



# GRICE LOGBOOK

A NEWSLETTER OF THE GRICE MARINE LABORATORY AND THE  
GRADUATE PROGRAM IN MARINE BIOLOGY, COLLEGE OF CHARLESTON

VOLUME 4, No. 1  
APRIL, 2005

THIS NEWSLETTER IS  
AVAILABLE ON-LINE AT  
[WWW.COFC.EDU/~GRICE](http://WWW.COFC.EDU/~GRICE).

GRICE MARINE  
LABORATORY  
COLLEGE OF  
CHARLESTON  
205 FORT JOHNSON  
CHARLESTON, SC  
29412

TEL: 843 953-9200  
FAX: 843 953-9199  
MARINE@COFC.EDU

## Diversity Strengthens Undergraduate Research

Ten undergraduate interns, drawn from a pool of more than 70 applicants from around the nation, took part in the 2004 Fort Johnson Summer Research Program. Now in its twelfth year, the program, funded by the National Science Foundation, provides students with the opportunity to undertake independent research



in a graduate school environment, under the individual mentorship of faculty from the College of Charleston, the Medical University of South Carolina, the SC Department of Natural Resources, the Center for Coastal Environmental

*Continued on page 4*

## Dr. B Celebrates Retirement

After 31 years of service to the College of Charleston, Dr. Chip Biernbaum will read his final term paper, teach his last class and grade his last exam as he retires from the faculty and moves on to other things. Charles K. "Chip" Biernbaum, or Dr. B as he is known by students, was born in December 1946, as one of the earliest cohort of Baby Boomers, having arrived about 9 months after his father's return from Okinawa after World War II. He had a Norman Rockwell kind of childhood in southern New Jersey farm country, spending much of his time looking for interesting critters in assorted lakes, streams, and forests. After receiving his BS in Biology from Wake Forest University in 1968, he attended the University of Connecticut, working toward his PhD in the Ecological and Evolutionary Biology Section of the Biological

*Continued on page 6*

## Turtles, Sentinels of the Environment

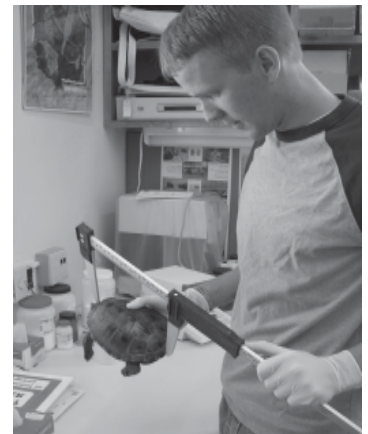
Why study turtles? It is interesting to note that nearly everyone likes turtles. They are often cute, truly conservative in their elegantly simple shape, and famed for their longevity and amazing feats for reproduction and migration. Sea turtles have become true Flagship species for states like Florida and South Carolina. In Mexico and Hawaii they have also become major tourist attractions accounting for millions of dollars in revenue. Most people do not realize it but the southeast U.S. has the highest species diversity of turtles in the world. We got turtle! But unfortunately, we know little about them.

To scientists, turtles also bring some key characteristics to the lab that are making them more and more important as research models. Indeed they are the most ancient of the living amniotic vertebrates in the same major lineage as mammals. Their endocrinology, immunology, and neurobiology have amazing similarities to mammals. Indeed many mammalian systems seem to have evolved their current organizations as primitive reptiles fully conquered the land.

The research group of Dr. David Owens at the Grice Marine Lab is very interested in the amazing little diamondback terrapins

(*Malaclemys terrapin*), which survive in every coastal state over an extended range from south Texas to Cape Cod including the tropical Florida Keys. There are probably five or six subspecies.

