayigh will no longer be full-time teaching faculty, but will remain involved with the department as a Research Associate Professor. Last fall Zeynep Kurgun-Chen, former Greenhouse Manager, died after an extended battle with cancer. Robert York '05M will take over the duties of managing the greenhouse. Among other changes, Dr. Ann Pabst became graduate coordinator, Dr. Tim Ballard became undergraduate coordinator, and Dr. Martin Posey became department chair.

As I finish my first year as department chair, I continue to be impressed by the success and enthusiasm of our students and the hard work and dedication of our faculty and staff. Despite tight budget times we maintain a nationally recognized undergraduate and MS program, have begun a new Ph.D. program, and are conducting research and service activities with national and international implications. I hope all our alumni and friends will keep in contact with us and continue to support our efforts. Please visit our department website (www.uncw.edu/bio) on a regular basis to see what's happening.



Martin Posey
Professor and Chair



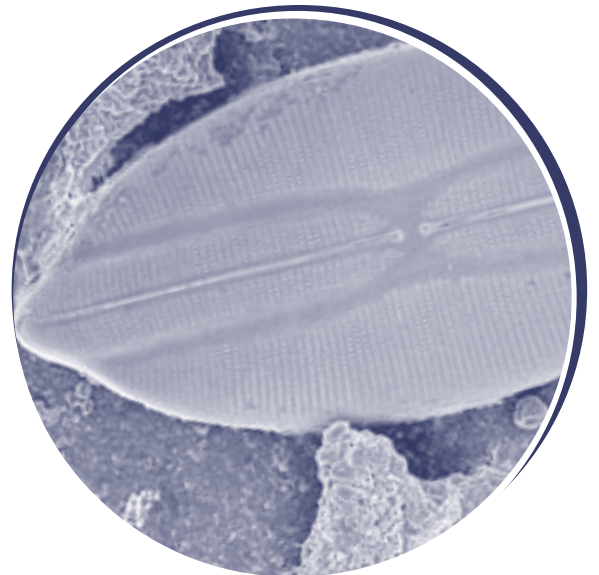
Olympus FV 1000 confocal microscope

UNCW Microscopy Lab

by Dr. Richard M. Dillaman & Mark Gay

The UNCW Microscopy Lab is continuing to grow and offer students and faculty access to more and better instrumentation. The Philips EM 400 transmission electron microscope that served us so well for many years has been replaced with a Philips CM 12 transmission electron microscope. In addition to more modern electronics, the CM 12 has expanded camera capabilities and excellent contrast and brightness up to 500,000X. In addition to allowing high-resolution ultrastructural analysis, it also has electron diffraction capabilities that allow identification of crystals within samples. The transmission scope has supported the EM course over the years as well as numerous student and faculty research projects. Most recently it has been used extensively by students from Dr. Kinsey's lab (Melissa Ernst, Kim-Laura Boyle and Lisa Johnson) who have been supplementing their biochemical and physiological measurements of muscle with ultrastructural analyses.

Our Philips XL30S FEG scanning electron microscope is also getting a lot of use by faculty and students from both Biology and Earth Sciences. This instrument, which has a resolution of 2-4 nm, has been essential for our research on biomineralization (with student Samantha Johnson.) It has also been used to examine everything from sponge tissue (Kristen Whalen – an honor student with Dr. Pawlik) to penguin egg shells (Ed Cavallerano – a student with Dr. Emslie), to diatoms (Dorian McGee – student of Dr. Laws). The XL30S can also perform x-ray microanalysis of specimens.



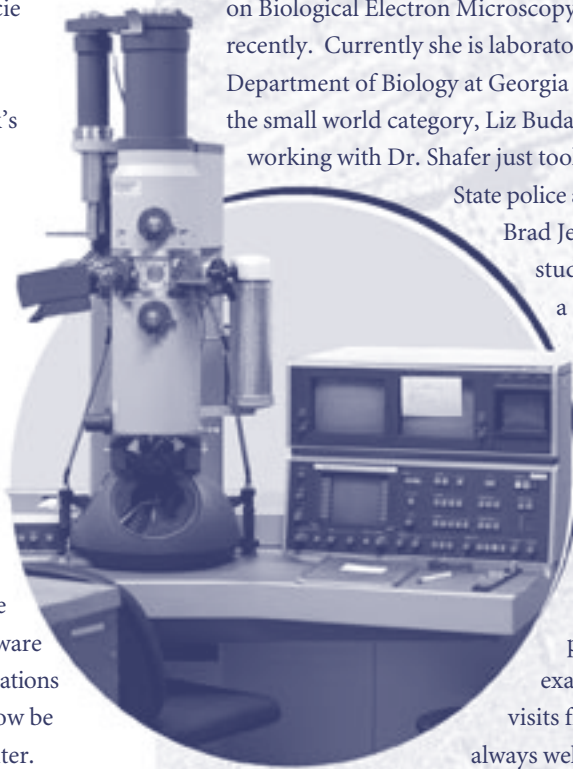
An Image of diatom taken with the Philips XL30S scanning electron microscope.

