

# GRICE LOGBOOK

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

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# Undergraduate Research Thrives at Grice

Undergraduate research continues to thrive at the Grice Marine Laboratory and its partner institutions at Fort Johnson. The Fort Johnson Undergraduate Research Program completed its eleventh year with the largest class of 11



students. Students worked side-by-side with faculty mentors at the College of Charleston, the Medical University of South Carolina, the SC Department of Natural Resources, the Center for Environmental Health and Biomedical Research (NOAA), and the Charleston Laboratory of the National Institute of Standards

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# Our 30th Anniversary!

The year 2003 marked the 30th anniversary of the beginning of our Graduate Program in Marine Biology. During these three decades, over 160 graduates have received their MS in Marine Biology and have dispersed throughout the country and the world (South Africa, Indonesia, and South America). The GPMB held a reunion in early November to celebrate this milestone. Of the 161 alums at that time, 81 came to Fort Johnson, many with their families, to celebrate with old friends. On Friday night, current grad students sponsored a social, with a major oyster feast on Saturday evening (see www.cofc.edu/ ~marine for photos). During the weekend, alums, ex-faculty, current students and faculty, socialized, toured Charleston, renewed old friendships, and made new ones. As Chip Biernbaum said, "It's wonderful to see so many of our progeny returning to their professional rookery - I feel like their dad." (photos, p. 4)

# The Unseen Community of Colonizers

The unseen ecological community of microorganisms in the marine environment includes bacteria and is the focus of significant effort at the Grice Marine Laboratory. **Dr. Craig Plante** and his students are studying the mechanisms and rates of bacterial colonization of marine sediments following disturbances, including disturbances associated with animal feeding. This project is supported by the National Science Foundation.

Dr. Plante has shown that bacteria re-colonize disturbed sediments by migrating from surrounding sediments. Subsequent changes in the bacterial community, called microbial succession, is being analyzed using molecular techniques such as PCR and denaturing gradient



gel electrophoresis. Dr. Plante and his students hope to determine whether the ingestion of sediments by various animals affects succession and community structure in similar ways.

A second major research goal is to elucidate the role of quorum sensing in regulating abundances and biofilm formation of marine benthic bacteria. Controls on bacterial abundance in marine sediments remain poorly understood despite the importance to biogeochemical processes, benthic food webs, and bioremediation. Quorum sensing refers to a mode of intercellular communications and density-dependent gene expression in bacteria – that is, genes for certain traits are not "turned on" until some threshold population density is reached. In sediments, most bacteria grow in

#### In Memory of Cecil

Christopher Cecil Sharp arrived at the Graduate Program in Marine Biology as an enthusiastic, bright-eyed, hard-working and very entertaining student. In spite of what life threw at him, he remained that way throughout. He was the first graduate student I advised, and it didn't take long for me to realize he was not going to bathe in my words of wisdom. He had no hesitation in letting me know if he thought I was incorrect, and would then show me the literature to prove it. I learned so much from him. And yet he was uniquely trusting, too. A fellow MARMAP employee from Trinidad managed to persuade Cecil during a research cruise to Florida that he



had never heard of tequila, had no idea what it was. and that no such drink existed in Trinidad. Of course, when we arrived in Florida. Cecil had to enlighten this poor chap, and it was only many shots of tequila later that he realized he'd been had.

Cecil chose to do his thesis on a non-priority species, that is,

a species that was considered economically unimportant. He faced plenty of ribbing for his choice, but by the time he was done, we were all persuaded that knobbed porgy was the 'fish of the future'. He completed his thesis in spite of all his medical setbacks, and still had the time to collaborate with a graduate student from the University of North Carolina at Wilmington who was working on the same species, travel to Mexico to present his work at the American Society of Ichthyologists and Herpetologists (where he ate a few too many fish tacos), coordinate a soccer team... The thesis is all his work. I incorporated the final edits to his thesis that his committee had suggested, but did not alter any other aspect of his work.

Cecil was a wonderful person, who had so much to offer. I wish there had been more time to accept his offerings.

by Patrick J. Harris Dr. Harris was Cecil's major advisor and works for the Marine Resources Research Institute at the South Carolina Department of Natural Resources

#### **Alumni Notes**

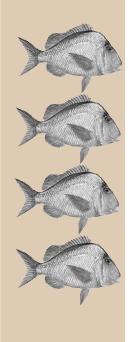
Beth Hester (1976): Beth was the first graduate of the Marine Biology Graduate Program. She went on to complete a PhD in Oceanography at Old Dominion University and now works as an Oceanographer for the Naval Oceanographic Office, Stennis Space Center, Miss. She has worked in underwater acoustics since 1985 and is currently involved with autonomous undersea vehicles, collecting oceanographic data worldwide.