An important nesting area exists behind Fort Sumter in an area called Grice Cove beach. An undergraduate, Anna Estrella, working with Dr. Owens estimated that more than 400 nests were deposited on that 1100 meter stretch of Grice Cove Beach. In



*Continued on page 3*



## Erik Sotka Joins Faculty

Erik Sotka is an evolutionary ecologist who joined the Grice Marine Laboratory and the Department of Biology in January of 2005. He moved to Charleston with his wife Carolyn and dog Abbey from Pacific Grove, CA. Erik spent his formative years near Portland, Oregon. He, like many of us, was lured to Charleston by its beauty and seafood, but considers the accessibility to community soccer and ACC basketball an added bonus.

He obtained his undergraduate degree in Zoology from the University of Washington in Seattle. He completed his doctorate evaluating the ecology and evolution of seaweed-herbivore interactions at the University of North Carolina at Chapel Hill. Most recently, he was conducting postdoctoral work at Hopkins Marine Station (HMS), a marine biology research and educational facility that operates as a branch of Stanford University's Department of Biological Sciences. Erik worked in Stephen Palumbi's lab at HMS to evaluate larval dispersal and selection in the rocky intertidal barnacle *Balanus glandula*.

He is currently teaching Marine Invertebrate Zoology (BIOL 630) and Honors Biology (BIOL 152). His students feel his excitement for teaching and learning is contagious. He uses a

rounded approach catering to his student's varied backgrounds and interests while incorporating critical professional skills including; literature review and discussions, scientific writing and presentation, and field work and experimentation.

Erik's forthcoming research will be "testing for the arms race". Research evaluating seaweed-herbivore interactions has

enhanced our understanding of seaweed defenses against herbivore consumption, but has poorly assessed whether the herbivores have evolved "offenses" against those seaweed traits. Dr. Sotka will evaluate the herbivore attributes which allow herbivores to consume seaweed in spite of seaweed chemical and morphological defenses, by identifying variation between temperate and tropical populations of single species of herbivore. He hopes this research will begin to answer questions and help make predictions regarding evolutionary pathways, past and future, and the response of biotic communities to noxious algal blooms and non-indigenous species.



## Alumni Notes

**Brad Stevens (1976):** Brad earned a PhD from the University of Washington School of Fisheries in 1982. He has worked at the NMFS Kodiak Laboratory in Alaska since 1984, where he supervised and analyzed annual Bering Sea crab surveys. In 1996 he spent a year in Japan studying king crab cultivation techniques. In 1998 the Kodiak Fishery Research Center was opened and Brad manages the seawater facility and conducts research on early life history of crabs, especially king and Tanner crabs. He has led two cruises with the deep submergence vehicle Alvin to study life on Alaskan seamounts in 1999 and 2002, diving to 11,000 feet, and discovering giant spider crabs. In 2003, Brad led a team of divers to discover the oldest known shipwreck in Alaska, a Russian sailing vessel that sank near Kodiak in 1860. Brad married Meri Holden in 1987. They have one daughter, Cailey Stevens, age 15. He plays mandolin and hammered dulcimer with an Irish/Celtic folk group, "The Greenstring Band," and has recorded 3 albums of music about life in Alaska with the Kodiak musical group "Waterbound." Since 2000, he has been co-teacher of Kodiak Island Drummers, a group of 20+ students who play hand drums. Brad currently serves on the Kodiak State Parks Advisory Board.

**Rick Shealy (1979):** Rick stays busy with his family and duties at Shealy Environmental Services, Inc. ([www.shealylab.com](http://www.shealylab.com)) and Wildcat Plantation (timber/game management) in Laurens Co. He has been married for 19 years to Laura and has two sons, Adam (age 18) and Steven (age 11). He's still running and looks forward to many more bridge runs in Charleston.

**Felicia (Seyfert) Coleman (1981):** Felicia received a Ph.D. from Florida State University where she is an Associate Scholar Scientist. She studies the marine ecology of reef fishes, especially research supporting fisheries management. She has a daughter, Schuyler Seyfert (age 28), living in Charleston. Sons Peter Koenig and Alexander Koenig, both age 17, are juniors in high school. Her husband is Chris Koenig.