Several students have recently been doing histology and light microscopy projects in the lab. Anna Wynn and Dr. Francie Coblenz, both working in Dr. Shafer's lab, have been developing *in situ* hybridization techniques for crustacean tissue, and Jonathan Cowart, a Ph.D. student in Dr. Pawlik's lab, has been sectioning sponge tissue to determine the timing of sponge reproduction. Jennifer Ikerd, a masters student from the lab of Drs. Karen and Lou Burnette at the College of Charleston also spent four weeks at UNCW doing histology of crab gills. Presently light microscopy facilities include Olympus brightfield, phase contrast and epifluorescence microscopes (both upright and inverted) as well as Zeiss dissecting and upright polarizing microscopes (the latter two instruments being contributions of Dr. Ann Pabst). All light microscopes are also now equipped with color digital cameras in addition to film cameras. Digital images can be exported to computers linked to the EM lab or can be analyzed with digital image analysis software (Image Pro Plus) available in the lab. In addition, Photoshop software is available for the construction of plates for theses and publications as well as poster presentations. In fact those posters can now be printed in the EM lab on our large format Epson 9600 printer.

A coming attraction in the UNCW Microscopy Lab will be an Olympus FV 1000 confocal microscope. The instrument was funded by a NSF grant to Drs. Steve Kinsey, Rich Satterlie, Julian Keith and Richard Dillaman.

Former students from our lab continue to do well. Recently Dr. Tony Capehart, now an assistant professor at ECU, gave a departmental seminar at UNCW on his research on limb formation. Laura Reuss, now working in Dr. Mike Dykstra's

microscopy lab at NC State, was coauthor of their text on Biological Electron Microscopy. Liz Elliot also visited recently. Currently she is laboratory coordinator in the Department of Biology at Georgia Southern University. In the small world category, Liz Buda, a recent MS student working with Dr. Shafer just took a job with the Virginia State police after she interviewed with Brad Jenkins, a former masters student in my lab who is now a chief forensic scientist with that agency. Corinne Williams, a former honors student in my lab, recently visited. Corinne is now in the Cell and Molecular Biology Ph.D. program at UC San Diego and has passed her preliminary examinations. News and visits from former students are always welcomed.



Philips CM 12 Transmission Electron Microscope

Biology

Samantha Johnson, a graduate student, is working on the Philips XL30S FEG scanning electron microscope.



Faculty Highlights

Courtney Hackney, Troy Alphin and Martin Posey received \$388,193 from the U.S. Army Corps of Engineers, Wilmington District, to study the effects of increased tidal range in the Cape Fear ecosystem due to deepening Wilmington Harbour, NC.

Courtney Hackney was appointed chair of the North Carolina Coastal Resources Commission. He also received an award of appreciation from the Society of Wetland Scientists.

Steven Kinsey, Richard Satterlie, Julian Keith and Richard Dillaman received \$310,171 to purchase a confocal microscope for the microscopy facility.

David Padgett completed a 2500 page monograph on the systematics of water molds. David Padgett and **Craig Bailey** are continuing their NSF-funded study of molecular and morphological taxonomy in this group (\$742,207 over 5 years).

David Webster received the Chancellor's Teaching Excellence Award. He received \$14,674 from the Figure 8 Homeowners Association to fund "Survey for endangered plants and animals on Figure 8 Island, North Carolina". He was also awarded \$30,893 from New Hanover County to fund "Piping plover, nesting waterbirds/shorebirds and sea beach amaranthus in Year 2 of the Masson Inlet relocation project."