Betsy Berg (1979): Betsy has taught in colleges and high schools from one coast to the other and is presently teaching Marine Science and Horticulture at Corvallis High School in Oregon. She spent two weeks studying at the Naval Academy, ten days exploring deep water methane seeps in the Monterey trench, eight days as a Jason Teacher Argonaut with Bob Ballard in the Keys (when she "drove" the NR-12 nuclear research sub), and will serve aboard a ship in Antarctica in 2005. She and her husband, John, have a daughter who is a senior at the University of Oregon.

Janet Kelly (1982): Since leaving Grice, Janet has served with the Peace Corps in Papua New Guinea; marketed jewelry, picked cantaloupe, and fished for tuna and trout in Indonesia and Australia; organized a boxing fund-raiser in Tasmania; spent some time in Charleston learning Indian cuisine and cell biology with MUSC's Karl Karnaky; pursued a degree in Public Health; and worked at the Centers for Disease Control's HIV/AIDS division. For the past several years, she's been working for various organizations in Alaska on Alaska Native health projects. She has two daughters.

Earl Sanders (1984): Earl is currently a full-time PhD student in maritime anthropology at the University of Georgia, where his research focuses on the ethnic identity, subsistence strategies, and ecological niche of pre-industrial fishing societies. He spent the summer of 2003 on the SW coast of Madagascar studying the Vezo. He works part-time as a BMW motorcycle mechanic, restoring and repairing classic Beemers.

Carole Baldwin (1986): Carole has been at the Smithsonian's National Museum of Natural History since receiving her PhD from VIMS, and is currently Research Zoologist (Curator of Fishes). Her responsibilities include science education and research, which focuses on the systematics & evolution of fishes, with a particular interest in utilizing fish larvae. She is the star of the IMAX film "Galapagos" and has just published a cookbook focusing on renewable seafood species entitled *One Fish, Two Fish, Crawfish,* 



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# Joanna Foundation Graduate Fellowship in Marine Biology

First awarded in 1986, this scholarship is exclusively dedicated to providing support to graduate students in the College of Charleston's Graduate Program in Marine Biology (GPMB). The Joanna Foundation (formerly known as the Marquette Foundation) worked with the College to establish a challenge grant program which enabled a permanent endowment to be formed in 1989/1990. The interest on this endowment now yields about \$7-9 thousand per year for competitive student awards. At least 34 GPMB students have received awards since the program was established.

The Graduate Program in Marine Biology was initially established in 1973. It is generally recognized as one of the top graduate programs in marine biology in the country. Alumni have been very successful in the field and continue to make major contributions to our understanding of coastal and ocean processes. The site of the Grice Marine Laboratory at the Fort Johnson Marine Science Complex provides students and faculty with a nearly ideal environment to launch both laboratory and field studies in marine biology. With the recent opening of the Hollings Marine Laboratory, also in the Fort Johnson Marine Science Complex, additional new state of the art laboratories are available for top quality research. There are now more than 90 active faculty from the CofC, the South Carolina Department of Natural Resources, the Medical University of South Carolina, the National Ocean Sciences labs, the National Institute of Standards and Technology, the Citadel and the Belle Baruch Laboratory of the University of South Carolina. The combined labs at the Complex provide a truly unique collaborative environment for students and faculty to participate in excellent courses and quality research.

In order to continue to be competitive as a graduate program in marine biology, it is clear we need to increase our direct financial support for graduate students, particularly as they initiate their thesis research. The more than 90 faculty representing all the collaborating institutions of the GPMB are strongly behind a new initiative to encourage donations to the Joanna Foundation Graduate Fellowship Fund.

If you have questions or would like to make a donation, please contact Dr. David Owens, Director of the Graduate Program in Marine Biology (843-953-9200) or the College of Charleston Foundation (843-953-5562).

#### Microbial Communities - Cont. from page 1

secreted adherent biofilms, which consist of diverse bacterial types and secreted exopolymeric slimes. The high density of bacteria in biofilms suggests that quorum sensing may be fundamentally related to population growth and biofilm physiology.