<http://www.bio.fsu.edu/faculty-coleman.php>;

[http://www.bio.fsu.edu/coleman\\_lab/](http://www.bio.fsu.edu/coleman_lab/)

**Nancy (McGlothlin) Hadley (1982):** Nancy received two prestigious awards this year for her work with oyster restoration. She has been instrumental in the success of SCORE (South Carolina Oyster Restoration and Enhancement program) a volunteer-based oyster restoration and monitoring program. The program, started in 2001, boasts over 2000 volunteers along the SC coast who have contributed more than 10,000

## Turtles - Cont. from page 1

addition, the terrapins in the Grice area seem to come together in the spring for what appears to be a major reproductive aggregation. When birds like grouse do this, it is called a Lek. Marine Biology graduate student Becky Estep is making the case in her master's thesis that the term should be applied to terrapins as well.

Of more sinister interest is the observation that such a long lived little carnivore may be bioaccumulating all the toxic materials being dumped into our estuaries. Because the terrapins are such "homebodies," they may be developing a signature level of toxins such as mercury. When Marine Biology graduate students Gaelle Blanvillain and Jeff Schwenter evaluated the mercury levels at a superfund site

in Georgia, they found the highest levels measured in a reptile. There was almost no other vertebrate life in the superfund site. Dr. Owens is making the case that these little turtles, once in grave danger due to over exploitation, may be able to be our coastal sentinel species to help man track the extent of contaminated coastal environments. Unfortunately, the terrapins are also being impacted quite severely by crab traps, so the situation is more complicated than it at first seems.



### **Support Student Research**

Purchase Grice Coffee Mugs, Glasses, T-Shirts, Hats and other items.

Visit [www.cofc.edu/~marine](http://www.cofc.edu/~marine)

## **Harmful Algae in SC**

Red, brown, and sometimes green-tides are signs of harmful algal blooms (HABs) occurring in marine, fresh and estuarine waters. HAB events can range from off-color, foul-smelling waters, to fish and waterfowl kills (see photo), to direct and indirect impacts on human health. The scale of HABs may be confined to a residential detention pond or expanded to cover several square miles of coastal and open oceans.

The ecology, physiology and description of HAB events is the research focus of the South Carolina Algal Ecology Laboratories (SCAEL) of Dr. Alan Lewitus, a member of the graduate faculty in Marine Biology at CofC. The SCAEL is a unique partnership between the University of South Carolina's Baruch Institute and the South Carolina Department of Natural Resources. Located on the Fort Johnson campus, as well as the Baruch Marine Lab in Georgetown, the SCAEL is a consortium of 19 individuals with a shared mission to identify and characterize HAB events in South Carolina. The SCAEL is also part of a large community of universities, state and federal agencies, and private landowners whose common purpose is to detect, understand and ultimately predict HAB events. Funding for this research is provided by SC Sea Grant, EPA, Centers for Disease Control (CDC), and NOAA as part of the South Carolina Harmful Algal Blooms Program (SCHABP).

The SCAEL uses a variety of technologies to identify and characterize HAB events. Chad Johnson coordinates SCAEL staff to cover locations for field sampling. Sabrina Hymel (M.S. in Marine Biology, CofC 1998) and Raphael Tymowski, use high-performance liquid chromatography (HPLC) to identify marker pigments of algal taxa. Advanced microscopy and video capture is used by Dr. Patrick Brown,

Krista DeMattio and Megan Heidenreich to screen live samples for the presence of HAB species. Genetic probes have been developed by Jason Kempton, Patrick Williams and Sarah Habrun to target HAB species, such as the infamous *Pfiesteria piscicida*, from both water and sediment samples. This three-pronged approach to identification provides a rapid and highly accurate description of algal assemblages. When HAB species are detected in high abundances, MUSC graduate student Wesley Jackson, and the Biotxin Laboratory at NOS assay samples for microcystin and brevetoxin. Assembling and communicating all the diverse sources of data is performed by Azal Amatya.