Ann Pabst and William McLellan continue to be involved with the NC Marine Mammal Stranding Network. They received \$56,823 from NOAA to fund "UNCW participation in St. Joseph's Bay bottlenose dolphin (*Tursiops truncatus*) bio-monitoring program."

Their work was featured on the Discovery Channel program "Dolphin Murders" (Tigress Films).

Carmelo Tomas received \$78,050 from North Carolina Biotechnology Center to fund "Research Quality Fluorescence Microscope with Advanced Imaging System."

Steven Emslie continued his research in Antarctica. He received \$5,750 from NSF to fund "Occupation history and diet of Adelie Penguins in the Ross Sea Region, Antarctica."

Joseph Pawlik continued his duties as Associate Program Officer for the NSF Biological Oceanography Program. He received \$29,887 from NOAA to fund "Barrel sponges on Florida reefs: reproduction, mortality and bleaching."

Joel Mintzes was the 2004-5 Fulbright-Technion Fellow in the Department of Science and Technology Education at the Israel Institute of Technology in Haifa.

Michael Durako is co-P.I. for the Coastal Ocean Research and Monitoring Program (\$2,244,000, other Biology faculty participating include **Lawrence Cahoon, Thomas Lankford, Michael Mallin, Martin Posey, and Ami Wilbur**). He also received \$53,356 from Florida Wildlife Research Institute to fund "Measuring photosynthetic characteristics of turtlegrass for the South Florida Fisheries Assessment Program."

Martin Posey, Robert Roer, Scott Quackenbush, Thomas Shafer, Steven Kinsey, Richard Dillaman, Ami Wilbur and Troy Alphin completed the final year of the NSF CRUI project on juvenile blue crab use of low salinity water: costs and benefits. This project supported over 50 undergraduate interns during the past 5 years.

(Marine Ornamental Fish Lab at UNCW: Mariculture of Nemo)

– continued from page 1

Clownfish lay anywhere between 500 to 1,500 eggs in flowerpots that can be easily removed when the eggs are ready to hatch after 7 to 9 days of parental care. The male is the primary caregiver and he fans the eggs with his fins to keep them aerated. The newly hatched larvae are kept in containers, offered live rotifers as first food, and then gradually changed to live brine shrimp. They are ready for dry food pellets when they start metamorphosis to the juvenile stage about nine days after hatching. Juvenile perculas do not look like their parents primarily because they lack all three of the vertical bars that the adults have. These bars appear gradually over the next few months.

Dr. Clavijo hopes to expand this research in the future to include more species. In the meantime, a new generation of students will start their projects on clownfish in the fall. Future renovation of Friday Hall and completion in 2008 will provide a "state-of-the art" tank room that will serve projects such as mariculture.



Alumni News

William C. Alexander (BS BIO, 1968) received his M.A. in Biology from Appalachian State in 1970 and his Ph.D. in Zoology from Clemson University in 1980. He is presently Division Chair in Sciences at the South Carolina Governor's School for Science and Mathematics. He teaches vertebrate biology, ornithology, and principles of biology. He also teaches an introductory course in wildlife photography.

James Arthur Feger (BS BIO, 1972) has two, married, wonderful daughters, a beautiful wife, and one rambunctious 8-month old grandson, Evan James Daniels. Charlie Daniels is first cousin to the "other grandpa."

H. Charles Spencer (BS BIO, 1976) is the staff manager of Network Engineering at ALLTEL Communications, Inc.

Paul Wesley Dempsey (BA BIO, 1978) received a B.S. in Pharmacy from the Medical University of South Carolina in 1981 and will complete his Pharm.D. in October 2005. He is presently the Director of Pharmacy for the Hot Springs Health Program in Madison County.

Ed Walser (BS MBY 1980; MS MBY 1985) and his wife, **Katherine Whitesell Walser** (BS BIO 1976), live in Manassas, VA with their two youngest sons, Jack (13) and Luke (12). Their older sons, Dugan (22) and Jude (19), now live in Ann Arbor, MI. Dugan is a senior at Eastern Michigan University, where he is majoring in sociology. Ed and Kathy just celebrated their 25th wedding anniversary. Ed works for the non-profit MITRE Corporation as a Principal Information Systems Engineer, where he provides consultative support to the National Geospatial-Intelligence Agency for commercial satellite imagery acquisition and exploitation.

Bill Barriger (BA BIO, 1980) is the Director of Operations for Food Safety Solutions, a company that specializes in food and product safety.