This research should lead to a better understanding of the processes of biofouling and may have applications in the field of bioremediation. In addition, several smaller projects with undergraduate students are ongoing. These include the study of: 1) seasonal and wave energy effects on the vertical migrations of benthic diatoms, 2) quantitative and qualitative effects on microbial community structure of defaunation protocols (freezing, sieving, and anoxia) in marine sediments, and 3) the effects of facultative deposit feeders on the structure of sedimentary microbial communities.

Dr. Craig Plante conducted his doctoral work in the Oceanography Department at the University of Washington under the tutelage of Dr. Peter Jumars. Immediately prior to coming to the College of Charleston in August of 1994, he was a post-doctoral associate at the University of Maine performing microbial ecology and biogeochemistry research with Drs. Gary King and Larry Mayer.

Dr. Plante's primary teaching responsibility at the College of Charleston is the undergraduate General Ecology course; he has also taught Environmental Studies, Benthic Ecology and Introductory Biology courses. He looks forward to teaching a graduate course in Marine Ecology in the fall.

# **New Graduate Students**

Gaëlle Blanvillain - Université Catholique de l'Ouest, Angers, France Christopher Bradshaw - Texas A&M University, Kelly Filer – University of Virginia Cara Fiore - State University of New York Rebecca Gregory - Hendrix College, AR Lori Homa - Cornell University Jennifer Ikerd - College of Charleston Eric Pante - College of Charleston John Robinson – Virginia Tech, Blacksburg, VA Jeffrey Schwenter - Lake Superior State University, Sault Ste. Marie, MI Lorimar Serrano – University of Puerto Rico Jacqueline Shapo – University of Rhode Island, Kingston, RI Julie Vecchio - Albion College, Albion, MI Amelia Viricel - College of Charleston

Melissa Yencho - Coastal Carolina University,

Conway, SC

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# Some Photos from the 30th Anniversary











DAVID MCLEAN '88 Chip Biernbaum Bill Hoffman '91



JOHN DWYER '94 Stuart Edmunds '93

PRESIDENT, COLLEGE

OF CHARLESTON PRESIDENT AND MRS.

LEO HIGDON

CAROLE BALDWIN '86

CHIP BIERNBAUM

ANDREA LEPARD '03 LISA CARTER '00

### Undergraduate Research - Cont. from page 1

and Technology. Students from around the country participate in the program that includes an intensive research experience, lectures, field trips to local marine habitats, and an overnight trip to the ACE Basin for a seminar in ethics. These students form a close knit group, working and learning together and living in the dormitories at the Grice Marine Laboratory. This program is supported by the National Science Foundation and is intended to stimulate students to consider careers in scientific research. Happily, these summer students have been applying to the Graduate Program in Marine Biology at the College of Charleston in record numbers as they have come to value the personal attention of the faculty and the collaborative research atmosphere at Fort Johnson.



### **Recent GPMB Degrees**

**Anne Blair** – Phenotypic variation and plasticity in *Leptogorgia virgulata* near Charleston, South Carolina (Advisor Phil Dustan)

**Jamie Colman** – Developmental toxicity of brevetoxins and ciguatoxins in Medaka embryos (Advisor John Ramsdell)

**Elizabeth Daniel** – Reproductive seasonality, maturation, fecundity, & spawning frequency of Red Porgy, *Pagrus pagrus*, off the southeastern United States (Advisor Jack McGovern)

**Marcus Drymon** – Age, growth and maturation of the Finetooth shark, *Carcharhinus isodon* in the Atlantic waters of the Southeastern United States (Advisor Pat Harris)

**Michelle Lee** – Reproductive biology and seasonal testosterone patterns of the Diamondback Terrapin, *Malaclemys terrapin*, in the estuaries of Charleston, South Carolina (Advisor Dave Owens)

**Jeannine Logan** – Contextual use of whistles in the Bottlenose Dolphin *Tursiops truncatus* (Advisor Arch McCallum)

Jeanine Miller – Stress responses in Karenia brevis: identification and response characterization of stress proteins and antioxidant enzymes (Advisor Fran Van Dolah)

Mark Renshaw – Use of microsatellites for genetic marking of hatchery-stock individuals in

genetic marking of hatchery-stock individuals in the wild as part of red drum (*Sciaenops ocellatus*) stock enhancement research in South Carolina (Advisor Bob Chapman)

Christopher Cecil Sharp – Life-history of the knobbed porgy, Calamus nodosus, on the continental shelf of North and South Carolina (Advisor Pat Harris)

#### Student Awards

Stephanie Brunelle – Best Student Oral Presentation Award, 2004 Marine Biology Graduate Student Research Colloquium, February 2004 (pictured below with keynote speaker Dr. J. Malcolm Shick).



