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FULBRIGHT BRINGS LIGHT TO CONSERVATION

Dr. David Owens, Emeritus Professor of Biology, shares his Fulbright Fellowship experience:

Every Fulbright experience is unique and depends primarily on the type of assignment and the country where you will be working. Our experience in Myanmar (aka Burma) in Southeast Asia was indeed unique in about any way you could imagine. Just emerging from 50 years of military rule, Nobel Peace Prize winner Aung San Suu Kyi's newly

formed democratic government was just taking over the very complicated leadership of this large country of 52 million people and over 58 distinct cultures. Our assignment was 80% teaching and 20% research at the country's top Marine Science university in the small city of Mawlamyine. The city sits at the mouth of the huge Thanwin river which originates in the Eastern Himalayas. This beautiful country has a coastline of over 2,500 km lined with enormous estuaries, mangrove forests, coral reefs, sea grass pastures and hundreds of islands of every form.



(Continued on page 3)

GML WELCOMES NEW STAFF



Julia Gorton joined the GML staff in October 2016 as the Lab Assistant. She grew up in Connecticut and graduated from the College of Charleston in 2015 with a B.S. in Marine Biology. As an undergrad at CofC, Julia rode on the equestrian team and took classes here at Grice. In the past, Julia

worked as a Biologist Intern at the South Carolina Aquarium where she learned husbandry techniques and educated guests about the animals and the conservation efforts of the aquarium. Last September, she sailed on the NOAA ship *Nancy Foster* to map fish habitat in Long Island Sound. Julia went offshore again in April 2016 to map aboard the NOAA ship *Shimada*. The researchers collected multibeam sonar to look at patterns in deep coral and sponge communities and to classify the habitat around the Channel Islands. Her job duties as lab assistant include maintaining the invertebrate and fish collection, taking care of live animals, maintaining lab equipment, and assisting with CORAL. In her free time, Julia loves to read and go to the beach. She also enjoys bringing her roommate's golden retriever Luna on walks around Charleston or the dog park.

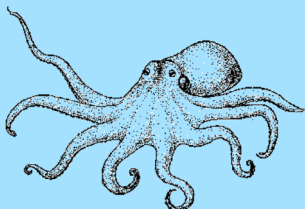


Katie Hiott joined the GML staff as the Administrative Specialist in January 2017. Katie provides administrative support for the GPMB and GML as well as general office management. She manages the REU application process, manages dorm occupancy, and handles the lab social media

accounts. She is very excited to be part of the GML team and is looking forward to the wide range of tasks and experiences at the lab.

After working in non-profit supporting programming, travel, and community service for girls, Katie went back to school to finish her degree. She completed an Associate of Science at Trident Technical College and then a B.S. in Marine Biology from CofC in May 2016.

Katie grew up in Youngstown, Ohio, and moved to Charleston in 2002. When not at work, she likes to spend time with her husband, Matt, and their animals: dogs Rose and Lucy and cats Charlie and Arthur Foo. She enjoys listening to and seeing live music, experimenting with new foods, and training for endurance events, when it's not too hot...or too cold...or raining.



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Graduate Program in
Marine Biology
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GRADUATE RESEARCH COLLOQUIUM

Grice Marine Lab Staff

Bob Podolsky

GML Director & Associate Professor of Biology

Craig Plante

GPMB Director & Professor of Biology

Shelly Brew

Administrative Coordinator

Greg Townsley

Laboratory Manager

Peter Meier

Marine Operations Manager

Katie Hiott

Administrative Specialist

Julia Gorton

Laboratory Assistant

Kristy Hill—Spanik

Molecular Core Facility Manager

The 20th annual Marine Biology Student Research Colloquium was held on September 30th and October 1st, 2016. The colloquium featured keynote speaker David Hastings, a paleoclimatologist and marine geochemist, and Professor of Marine Science and Chemistry at Eckerd College. Dr. Hastings's research has examined how rapid climate changes during the deglacial period (20,000 to 10,000 years ago) impacted the Gulf of Mexico and how the 2010 BP oil spill changed sediment redox conditions in the same area. He gave two addresses at this year's colloquium: "Six Years After the Deepwater Horizon Oil Spill: Impacts on Marine Sediments and Fish" and "Tips and Tales from a Non-Linear Career in Marine Science: 3 Ways to Succeed as a Graduate Student and Beyond." Ten marine biology graduate students and