Linda Aukamp Sorkin (BA BIO, 1981) is married and living in Georgia with her husband and two sons. She has formed a commercial investment brokerage company and specializes in the hospitality industry.

Lisa Gilpin (BS BIO, 1986) continues to work as a medical technologist at New Hanover Health Network. She is married to Mike Gilpin and has two children, Corty (9) and Halla (5).

Joan "JC" Cedars (BS BIO, 1987) graduated from the East Carolina University School of Medicine in 1991. She worked in pharmaceutical research in Durham prior

to completing a residency in Anatomic and Clinical Pathology at Pitt County Memorial Hospital. She married Gregory Robison of Cullowhee, NC, in 2000 in Charleston, SC, while at the Medical University of South Carolina as a Cytopathology Fellow. JC is currently the Clinical Trials Coordinator at the Brody School of Medicine at ECU.

Page Harris Myers (BS BIO, 1987) is a biologist at the National Institute of Environmental Health Sciences.

Kevin Markham (MS MBY, 1989) has been appointed to the Board of Trustees for the North Carolina Clean Water Management Trust Fund. The mission of the CWMTF is to provide grants to local governments, state agencies, and conservation non-profits to help finance projects that specifically address water pollution. Kevin is the Vice President and Manager for the Raleigh office of Environmental Services, Inc., a consulting firm providing environmental, natural, and cultural resource services. He and his wife, **Kimberly Maguire Markham** (MS BIO, 1992) reside in Cary with their two children.

Nick Drayton (MS MMC, 1989) was awarded the EPA Environmental Quality Award, the EPA's highest public recognition award. This honor is given to individuals "who have demonstrated an outstanding commitment to protecting and enhancing environmental quality. Nick works for The Ocean Conservancy.

Michelle Calderone (BS BIO, 1992) married Chris Widmann (RPI, class of 1992) of East Greenbush, NY, in July 2002. They live in Cary where Michelle is Manager of Clinical Development for Inspire Pharmaceuticals, Inc. of Durham, and Chris works as Hardware Manager for Extreme Networks at RTP.

Erin Strickland Woodrow (BS BIO, 1992; MS BIO, 1999) and her husband, Peter Allen Woodrow, gave birth to their second child, a son, Hayden James, in April 2005.

Jean B. Manuele (MS BIO, 1992) continues to work with the U.S. Army Corps of Engineers in the Regulatory Division. She became Chief of the Raleigh Field Office in 2002. Working with the Corps has allowed her to follow her educational pursuits, as she is one of the instructors for new regulators in the program. She and her husband, Ed, are the proud parents of a rambunctious 4-year old, Andrew.

William Mercier (BA BIO, 1993) is in his 12th year of teaching science in the Pender County Schools. Last year he also coached the Trask High School Men's Track and Field team to a 1A state championship.

Moira J. Shortell (BA BIO, 1994) received her bachelors in Nursing from Russell Sage College in Troy, NY in 2001. She has since pursued a master's degree in Nurse Anesthesiology.

Beth Briley Meinig (BS BIO, 1994) is the Manager of Regulatory Compliance at AMEC BioPharmaceuticals, a consulting firm for engineering, validation, and compliance in the pharmaceutical and biotechnology industries.

Timothy E. Proseus (BS MBY, 1994) was awarded a Ph.D. from The University of Delaware this year. His dissertation was titled "Turgor pressure and polymer contributions to plant enlargement: *Chara corallina* as a model system."

Matthew B. Rogers (BS BIO, 1994) is married and has 2 children: Ashley Elisabeth (3) and Sydney Jane (2). He is actively pursuing a master's degree in nurse anesthesia.

Scott Mitchell Rose (BS BIO, 1994) is a senior clinical research manager for Family Health International working on HIV clinical trials. He is married to Natalie Ginger Rose and has one son, Bradford Brady Rose.

Jackie Harris (BS MBY, 1996) is a fulltime educator at the North Carolina Aquarium at Fort Fisher. Her basic responsibilities are educational program development and presentation, and she also produces a conservation newsletter "Conserving the Cape Fear." Jackie helped produce the aquarium's first in-house educational film. She remains active in the local sea turtle projects, the marine mammal-stranding network and a variety of other research, regulatory and conservation-related organizations.