Rusty Day – 2004 Conference of Southern Graduate Schools Master Thesis Award for the Life Sciences division at the CSGS Annual Meeting, February 20-23, 2004, in Charlotte, NC. Nathan Garcia & Joe Rafalowski – NSF Funded Low Country Partners for Inquiry Teaching and Learning Fellowship

**Jeremy Holman** (undergraduate)— 2<sup>nd</sup> place in Best Student Poster, Division of Comparative Physiology and Biochemistry, annual meeting of the Society of Integrative and Comparative Biology, New Orleans. January 2004.

**Noel Turner** – John A. Knauss Marine Policy Fellowship.

# Slocum-Lunz Foundation Helps Support Student Research

The Slocum-Lunz Foundation, created from the sale of the Bears Bluff Laboratory, has provided financial assistance to graduate students at Colleges and Universities of South Carolina since its inception. Dozens of College of Charleston students have received funding to assist in the research projects since the 1970s. Over the last five years, the Foundation has provided research funding to sixteen College of Charleston students. Among the studies funded are: the genetic population structure of groupers, cellular responses of oysters to low dissolved oxygen, a taxonomic study of blennies, and reproductive biology of diamondback terrapins.

The Foundation's Board of Trustees is currently chaired by David Whitaker, a graduate of the College of Charleston. Other board members include Dr. William Anderson of the

### **Research Colloquium**

The 7<sup>th</sup> annual Marine Biology Student Research Colloquium celebrated student research on February 20 and 21, 2004. The keynote speaker of the event was **Dr. J. Malcolm Shick**, a physiological ecologist and Professor of Biology at the School of Marine Sciences at the University of Maine. Dr. Shick is a scholar

internationally known for his broad interests in the physiology of a variety of marine organisms. His recent most research has focused on the use of molecules that act as sun screens in corals and other marine animals. The title of Dr. Shick's



keynote address on Friday was "Coral Sea to Côte d'Azur to Coast o'Maine: Field and Laboratory Studies of UV Sunscreens in Marine Organisms." Saturday was devoted to student research as 13 students highlighted their research accomplishments. The final talk in the Saturday session was by Dr. Shick who reflected on some historical views of research done at marine labs and his travels to a few of these labs in particular. A traditional oyster roast capped the weekend's activities. See photos at <a href="https://www.cofc.edu/~marine">www.cofc.edu/~marine</a>.

College of Charleston, Dr. Arnold Eversole of Clemson University, Dr. Robert Feller of USC, Dr. Amy Ringwood of UNC, Charlotte, Mr. Bill Roumillat of SC DNR, Mr. Skip Johnson of Columbia, Dr. Elizabeth Lunz of Atlanta, and Mr. Rick Stoughton (treasurer) of Charleston. The Board's policy is to provide 80 percent of all annual income, above required accounting costs, to students and the remaining 20 percent is rolled into the corpus. Board members receive no compensation.

The Foundation's annual grants to students have declined in recent years because declining interest rates have reduced the Foundation's income. To remedy this problem, the Board of Trustees is soliciting tax free donations to increase the organization's corpus. If graduates of the College's Marine Biology program are aware of entities wishing to provide tax deductible memorial gifts or gifts from fishing clubs, environmental organizations, or others, please contact David Whitaker (843-953-9392).



# **Faculty Notes**

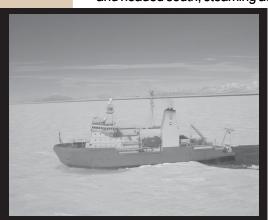
**Dr. Scott France** joined the faculty in the Dept. of Biology in 1999 as an assistant professor. After the fall semester of 2003 Scott left the College of Charleston to join the faculty at the University of Louisiana at Lafayette. Both Scott and his research on deep-sea benthic invertebrates will be missed.