The HAB problem is hardly confined to South Carolina, and has raised concerns among scientists worldwide. The International Harmful Algal Blooms Society will soon hold its biannual meeting in Capetown, South Africa, to bring together scientists from as far

away as Japan, Russia, and Iceland. In the United States, the CDC has an ongoing interest in potential health risks to humans and livestock, and has recently placed an epidemiologist, Whitney Warren, at the Hollings Marine Laboratory to examine potential human health effects of HAB events in South Carolina.

For more information on specific projects, as well as in-depth personnel profiles and links to SCAEL collaborators, please visit the SCAEL website at <http://links.baruch.sc.edu/scael/>.

by Sabrina N. Hymel, MS in Marine Biology, Class of 1998



SEE THE ON-LINE VERSION  
OF THIS NEWSLETTER AT  
[WWW.COFC.EDU/~GRICE](http://WWW.COFC.EDU/~GRICE)



## Undergrad Research - Cont. from page 1

Health and Biomolecular Research (NOAA), the Charleston Laboratory of the National Institute of Standards and Technology (NIST), and the Hollings Marine Laboratory. The interns were a particularly diverse group, several drawn from the Western states, including Oklahoma, Arizona and Nevada. Two College of Charleston interns participated in the Research Experiences for Undergraduates program under a new bridge project with the South Carolina Alliance for Minority Participation (SCAMP), a move aimed to encourage minority freshmen and sophomores interested in the sciences to consider a career in scientific research. The intern group also included Kelly Rogel, a deaf student, who worked with mentors Drs. Mike Twiner and Greg Doucette to study toxins produced by harmful algae. The College's Office of Disability Services and NSF provided sign language interpreters for classes and presentations. Of particular note among many highlights of the summer was Kelly's final oral presentation of her research results to the Fort Johnson community, delivered in sign and interpreted for the audience. It was a learning experience for everyone involved with the research program.



## Recent GPMB Degrees

**Steven Allen** – The Effect of Intertidal Air Exposure on the Respiratory Physiology and the Killing Activity of Hemocytes in the Pacific Oyster, *Crassostrea gigas* (Advisor: Lou Burnett)

**Thomas Bartlett** – Crustins, a Novel Family of Putative Antimicrobial and Proteinase Inhibitor Peptides, in the Penaeid Shrimp, *Litopenaeus vannamei* and *Litopenaeus setiferus* (Advisor: Greg Warr)

**Mercer Brugler** – The Complete Mitochondrial DNA Sequence of an *Antipatharian* (Black Coral) and Six Non-Contiguous Genes of the *Ceriantharian* (Tube Anemone) MT Molecule(s): Implications for Cnidarian Phylogeny (Advisor: Scott France)

**Walter Buble** – Life History Analysis of the Sand Perch, *Diplectrum formosum*, in the Atlantic Waters of the Southeastern United States with an Emphasis on Reproduction (Advisor: Pat Harris)

**Joseph Burgents** – The Effects of Hypercapnic Hypoxia on the Clearance and the Distribution of Bacteria in the Pacific White Shrimp, *Litopenaeus vannamei* (Advisor: Lou Burnett)

**Austin Dantzler** – Effects of Hypercapnic Hypoxia and Season on the Antibacterial Activity of Hemocytes From the Pacific White Shrimp, *Litopenaeus vannamei* (Advisor: Karen Burnett)

**Jennifer Emblidge** – Effects of the Blood Lipid Regulating Drug, Clofibrilic Acid, on Estuarine Organisms (Advisor: Marie DeLorenzo)

**Amy Filipowicz** – Physical, Chemical, and Biological Quality of Headwater Tidal Creeks of the May River Estuary, Beaufort County, South Carolina (Advisor: Denise Sanger)

**Robin Freeman** – Assessment of the fish community of the oligohaline portion of five coastal South Carolina rivers (Ashley, Cooper, Edisto, Combahee and North Santee Rivers) using electrofishing techniques (Advisor: Charlie Wenner)