Cory M. Williams (BA BIO, 1996) graduated from the UNC School of Dentistry in 2000 and is practicing in Wilmington.

Kristen Pujari (BS BIO, 1996) has been accepted into the Ph.D. Counselor Education Program at Virginia Tech beginning this fall.

Jared Taylor (BS BIO, 1996) is an optometrist in Wilmington. He has been married to his wife, Tracy, for 10 years and has three children: Kelly (6), Nathan (5), and Joel (1).

Kathy Kerns (BS BIO, 1997) currently works in chemical sales. She has a 5-year old son, Marco Barrera, and married Aaron Higaki on April 17 of this year.

Chris Crumpler (BS BIO, 1997) is a Quality Control Supervisor with Akzo Nobel at RTP. He supervises the raw materials and clinical stability and release departments for drug development for Diosynth Biotechnology.

Amanda Dixon Cerqueira (BS BIO, 1997) is married and has a 2-year old daughter. She is practicing dentistry and living in Carolina Beach part-time.

Jessica Lerch (BS BIO 1998) is a graduate student in the Neuroscience Department at Case Western Reserve University. She was recently awarded an NIMH grant for predoctoral study.

Tara Ann Szczesny McKinney (BS BIO, 1999) graduated from St. George's University School of Medicine in 2004 and is currently in a psychiatry residency program at the University of Medicine and Dentistry of New Jersey. She married James Sterling McKinney III, M.D. in May 2004.

Anitra Blackwell Walker (BS BIO 1999) is a team service leader/lab technologist with Laboratory Corporation of America in Burlington. She married Keith Walker on January 1, 2005.

William M. Parker (BS MBY, 1999) is employed by the NC Aquariums at Fort Fisher as the Dive Safety Officer. He has been working with the aquarium since 1997.

Ruth Schneider (BS MBY, 2000) is a full time educator at the NC Aquariums at Fort Fisher. Along with other educators, she is in charge of creating and implementing educational programs for general visitors, including SCUBA and tank feeding presentations, "creature features" and facilitating two public classrooms. Ruth writes her favorite part of her job falls under "other duties." These include training high school students for the National Ocean Science Bowl, creating an "extinct animal graveyard" for Halloween, and leading "Aquanaut" summer campers through the salt marsh.

Samantha Johnson (BS MBY, 2000) is also working as a full time Aquarist at the NC Aquarium at Fort Fisher and is attending graduate school at UNCW working with Dr. Dillaman. Her research includes x-ray microanalysis using a scanning electron microscope and gene expression using *in situ* hybridization. Both studies are conducted on blue crabs and will help in understanding specifics of the calcification process after molting. She also swims on the Masters' Swim Team and completed her first triathlon.

Paula Gillikin (BS BIO, 2000) worked for several years after graduation as a fisheries research technician at Duke University Marine Lab in Beaufort. Currently, she is working toward her master's degree at the Center for Animals and Public Policy at Tufts University Veterinary School. Her research addresses the potential effects of offshore wind farms on seabirds in the Northwest Atlantic.

Rachel Hurst (BS BIO, 2000) graduated from physician assistant's school in Ft. Lauderdale, FL, with a masters of medical science in August of 2004.

Chrystal Janelle Burroughs (BS BIO, 2000) currently lives in Raleigh and works at RTP for Research Triangle Institute International as a forensic toxicologist for the National Laboratory Certification Program.

Jennifer Check (BS BIO, 2000) was accepted into the UNC Chapel Hill School of Medicine in 2002 and is currently completing her 3rd year. She will be applying for pediatric residency this fall and will graduate from UNC in May 2006.

Bradley J. Gardner (BA BIO, 2000) works in the recycling field of the Pasquotank County Solid Waste Department. He was married in May 2004 to Laura Gardner and resides in Elizabeth City.

Amy Leber Tomocko (BS BIO, 2000) Amy married Michael Timocko on October 16, 2004.

Sonya Shaw (BS BIO, 2000) is a Senior Technologist in the Identity Testing Lab for LabCorp in Burlington.

Jana Siskind (BS BIO, 2000) received her M.S. in Biotechnology from Johns Hopkins University in May 2004.

Allison Bailey (BS MBY 2001) is a graduate student in the psychology department at the University of Alberta. Articles on her research on finger length and male aggression were recently published in the Edmonton Journal and the New York Times. She is now married to longtime boyfriend, Chris, and is also shooting her first short film!