one Environmental Studies graduate student gave oral presentations. Thirteen students presented posters of their thesis research. Kevin Mack received the best oral presentation award and Francesca Battaglia received the best poster presentation award. The colloquium concluded with a cookout and lowcountry boil for students, faculty, and colloquium attendees at the Marshland's House outdoor classroom.



David Hastings, Ph.D.
Eckerd College

MBGSA LEAVING RIPPLES IN THE COMMUNITY

The students of the Marine Biology Graduate Student Association (MBGSA) have had an active year engaging in educational outreach, community service, fundraising, and social events.

These events foster positive relationships and experiences among students and connect students with the Charleston community. In addition to annual internal meetings and activities, MBGSA does fundraisers to support educational outreach

and community service events. In September, the MBGSA partnered with Tides Folly Beach to deliver an educational program focusing on sharks during the Folly Beach outdoor movie night showing of *Jaws*. Students also volunteered in September for

the annual South Carolina Beach Sweep. This year's community service events also included the biannual Fort Johnson Road Cleanup during which students clear litter from the roadway and the bi-annual Green Garden Day during which students weed and beautify the Grice Green Teaching Garden and Wetland Garden. MBGSA also brought home 3rd place for Most Original float at the Folly Beach Christmas Parade. Finally, as the



MBGSA ready for 2017 Green Garden Day

spring semester came to a close, the MBGSA enjoyed organizing the second annual faculty/staff/student barbecue at Grice Marine Lab as a way of celebrating another successful academic year!

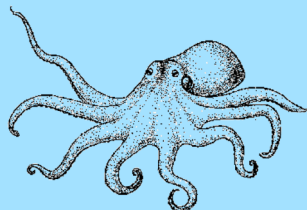
VISITORS ADD TO GML SCIENCE



Seepaulsing on GML grounds with pig

Although GML primarily serves resident faculty and students, we also hosted several visiting scientists this year. In August, Dr. Roberta Teta and Fulbright Scholar Professor Masimilliano Lega from the University of Naples, Italy visited to collaborate with Jack DiTullio and to complete a manuscript on cyanobacteria as indicators of water quality. Professor Lega also delivered a Fort Johnson seminar on environmental forensics. In Octo-

ber, Dr. Alistair Poore from the University of New South Wales, Australia visited the Sotka lab to collaborate on a manuscript on crustacean plant feeding and species richness. In February, Sarah Seepaulsing, a doctoral candidate in forensic microbiology from Fordham University, did a preliminary study on GML campus of postmortem microbial changes in swine carcasses (a proxy for human bodies). And in April, Dr. Julian Smith visited with a student from Winthrop University to compare meiofaunal communities between Folly Island and beaches they previously surveyed in North Carolina. We thank these and other visitors for enriching the scientific community at GML!



OWENS FULBRIGHT FELLOWSHIP (CONT.)

(Continued from page 1)

Imagine this! I am sitting in my little cubby preparing a lecture and still sweating from my 30-minute hike to campus when half a dozen of my graduate students swoop in and move me off rather forcefully to a large lecture room. There I find most of the other professors seated on stools on the small stage. They place me in the center of the teachers and then all the 20+ graduate students (PhD and MS) fall to their knees and place their faces on the floor with arms out straight pointing at us. They began chanting with the other teachers responding in Burmese (Myanmar's primary language). The students, who are mostly Buddhist, with some Christian and Muslim individuals, seemed to be praying to us. After this and while the students remained kneeling on the floor we were each given some beautifully wrapped gifts of clothing and food. The teachers then each gave little speeches (I have no idea what they were saying) after which the Department Chair insisted I also give a speech. I whispered, "What shall I say?" His response "Anything inspirational." So, I carried on for at least five minutes on the merits of advanced education and the value of science for their new democracy?! I found out later this is called the "Praise Ceremony," which is a long tradition in Myanmar education.