**Dr. Gorka Sancho**, Dept. of Biology, and **Dr. Leslie Sautter**, Dept. of Geology and Environmental Geosciences teach a new ocean science course funded by the National Science Foundation titled "Oceanographic Research." In November 2003, they took students on a 5-day oceanographic research cruise on the RV Savannah to the continental shelf off Charleston. The students collected a broad range of oceanographic samples and data along a transect line perpendicular to the coast. During the course this spring these students will analyze data and conduct individual research projects, while learning about different oceanographic techniques.

Marine Biology Alumni Tell us what you are up to! marine@cofc.edu

# **Antarctic Explorers**

**Dr. Jack DiTullio**, his research associate **Sarah Riseman**, and his graduate student **Nathan Garcia** spent a month in Antarctica on an oceanographic research cruise. On December 18th they departed Lyttleton, New Zealand aboard the RVIB *Nathaniel B. Palmer* and headed south, steaming across the Antarctic



Circumpolar Current of the S o u t h e r n Ocean to the Ross Sea. The cruise was part of a research project to investigate the effects of iron availability and irradiance on Phaeocystis antarctica in

the Ross Sea. *Phaeocystis antarctica* is a major bloom-forming alga in Antarctic shelf waters where it is considered a keystone species in its impact on regional biogeochemical cycling and ecosystem structure. The primary goal of their

work aboard the *N.B. Palmer* was to collect and isolate strains of *Phaeocystis* spp. in order to bring them back to the College of Charleston where they could be maintained in culture for future laboratory-based experiments. Some of the lab experiments to be conducted will form the thesis research component of Mr. Garcia's



M.S. Degree. Once the algal samples had been collected and work was completed in the Ross Sea, the ship broke into the ice near McMurdo Station. DiTullio's group was flown via helicopter to McMurdo Station where they spent another week working with the algal cultures at the Crary Lab before returning back to Charleston in midJanuary. The *Phaeocystis* cultures were packed into a cooler with enough ice to keep them cold and were brought home as checked luggage. Despite being delayed in Chicago for about 12 hours, the cultures survived the long journey from Antarctica and are now being kept at 0°C in a lighted incubator at the Hollings Marine Laboratory in Charleston.

# Presidential Summer Research Award

This is a new award, made possible through the efforts of President Leo Higdon, for recruiting graduate students in both the Environmental Stuides and the Marine Biology graduate programs. The recipients will be selected by a scholarship selection committee. Scholarship recipients must be fully admitted, first year, degree-seeking graduate students. They must be excellent academically by virtue of their undergraduate grade point averages, research accomplishments, and/or other criteria that allows them to be labeled "top-ranked." Recipients must maintain a minimum GPA of 3.0 in order to remain eligible. The student must be enrolled full-time in the two terms preceding the summer of the initial award. This award may be granted for a second summer if the student receiving the award meets all the criteria stated above and has completed a total of at least 12 graduate hours of coursework in the two terms preceding the summer of the second award.



Bluefish. Check out <a href="www.mnh.si.edu/expeditions/galapagos">www.mnh.si.edu/expeditions/galapagos</a> (a USA Today "Hot New Site" winner in 2001) and www.mnh.si.edu.

**Greg Grabowski (1989):** After receiving his PhD from MUSC, Greg held a post-doc and faculty position at Harvard's School of Public Health. He is now the chair and physiologist of the Biology Department of the University of Detroit Mercy. His wife, Claudia, is pursuing her Master's degree in blood banking and pathology. They have three children (5, 9, and 13).

Bill Hoffman (1991): Following graduation, Bill took a position with the Smithsonian NMNH's Division of Fishes, where he soon became Manager of their Marine Ecosystems exhibit. He managed a public display that included four ecosystem aquaria, including a 2,000-gallon, all-live model of an Atlantic Coral Reef. When the exhibit closed, he went to the Smithsonian Marine Station in Fort Pierce, Florida. He is now Manager of the Smithsonian Marine Ecosystems Exhibit in the St. Lucie County Marine Center. Check out <a href="https://www.sms.si.edu/smee">www.sms.si.edu/smee</a>.

**John Dwyer (1994)**: John has worked as Academic Director of the Marine Science Consortium, Wallops Island, Virginia, where he

developed educational programs for pre-college students and Elderhostel, and as Assistant Director of the Environmental Studies Graduate Program at the College of Charleston. From 1998 to the present he has

been Assistant Director for Program Management of the South Carolina Sea Grant Consortium. His work covers projects from the micro (e.g., ecogenomics immunoassays) to the macro (e.g., hurricanes).