**Jennifer Hoguet** – Cellular Responses in Oysters, *Crassostrea virginica*, to Oxidative Stress (Advisor: Amy Ringwood)

**Robert Javonillo** – A Systematic Study of the Genus *Chasmodes* (Teleostei: Blenniidae) (Advisor: Tony Harold)

**Connie Moy** – Development and Evaluation of an Estuarine Biotic Integrity Index for South Carolina Tidal Creeks (Advisor: Pam Jutte)

**Aimee Neeley** – Ferredoxin and Flavodoxin Regulation in the Dinoflagellate *Karenia brevis* (Advisor: Jack DiTullio)

**Melissa Recks** – An Investigation Into the Use of Blubber Fatty Acid Profiles as a Means to Determine Prey Preferences of Bottlenose Dolphins (*Tursiops truncatus*) in Estuarine and Nearshore Coastal Waters Around Charleston, South Carolina (Advisor: Pat Fair)

**Noel Turner** – Population genetics of tomtate, *Haemulon aurolineatum* (Teleostei: Haemulidae), in the Western Central Atlantic (Advisor: Bob Chapman)



## Student Awards

**Stephanie Brunelle** – Second place in the Clinical/Master's Oral Presentation, "Circadian Control of the Cell Cycle in the Dinoflagellate *Karenia brevis*: A Role for Blue Light and Characteristics of a Blue Light Receptor," at MUSC's Student Research Day, November 2004

**Kristine Hiltunen** – Awarded \$8,000 from the Marine Mammal Commission to support thesis research to determine the origin of a winter mixture of harbor porpoises along the US mid-Atlantic coast (from Cape Hatteras to Cape Cod).

**Eric Pante** – Received the Grice Colloquium best presentation award and nominated to Sigma Xi, the scientific research society.

**Amelia Viricel** – Awarded a grant from the Slocum-Lunz Foundation, a Lerner Gray grant from the American Museum of Natural History, and support from the Joanna Foundation for summer research, and nominated to Sigma Xi.

## Faculty Notes

The **Jack DiTullio lab** is cruising on two new projects funded by the National Science Foundation. One project, in collaboration with the European CarboOcean program, will investigate the effects of elevated CO<sub>2</sub> and temperature or greenhouse warming. Two cruises are scheduled for this project. The first cruise leaves Ft. Pierce, FL aboard the R/V *Seward Johnson* in May and arrives in Reykjavik, Iceland on July 7. The second project will investigate the interactive effects of iron, CO<sub>2</sub>, and light levels on the growth of diatom and *Phaeocystis antarctica* populations. The first of two research expeditions departs Lyttleton, New Zealand in December 2005 aboard the R/V *B. Nathaniel Palmer* and ends at McMurdo Station in the Ross Sea, Antarctica in January 2006. **Dr. Peter Lee**, a postdoctoral fellow in the DiTullio laboratory, will also participate on a research cruise aboard the CCGS *Sir Wilfrid Laurier* to the Bering and Chukchi Seas this July following the Iceland expedition.

The **Burnett lab** is embarking on a new research project on the resistance of the local oyster to bacterial infections as a function of various kinds of pollution and natural environmental variables. This project is a part of the Center for Oceans and Human Health funded by NOAA and located at the Hollings Marine Laboratory. The research will include physiological measurements, immunological assessments, and genomic approaches to understand disease resistance in oysters. The lab also welcomes its newest postdoctoral fellow **Dr. Brett Macey** from the University of Cape Town in South Africa.

*Continued on page 8*



**Nobel Laureate Visits Grice.** Robert F. Furchgott, 2nd from the right, shared the Nobel Prize in physiology in 1998 for his work on the discovery of nitric oxide (NO) as a signalling molecule in the cardiovascular system. NO has many functions in a variety of marine organisms. Also pictured are Lou Burnett (left), Dr. Furchgott's daughter Jane Furchgott, and Dave Owens (far right).