My teaching was essentially my Marine Tetrapods and Conservation Biology classes from the College of Charleston. Only there I focused on the adaptations of dugongs, saltwater crocodiles, Ayeyarwady (aka Irrawaddy) dolphins, hawksbills and green sea turtles, all critically endangered in Myanmar. I also lamented the loss of nearly 50% of their massive and diverse mangrove forests for use in making charcoal for cooking fires, while they export natural gas to China. The Myanmar Marine Science students were from all over the country, with many from the mountain zones, but most from the major coastal cities. To pay for their educations they were Teaching Assistants in the undergrad classes and made \$180 per month. With the help of my family and students, we organized the first ever Myanmar meeting of scientists, NGOs, and government workers interested in sea turtle conservation. The meeting was quite successful and we are now generating proposals for funding a new sea turtle conservation program in Myanmar.

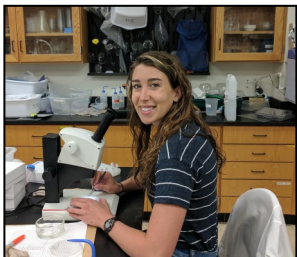
You can read Dave's blog post during his trip on the CofC Graduate School Blog at <http://bit.ly/2oRCzK9>



Dave speaking to his students during the Praise Ceremony

UNDERGRADUATE RESEARCH SPOTLIGHT

Lauren Lees will complete her undergraduate degree in Biology this spring. She shared some insights into her undergraduate research project a couple weeks before presenting her research at the 2017 Benthic Ecology Meeting in Myrtle Beach.



Q: Can you briefly summarize your undergraduate research project?

A: I work with Gracilaria vermiculopylla, an invasive red seaweed, in the Sotka lab. The diploid stage has become dominant in the invasive range, likely due to the shift from the rocky intertidal zone to a soft substratum. So my project was looking for differences between haploids and diploids to see if there is a fitness difference that could be described by phenotypic differences—including morphology, biomechanical properties, and protein concentration—that you can't see with the naked eye.

Q: What sparked your interest in working on this project?

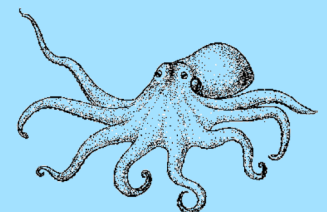
A: I first got into a biochem lab which I didn't really like because I wanted to have a broader reach and was able to be more inquisitive with ecology. I started out in the Sotka lab cleaning stuff, feeding the urchins, that kind of stuff. Then, the more I got into it the more I liked it and invasive species are always really cool to study.

Q: What are your future goals in science?

A: After I graduate, I am going to take a year off and work as a lab tech to get more experience before I apply to grad school. Then, I will go to grad school for a Master's Degree probably in Marine Ecology or Evolutionary Biology.

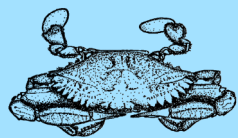
Q: What marine organism do you identify with?

A: I like the bioluminescing jellyfish. They go with the flow, but have a little punch in there, they are really fun and can stand out.