Brad Wiley (1996): After a couple of years researching fishes in Lake Tana, Ethiopia, Brad entered law school at Lewis and Clark University. After receiving his JD and a certificate in environmental law in 2001, he took a job with the NMFS in Arcata, CA. His primary responsibility is applying the Endangered Species Act for listed salmonids in Northern California.

Alice Palmer (2001): Alice is currently a Fish and Wildlife Biologist in the Ecological Services office of the United States Fish and Wildlife Service in Athens, Georgia. Her work involves such issues as wetlands, reservoirs, dams, anadromous fishes, migratory birds, endangered species, aquatic restoration projects, freshwater mussel surveys, and hydrologic modeling related to water rights and aquatic resources. She will marry Chuck Lawrence in October 2004.

Rich Cochran (1994): Rich is currently employed by the state of Tennessee as an Environmental Specialist in the Department of Environment and Conservation, Division of Water Pollution Control. He works in the Watershed Management Program doing a variety of things, including GIS, stream modeling and assessment, watershed monitoring, and public meetings. He is married to Lisa, who is a jewelry designer.

Shane Guan (1998): Shane is a Fishery Biologist at the US Fish and Wildlife Service's headquarters in Washington, DC. He is currently working with the US Coral Reef Task Force, which helps lead and coordinate US efforts to address the coral reef crisis. He and his wife live in Maryland. Check out www.fws.gov; www.coralreef.gov.

John Hayse (1987): After receiving his PhD from Miami University (in Ohio), John took a position with the Environmental Assessment Division of Argonne National Laboratory. His major responsibilities include evaluating and addressing effects of hydropower operations on endangered fish and trout in the Colorado River basin, developing environmental impact statements, and conducting ecological risk assessments for

Marine Biology Alumni

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contaminated sites. He and his wife, Susan, have two children (11 and 13). **Debbie (Weinheimer) King (1982):** After briefly working for the National Marine Fisheries Service and South Carolina

Coastal Council, Debbie took a position with the Corps of Engineers. She works primarily with dredging and disposal projects, beach nourishment, and other projects that impact aquatic habitats. She and her husband, Patrick, live in Charleston.

Mark Millikin (1983): Mark is employed by the NMFS's Office of Fisheries Conservation and Management in Washington, D.C., where he works on Magnuson-Stevens Act fishery management issues. He and his wife, Debbie, live in Chesapeake Beach, Maryland. One daughter is a student at Georgetown Law School, a son is a US Army combat medic, and their second daughter is a student at Salisbury University. Mark published a biography on baseball Hall-of-Famer Jimmie Foxx in 1998, and is now preparing a book entitled *The Glory of the 1966 Orioles and Baltimore*.

John Wise (1989): After receiving his PhD from George Washington University, John assumed his present position as Curator of Malacology at the Houston Museum of Natural Science. He has two children (17 and 20).





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# A Generation of Undergraduate Research, A Personal Note

It is not often that one gets to experience the pleasure of associations with undergraduate students the way I have this year. For over 25 years I have been privileged and lucky to have had many great students doing research in my



David Scholnick, Kevin Krajniak, Lou Burnett

lab. But this year is very special for me because it marks time in a special way. Many of my undergraduate researchers have gone on to fulfilling careers in science. Two of my very first undergraduate students have, in a way, returned to the fold at the Grice Marine Laboratory. Dr. Kevin Krajniak and Dr. David Scholnick are once

again partners with me as they were in the 1980's at the University of San Diego where I was a junior faculty member. Kevin is now a tenured associate professor at Southern Illinois University at Edwardsville and David is a tenured associate professor at Eckerd College in Florida. Both are on sabbatical leave and both are doing work with me and my students here at Grice. There is no better feeling than to be joined by two friends and colleagues in another adventure. I hope I played as much a role in their pursuit of a life of learning as they played in mine in getting me started in this profession those many years ago.

-Lou Burnett



# **Grice Coffee Mugs & T-Shirts**

The graduate students in marine biology are selling t-shirts and coffee mugs to raise money to support student travel to meetings and other activities.

- ★ Shirts, long sleeve \$13, short sleeve \$11, in variety of colors and sizes.
- ★ Coffee mugs, \$6 each or \$5 for 3 or more.
- ★ Get more information by emailing <a href="mailto:gricembgsa@hotmail.com">gricembgsa@hotmail.com</a> or call (843) 953-9200.

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