## Research Colloquium

The 8<sup>th</sup> annual Marine Biology Student Research Colloquium celebrated student research on February 18 and 19, 2005. The keynote speaker of the event was **Dr. Margaret**

**McFall-Ngai**, a prominent marine biologist and Professor of Medical Microbiology and Immunology at the University of Wisconsin-Madison Medical School. Dr. McFall-Ngai is a scholar known for her work on symbiotic relationships between animals and prokaryotes. The title of Dr. McFall-Ngai's keynote address was "Make Peace, Not War: The Establishment of the Squid-Vibrio Symbiosis." Saturday was devoted to student research as 17 students highlighted their research accomplishments. The final talk in the Saturday session was by Dr. McFall-Ngai who spoke on the prevalence of animal-bacterial associations. A traditional oyster roast capped the weekend's activities. See photos at [www.cofc.edu/~marine](http://www.cofc.edu/~marine).



**Dr. Margaret McFall-Ngai**

## New Lab Manager at GML

Sarah Prior joined the Grice Marine Laboratory as Lab Manager in August 2004. Sarah earned her BS in Biology in 1993 from Lander University. Before joining the GML, Sarah worked for the South Carolina Department of Natural Resources. She began her marine research career in 1996 working in a shrimp hatchery at the Waddell Mariculture Center. Later, she moved on to research shrimp diseases developing the Marine Infectious Disease Lab, now based at the Hollings Marine Laboratory. She has experience as a microbiologist and textile chemist. Her current duties include serving as the Safety Officer at the GML, managing the boating safety program for students and faculty, supervising students, among other general lab manager duties. Sarah has been doing a great job and we welcome her to the Grice family.



Science and art commonly appear to be opposites  
of an experiential coin.  
But once flipped, no matter how it lands,  
it comes up beauty.

by C. K. Biernbaum

**Dr. B - Cont. from page 1**

Science Group. Like many others his age, during the summer following his year at UConn, he was drafted into the U.S. Army for a two-year hitch. After recuperation from an injury sustained during MP judo training, he spent three months



at the Army's Vietnamese Language School at Ft. Bliss, Texas, and served from 1970 to 1971 with the 93<sup>rd</sup> Military Police Battalion in Qui Nhon, Republic of Vietnam. He then returned to UConn and after three years defended his dissertation, which examined how sedimentary characteristics influence the distribution of benthic marine amphipods. Following receipt of his degree in 1974, he was offered a position with the Biology Department at the College of Charleston.

During his career Dr. Biernbaum focused his research on the ecology and the biogeography of marine, freshwater, and terrestrial crustaceans, especially amphipods. His major research projects included seasonal fluctuations of crustacean populations at the Santee National Wildlife Refuge, SC; biogeography of amphipods of the Blue Ridge Mountains; species composition of the South Carolina continental slope necrophagous (carrion-eating) invertebrate guild; seasonal variation in density, diversity, and host preference of sponge-dwelling amphipods; and the biogeography of Ascension Island amphipods.

Following retirement, Dr. B plans to become more involved in art, especially clay. He says "one might say that I'm going from working with mud as a substrate to mud as a medium!" He prefers doing slab-built, contemporary work to wheel-thrown items, so his pieces are typically unusual. He was a member of the Board of Directors of a Charleston contemporary art organization and has collected high-quality craft

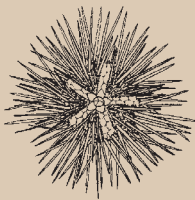
art for over two decades. So this new focus isn't entirely a surprise. He plans to travel and do volunteer work, most likely with the military. He has also threatened to pick up his trumpet again or resume "my long-interrupted bluegrass banjo lessons!" Finally, a major part of his future is his fiancée Marty Celum, who is a nationally recognized potter and clay sculptor. As Chip says, "Until Bill Anderson or Tony Harold ties a Grice collection tag to my ankle and places me in one of the black drums or stainless steel coffins in the collection room, I'm sure I can count on the next several years being full, satisfying, and a real fun time."