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FACULTY NOTES

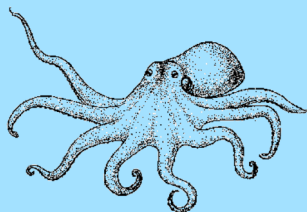


Burnett Lab: Graduate student Mark Lehtonen successfully defended his masters thesis in May 2016. The results of Mark's studies, which examined the delivery of oxygen to the gills of crustaceans exposed low oxygen alone or in combination with high levels of carbon dioxide, were published in the November issue of the *Journal of Experimental Zoology Part A: Ecology, Genetics and Physiology*. While she was a postdoctoral fellow in the Burnett Lab, Dr. Jillian Johnson used high throughput RNA sequencing (RNA-seq) to reveal unexpected molecular heterogeneity of the respiratory pigment in crustaceans. A major review of her work appeared in the December 2016 issue of *Integrative and Comparative Biology*. Last year Dr. Johnson joined Pfizer Pharmaceuticals as a Senior Scientist in their Pharmacogenomics Division in Groton, CT, where she and husband Nat Johnson (also a graduate of GPMB) are enjoying the dual challenges of work and raising their sons Anders and Hagen. **Karen Burnett** continues to work as a co-organizer of the NSF-sponsored Animal Genome-to-Phenome (AG2P) Research Coordination Network, which promotes and facilitates the use of RNA-seq approaches in comparative biology. After the January 2017 meeting of the Society for Integrative and Comparative Biology in New Orleans, LA, **Lou Burnett** began a two-year term as President of the Society. He is looking forward to the exciting work of helping to promote SICB science and scientists in the challenging times ahead.

DiTullio Lab: During 2016, Chief Scientist and PI Peter Lee led three expeditions to the Sargasso Sea aboard the R/V *Savannah* as part of the NSF funded project *RUI: Vitamin B12 and nitrogen regulation of oceanic dimethylsulfoniopropionate and dimethylsulfide*. GPMB graduate students Lena Pound and Aaron Burnham and CofC undergraduate honors students Sarah Kate Shore and Kirk McIntosh participated on the research cruises. Graduated student Jessica Snyder defended her MS thesis in Marine Biology and is currently completing her MS Degree as a Physician's Assistant at MUSC. Former graduate student Jacob Kendrick is now the Laboratory Manager at the Flow Cytometry Lab at MUSC. Former GPMB MS graduate and laboratory technician Nicole Schanke accepted a teaching position as an Instructor of Biology at Warner University, Lake Wales, FL. Former laboratory technician Tyler Cyronak is now a postdoctoral fellow at the Scripps Institution of Oceanography. Five manuscripts were published in 2016 including two in *Environmental Chemistry* (Lee et

al. 2016 and Lyon et al. 2016). The Lyon et al publication was another one from her Ph.D. dissertation (MUSC) research performed in our and Mike Janech's lab at MUSC. Dr. Lyon is currently a visiting assistant professor at Bowdoin College in Maine. Work related to ongoing studies by Lee on the microbial geochemistry and thermodynamics of life in subglacial lakes was published in the *Philosophical Transactions of the Royal Society* (Mikucki et al. 2016) The other papers were published in *Journal of Phycology* (Persson et al. 2016) and *Environmental Research Letters* (Teta et al. 2016). The latter publication was a result of a collaboration between Italian researchers and DiTullio during his Fulbright sabbatical in 2015. Several grant proposals were submitted by both DiTullio and Lee and are currently pending at federal agencies including NSF, NASA and NIH. Recently, tentative approval has been issued (pending resolution of the 2017 Federal budget) on a grant submitted to the NSF Office of Polar Programs for an Antarctic Expedition to the Ross Sea during the upcoming 2017/2018 field season.

Harold Lab: Our research continues with a focus on relative growth trajectories and form of jaw and pharyngeal teeth in the Naked Goby, *Gobiosoma bosc*. A poster based on some of the preliminary results and analysis was presented at the American Society of Ichthyologists and Herpetologists conference in New Orleans last summer and included undergraduate co-authors Miranda Brooker (volunteer), Tasneem Dossaji (BIOL 499), and Dana Warheit (BIOL 397). This year lab assistant Dana Norton and volunteer Geoffrey Gill have been continuing with the data acquisition phase of the project. Specimens archived in the GML Fish and Invertebrate collection are the main source of study material. Other activities from the lab during the last year have resulted in publication of a paper on an invasive *Bregmaceros* species in the eastern Mediterranean Sea (Harold and Golani, 2016, published in *Marine Biodiversity Records*),