Dana Howery Moore (BS BIO, 2001) married Jeremy Moore in October 2004. Jeremy graduated from NC State with a BS in Business Agricultural Management.

Michelle L. Ottey (BS BIO, 2001) is enrolled in the UNC Chapel Hill School of Pharmacy.

Christie Annette Coggins (BA BIO, 2002) is pursuing a Pharm.D. degree at the University of South Carolina and will graduate in 2007.

Jean-Paul Chreky (BS BIO, 2002) reports he sincerely enjoyed the time he spent at UNCW and the student/teacher relationships he still maintains. He recently graduated with a MFA degree in film directing from the University of Miami.

Felipe Barreto (MS MBY, 2003) was admitted to the doctoral program in the Department of Genetics at the University of Georgia. He is working with John Avise, Distinguished Professor and member of the National Academy of Sciences. Professor Avise who known for creating a whole field of application

of molecular approaches to ecology, evolution, and biogeography.

Wayne Justice (BS MBY, 2003) is employed in the education department of the Birch Aquarium in San Diego, CA. He is in charge of a grant-funded geology program for sixth graders in San Diego County that includes lab work and fossil hunting in Torrey Pines Reserve.

Andrew Godwin (BS BIO, 2003) is a medical technology student at Wake Forest University Baptist Medical Center. He plans to earn a doctorate degree and specialize in anesthesiology.

Bethany Shay Reid (BS BIO, 2004) received a full grant from the University of Colorado at Denver's Health Sciences Center to pursue a Ph.D. in human medical genetics.

Lisa Johnson (MS BIO, 2004) received the Division of Comparative Physiology and Biochemistry's award for best student poster at the meeting of the Society of Integrative and Comparative Biology in January, 2004, for the poster, "Effects of muscle fiber size on post-contraction lactate recovery in the blue crab, *Callinectes sapidus*." Johnson's poster was called "an excellent presentation of well-executed and novel research."

Angela Breeden (BS BIO, 2004) is a first year dental student at Howard University's College of Dentistry.

Sarah Catherine Sayre (BS BIO, 2004) currently works at Dolphin's Plus in Key Largo, FL, training California sea lions and bottle-nosed dolphins. She reports her company offers internships and encourages UNCW students to apply!

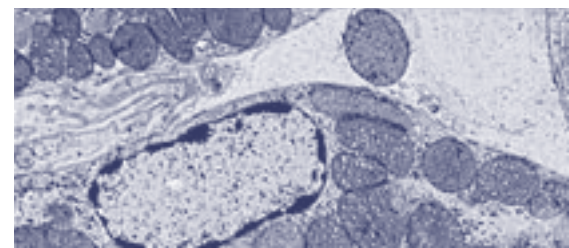
Ben Mason (MS MBY, 2004) has been awarded a fellowship to pursue a Ph.D. at the Rosenstiel School of Marine and Atmospheric Science of the University of Miami.

Hunter Coore (BS BIO, 2005) was nominated for the prestigious Jack Kent Cooke Graduate Scholarship. He will be attending medical school at ECU this fall.

John Knowles (BS BIO, 2005) will be attending Duke University's graduate program in Marine and Environmental Management starting this fall.

Tristan Carland (BS BIO, 2005) has been accepted to Scripps Institute of Oceanography at UCSD for this fall.

Paul Rossman (BS BIO, 2005) will be attending veterinary school at Purdue University.



"Please let us hear from you!"

Name _____
title first middle last maiden name and suffix

Address _____

E-mail address _____

Graduation year/Degree _____

Employer/position title _____

News for next newsletter _____

Return to:

Department of Biology and Marine Biology
University of North Carolina **Wilmington**
601 S. College Road
Wilmington, NC 28403-5915

or E-mail to: doddd@uncw.edu

www.uncw.edu/bio

Biology & Marine Biology

UNC Wilmington is committed to and will provide equality of educational and employment opportunity. Questions regarding program access may be directed to the Compliance Officer, UNCW Chancellor's Office, 910.962.3000, Fax 910.962.3483. 2500 copies of this public document were printed at a cost of \$1688.50 or \$.68 per copy (G.S. 143-170.1).

ADDRESS SERVICES REQUESTED

Department of Biology and Marine Biology
University of North Carolina **Wilmington**
601 South College Road
Wilmington, NC 28403-5915