**DR. B — IN HIS OWN WORDS**

I am very fortunate in having had a long and very satisfying career. The academic quality of our Biology Department, its marine biology programs, and the College as a whole, is absolutely superb – it has been an honor and a pleasure to be a member of this academic community. I am especially thankful to the College's faculty for their thoughtfulness in honoring me with both the College's Distinguished Teaching Award and the Distinguished Advising Award during these wonderful 31 years. I will certainly miss my colleagues and, most especially, my students, whom I suspect will always remember "scaphognathite," my very brief renditions of Frank Sinatra's *Stranger in the Night*, assorted mating displays, and me squirming against the lab's anatomically correct door frame while being stung and digested by the septal edge of a sea anemone. My students have been very special to me, many of them feeling like family — indeed, I commonly feel like a dad when talking with them. While looking back through my dozen grade books, it's hard to believe that during these 62 semesters I've taught over 5,500 students in 75 undergrad and grad Invert classes, 50 Introductory Biology classes, 24 Man & the



Environment classes, and 8 classes in General Ecology and Crustacean Biology; mentored 55 undergrads in tutorials and research projects; and have been on the advisory committees of 84 grad students, 8 of whom had me as major advisor. Offering a rather odd statistic, I've graded 2,000 term papers; if the pages of these papers were laid end to end, we would have a paper trail extending approximately 3.5 miles. Indeed, my professional life has been busy, but it couldn't have been better!





**Alumni Notes - Cont. from page 2**

man-hours to help SC Dept. of Natural Resources construct oyster reefs at twenty eight sites along the coast. In the process, the volunteers have recycled, bagged and deployed more than 17,000 bushels of shell weighing more than 250 tons. Nancy and Dr. Loren Coen, both of the SC Dept. of Natural Resources, were joint



*Nancy Hadley (2nd from right) and Loren Cohen (2nd from left) receive plaques from Tim Keeney, Deputy Assistant Secretary of NOAA.*

recipients of the Theodore M. Sperry Award from the International Society for Ecological Restoration. The SCORE project was also the recipient of a 2004 Coastal America Partnership Award, the highest Presidential award for environmental service.

**Mark Caldwell (1986):** After leaving Grice, was employed by the South Carolina Coastal Council (now known as Ocean and Coastal Resource Management) in Myrtle Beach. He served as a biologist until 1989 and then as a Regional Permit Administrator. In 1998 Mark returned to Charleston to serve as the Permit Coordinator and Senior Biologist for OCRM. He held that position until 2003 when he began a new career with the US Fish and Wildlife Service, where he serves as their transportation liaison. He primarily reviews federally funded transportation projects to ensure they do not deleteriously impact sensitive habitat or threaten an endangered species. Mark met his wife, Joan, when he was at GML and they have been married 17 years. They have one child, Lindsey, who is now in high school.

**Louis Daniel (1988):** Louis earned a PhD from VIMS in 1995. He is currently the Assistant to the Director of the NC Division of Marine Fisheries and the Chairman of the South Atlantic Fishery Management Council. Louis lives in Morehead

City, North Carolina, with his wife Ruth, 8 year old Josie, and 5 year old Louis IV.

**Bill Buzzi (1990):** Bill earned a PhD at USC in Columbia in the Cellular, Molecular and Developmental Biology Program, followed by a postdoc at the University of Florida Whitney Lab in St. Augustine, where he now works as the Education Coordinator and teaches classes. Friend and ex-housemate Rick Heldrich, from the CofC Chemistry Dept. "introduced" Bill to Susan Yarian (also from CofC) in 1987. Suzi and Bill have two daughters: Zoe 11 and Francesca 14.

**Nate Dayan (1994):** Nate is a fisheries biologist for the US Army Corps of Engineers with the New Orleans District. He prepares Environmental Impact Statements for the Corps. Nate participates as a team member in designing these projects in an environmentally friendly way. He works on many different types of projects, from hurricane protection levees to marsh creation. He has been married to Lisa for 5 years and they have two cats.