A colleague on Tony Harold's SEA Colleague Voyage

FACULTY NOTES

co-authorship on the Red List of Marine Bony Fishes of the Eastern Central Atlantic (Polidoro *et al.*, 2017, in *Aquatic Conservation: Marine and Freshwater Ecosystems*), and a description of a new species of deep-sea hatchetfish (*Polyipnus notatus*) from off Taiwan (Harold, *et al.*, 2016 in *Zootaxa* and including undergraduate co-authors Iris Kemp and Sarah Kate Shore). Mary Ann McBrayer, GPMB, joined the lab this year and will be conducting her thesis research on life history of the Naked Goby, *Gobiosoma bosc*, with the assistance of committee members Bill Roumillat, Tracy Smart and David Wyanski (SCDNR). Also, a special recognition of the work of Morgan Hart (GPMB) who produced a collaborative manuscript (in press with *Herpetological Review*) on snake foraging by the bowfin, *Amia calva*, based on studies done in the graduate Ichthyology course (BIOL 632) in fall 2015. In January this year Tony participated in a Colleague Voyage on board the Sea Education Association's (SEA) brigantine SSV *Corwith Cramer*, sailing from Christiansted, US Virgin Islands, to San Juan, Puerto Rico. The Sea Education Association offers exceptional educational experiences for students from any discipline especially through their SEA Semester program.

Plante Lab: We continue to focus on marine microbiology, with particular emphasis this past year on the ecology of benthic microalgae. CofC undergrad Aubrey Butcher presented her Bachelor's Essay project that employed high-throughput DNA sequencing to characterize the effects of sand renourishment at Folly Beach on benthic microalgal communities at the National Conference on Undergraduate Research in spring 2016. Aubrey has since started a PhD program in biomedical sciences at MUSC. MES graduate student Kara Pettigrew is conducting a similar project studying the late 2014 renourishment Project at Tybee Island, GA. CofC honors student Zach Dellacqua is finishing up his Bachelor's Essay project that tested whether short-term changes in light (both natural and experimental) are responsible for previously observed day-to-day changes in BMA community composition on local beaches. Kacey Hirshfeld (also a CofC undergrad) was awarded a Summer Undergraduate Research with Faculty (SURF) award to test alternative mechanisms (differential growth or migration) for the rapid changes in biomass and community composition observed in benthic diatoms during tidal emersion. In addition, undergraduate Morgan Larimer continued her study of the nest microbiology of Olive Ridley sea turtles, which lay

eggs in mass nesting events (arribadas) and generally exhibit high embryo mortality. She used DNA sequencing to compare fungal and bacterial communities in high- and low-hatching success nests to test whether high metabolic activity due to abundant broken eggs or specific pathogens are causing nest failure. This spring she will present her work at both the Colonial Academic Alliance research conference in Elon, NC, and the Benthic Ecology Meeting in Myrtle Beach, SC.

Podolsky Lab: On sabbatical last year, Bob spent late spring at the H.R. Whiteley Center, located on the campus of the Friday Harbor Labs (FHL), University of Washington. There he developed a new first year seminar in human evolution, which he taught in fall 2016, and also completed a manuscript with a former graduate student, Suzanne Kacenas, related to work she did at FHL. During summer he worked with Gabi Carr, an undergraduate from Northwestern University, in the FHL REU program. In complementary studies, Gabi examined the effects of seawater CO₂ enrichment on development and shell deposition of encapsulated embryos in 15 species of gastropods that deposit gelatinous egg masses, while Bob examined pH profiles inside the same egg masses to understand the extent to which embryo respiration generates chronic low pH during development. Grad student Kevin Mack, who is co-advised by Dara Wilbur, is currently writing up his work on temperature sensitivity of the invasive crab *Petrolisthes armatus*, and Cameron Miller recently joined the lab as a co-advisee to continue work on this system. Undergrad James Peyla spent the summer in the Woods Hole REU program studying cephalopod skin before resuming work in the fall on the distribution of the euryhaline squid *Lolliguncula brevis* using "by-catch" samples from the SC-DNR crustacean monitoring program. James is using these records to compare squid distributions and sizes with similar records collected from the same stations in the 1980s. Finally, in the lab former Marine Bio graduate Tiffani Griffith-Dowty is collaborating with undergrads Carly Lovas and Darina Debenedictis in a study of the sensitivity of mud snail embryos to elevated CO₂ with and without capsular protection.

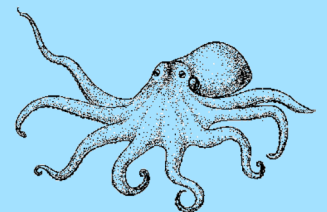
Sancho Lab: Robert Edman (GPMB) successfully defended his thesis characterizing the movements and dietary ecology of tiger sharks captures in

(Continued on page 6)

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Bob Podolsky with REU student Gabi Carr at the Friday Harbor Labs



RECENT GPMB DEGREES



GPMB students at commencement ceremony
May 2016

Hannah Bouchillon – Spatial Assessment of Bottlenose Dolphins (*Tursiops truncatus*) in Charleston Harbor, South Carolina: Influence of Biotic and Abiotic Factors (Advisor: Pat Fair)

Drew Duckett – Influences of Statistical Power on Studies of Population Genetic Structure, and Empirical Population Structure Analysis of the Shortfin Mako Shark (*Isurus oxyrinchus*) (Advisor: Gavin Naylor)

Bobby Edman – Movement Patterns and Trophic Ecology of Tiger Sharks (*Galeocerdo cuvier*) Caught in the Southeast United States (Advisor: Gorka Sancho)

Robin Frede – Low-Temperature Tolerance of Overwintering White Shrimp (*Litopenaeus setiferus*) in South Carolina (Advisor: Mike Denson)

Janessy Frometa – Effects of Oil and Dispersants on *Swiftia exserta*, A Structure-Forming Deep-Water Gorgonian Octocoral from Mesophotic Reefs in the Gulf of Mexico (Advisor: Peter Etnoyer)

Whitney Heuring – Sexually Dimorphic Weaponry in Monogamous Snapping Shrimp: Investigating the Roles of Seasonal Variation, Female Aggression, and Mate Choice (Advisor: Melissa Hughes)

Janelle Johnson – Observational Analyses for Diamondback Terrapin (*Malaclemys terrapin*) and Blue Crab (*Callinectes sapidus*) Behavior Associated with Trap Entry in the Blue Crab Fishery (Advisor: Amy Fowler)

Mark Lehtonen – Effects of Hypoxia and Hypercapnic Hypoxia on Oxygen Transport and Acid-

Base Status in the Atlantic Blue Crab, *Callinectes sapidus*, During Exercise (Advisor: Lou Burnett)

Nicole McNabb – Investigating Estrogenic Activity of the Dispersant Corexit 9500 in the American Alligator and Diamondback Terrapin (Advisor: Satomi Kohno)

Chris Mealey – A Genetic Assessment of the SCDNR Red Drum *Sciaenops ocellatus* Stock Enhancement Program and Forecasting the Genetic Influences of Continued Stocking in South Carolina Using an Individual-Based Model (Advisor: Mike Denson)

Kea Payton – Zooplankton Exposure to Microplastic at Estuarine Tidal Fronts and Implications of Trophic Transfer in Charleston Harbor, SC (Advisor: Phil Dustan)

Wiley Sinkus – Mercury Bioaccumulation in Offshore Reef Species from Waters of the Southeastern U.S. (Advisor: Virginia Shervette)