**Katy Chung (1999):** Since graduation Katy has worked as a marine biologist for the Marine Ecotoxicology Branch at the NOS Center for Coastal Environmental Health and Biomolecular Research laboratory in Charleston, SC. Her field activities include sampling of stormwater retention ponds, assisting in push-netting of tidal creeks for grass shrimp population assessments, and collection of sediment and water samples to be used in microcosms and mesocosms. Her laboratory research includes conducting acute and chronic toxicity bioassays on benthic and epibenthic organisms and conducting Microtox® and Mutatox® assays for sediment samples. Aside from work, Katy has been slowly renovating her house on James Island and has traveled home to Taiwan several times.

**Holly Downing (2000):** Since December 2002, Holly has worked as the Education Director for Tarpon Bay Explorers on Sanibel Island, Florida.

The explorers are the concessionaire to the J.N. "Ding" Darling National Wildlife Refuge and conduct guided tours through the refuge. Holly gives tours, develops new

programs, coordinates programs for school groups, organizes special events, and writes press releases. Most recently she has become the manager of their new sister company Everglades Explorers and has begun conducting eco-tours to the Everglades. Check them out at [www.tarponbayexplorers.com](http://www.tarponbayexplorers.com). In her free time, Holly has been learning to sail, running marathons, and enjoying the Florida sun.



**Marine Biology Alumni  
Tell us what you are up to!**



GRICE MARINE  
LABORATORY  
COLLEGE OF  
CHARLESTON  
205 FORT JOHNSON  
CHARLESTON, SC  
29412

### Faculty Notes - Cont. from page 5

The **Allan Strand** lab is developing a suite of genetic markers to characterize the population structure of shortnose sturgeon, an endangered species endemic to the East Coast of North America. Sturgeon are polyploid and an appropriate analysis requires theoretical advances in the analysis of polyploid population genetic data. The resulting data should allow state and federal biologists to characterize the movement patterns in wild and stocked fish populations. This project is funded by the US Fish and Wildlife Foundation in collaboration with Dr. Connie Keeler-Foster, a USFWS scientist. Two undergraduates have worked on this project and others will be involved as the project progresses.

Marine sediments containing complex microbial communities are ingested by a variety of invertebrates. The **Craig Plante** lab uses a variety of sophisticated measures to understand the patterns of disturbance and recovery of the microbial communities in work funded by the National Science Foundation. Dr. Plante will be teaching a study-abroad ecology course in Panama (May 17 - June 4) at the Institute for Tropical Ecology & Conservation.

**Gorka Sancho** participated last October in the third cruise of the Fish Aggregating Devices as Instrumented Observatories (FADIO) project

funded by the European Union. On board the RV Indian Ocean Explorer an international team of scientists spent 19 days in the Indian Ocean surrounding the Seychelles Islands studying the ecology and behavior of tropical tunas and other pelagic fishes around FAD's (Fish Aggregating Devices) deployed by the purse-seine commercial fishing fleet. The main objective of the FADIO program is to develop new observation instruments to better study the behavior and abundance of pelagic fish. During this cruise an instrumented buoy prototype was tested for the first time, providing engineers with valuable information for building the final instrumented buoy. Back at the GML, CofC undergraduate Kelly Buck analyzed samples from the expedition investigating the diet of fishes aggregated around drifting FADs.

**Tony Harold** recently published a review of the natural history and biodiversity of fishes of the Amazon basin. He is directing two students who are working with the Fish and Invertebrate Collection at GML as a part of the Southeastern Regional Taxonomic Center (SERTC), a collaborative project with the SC Dept. of Natural Resources, funded by NOAA.

### Grice Coffee Mugs & T-Shirts

Proceeds support students at scientific meetings.  
Go to: [www.cofc.edu/~marine](http://www.cofc.edu/~marine).

|  |
|--|
| Non-Profit Org.<br>U.S. Postage<br>PAID<br>Permit #149<br>Charleston, SC |
|--|