Jessica Snyder – Effects of Ultraviolet Radiation at Elevated Temperature and Light Levels on the Physiology and Biogenic Sulfur in the Sea-Ice Diatom, *Fragilariopsis cylindrus* (Advisor: Jack DiTullio)

Liz Vinyard – Age, Growth, Maturation, and Diet of the Finetooth Shark, *Carcharhinus isodon*, in the Coastal Waters of the Western North Atlantic Ocean (Advisor: Wally Bubley)

Margaret Walker – Species Distribution Modelling of Black Sea Bass (*Centropristis striata*) and White Grunt (*Haemulon plumieri*) (Advisor: Joey Ballenger)

Ann Wassick – Reproductive Characteristics and Behavior of the Green Porcelain Crab (*Petrolisthes armatus*) in its Introduced Range (Advisor: Dara Wilber)

Cameron Williams – Effects of Exposure to 17 β -Estradiol (E2) and Corexit-Enhanced Water Accommodated Fraction of Crude Oil (CWAF) In Vitro on Sex Determination in the American Alligator, *Alligator mississippiensis* (Advisor: Satomi Kohno)

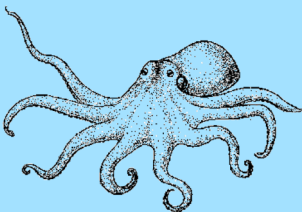
FACULTY NOTES

(Continued from page 5)

coastal waters of South Carolina. In collaboration with Bryan Frazier and the inshore fisheries group of SCDNR, we captured multiple tiger sharks over the last few years and attached them with satellite and acoustic tags. Bobby described how they spend a significant time swimming in coastal waters and often using shallow water coastal sounds in South Carolina during the spring and fall months. In the winter months, they seem to be driven offshore by cold water temperatures, some moving to the Bahamas. The capture of a few large female tiger sharks with very recent mating wounds indicates the importance of South Carolina coastal waters for mating in these large predators. Emily Clark (Marine Biology undergraduate)

measured the swimming capabilities of sheepshead minnows at various temperatures using Eric McElroy's flume at Grice. Gorka Sancho was on sabbatical leave in the fall, and was able to participate in tagging efforts of great white sharks off Cape Cod in collaboration with Greg Skomal from the Massachusetts Division of Marine Fisheries and the Atlantic White Shark Conservancy. Gorka was back to teaching Oceanography in the spring.

Sotka Lab: It was a year of transition, as we had to say "goodbye!" to long-established, fantastic lab members. Sarah Shainker and Paige Bippus graduated in May 2016. Sarah is in the Peace Corps doing working in the Philippines on marine environmental policy. Paige works in an envi-



FACULTY NOTES (CONT.)

ronmental engineering laboratory at Duke University, and was recently accepted into their PhD program with full 5-year fellowship support. Liz Duermit was accepted into the PhD program at the University of Florida to work on the ecology of stone crabs. Former postdoc Stacy Krueger-Hadfield started her tenure-track job in the Biology department of the University of Alabama at Birmingham. Glauco Barreto returned to Brazil after spending a productive year working on the nutritional ecology of marine herbivores. The Sotka lab also welcomed extended visits from long-time collaborators Alistair Poore (U. New South Wales, Australia) and Randall Hughes (Northeastern U). Remaining lab members are CofC undergraduates Lauren Lees and Olivia Drabiak and two GPMB

students, Ben Flanagan and Katie Harper. We continue to work on the microevolution of marine invasive species as a primary research focus, using the seaweed *Gracilaria vermiculophylla* and the amphipod *Ampithoe valida* as models. Finally, our collaboration with the Patriots Point Education Center and its leader, Hannah Giddens (CofC '06) has been highly successful. Since Spring 2015, 3990 K-12 children have helped to generate data on the population dynamics of the invasive seaweed *G. vermiculophylla* in Charleston Harbor, and we've helped train 340 teachers from across South Carolina.

(<http://www.patriotspointsciencespotlight.com/lamps.html>) for more details).

STUDENT AWARDS

Eric Andersson—Joanna Deep Water Fellowship (2017)

Francesca Battaglia—Best Poster Presentation Award at the Graduate Student Research Colloquium at the College of Charleston (2016), Presidential Summer Research Award (2017), Graduate School Research and Presentation Grant.

Baylye Boxall—Marine Genomics Fellowship, Graduate School Research and Presentation Grant, Slocum-Lunz Foundation research grant (2017)

Bobby Edman—Graduate School Research and Presentation Grant

Nicole Enright—Marine Genomics Fellowship

Ben Flanagan—Graduate School Research and Presentation Grant

Keilin Gamboa-Salazar—Best Poster Award at the 2017 SCFWA/SCAFS Annual Joint Meeting (2017), Presidential Summer Research Award (2016, 2017)

Rachel Grey—Nominated and elected to Sigma Xi Scientific Research Society (2016)

Elizabeth Gugliotti—McLeod-Frampton Scholarship (2017)

Katie Harper—Joanna Deep Water Fellowship (2017)

Morgan Hart—Second place Oral Presentation at the Graduate Student Research Colloquium at the College of Charleston (2016), Graduate School Research and Presentation Grant

Rachel Leads—Second place Masters Best Student Poster Presentation at the Society of Environmental Toxicology and Chemistry (SETAC) North America 37th Annual Meeting/7th SETAC World Congress (2016), Graduate School Research and Presentation Grant

Kevin Mack—Best Oral Presentation Award at the Graduate Student Research Colloquium at the

College of Charleston (2016), Graduate School Research and Presentation Grant

Chris Mealey—Knauss Marine Policy Fellowship (2017)

Christine Michael—Nominated and elected to Sigma Xi Scientific Research Society (2016)

Kea Payton—Graduate School Research and Presentation Grant

Meghan Reilly—Presidential Summer Research Award (2017)

Julia Reynolds—Second place Poster Presentation at the Graduate Student Research Colloquium at the College of Charleston (2016)

Victoria Ruddle—Second place at the College of Charleston Graduate School's Three-Minute Thesis Competition (2016), winner of the Applied Sciences and Mathematics category at the Tenth Annual Graduate Student Research Poster Session (2017), Best Student Oral Presentation Award at the 2017 SCFWA/SCAFS Annual Joint Meeting (2017), Graduate School Research and Presentation Grant

Kevin Spanik—Slocum-Lunz Foundation research grant (2017)

Megan Sporre—Marine Genomics Fellowship

Elizabeth Underwood—Slocum-Lunz Foundation research grant (2016), Graduate School Research and Presentation Grant

Margaret Walker—Nominated and elected to Sigma Xi Scientific Research Society (2016)

Nick Weber—Marine Genomics Fellowship

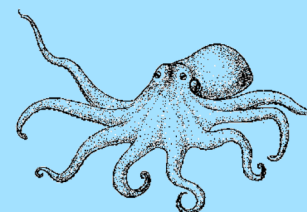
Emily Welling—Presidential Summer Research Award (2017)

Cameron Williams—Nominated and elected to Sigma Xi Scientific Research Society (2016)

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Julia Reynolds (l) and Francesca Battaglia (r), Second and First place Poster Presentation, respectively, at the Grad Student Research Colloquium



ALUMNI NOTES



New GPMB Students 2016-2017

Lorenzo Fruscella

Univ. of California, Santa Barbara

Elizabeth Gugliotti

Wofford College

Alina Hall

University of South Carolina

Sarah Kell

University of West Florida

Anna Kimelblatt

College of the Holy Cross

Mary Ann McBrayer

Dalton State College

Cameron Miller

College of Charleston

Teresa Popp

Saint Ambrose University

Zach Proux

Michigan State University

Meghan Reilly

Bucknell University

Amanda Slone

Wright State University

Kevin Spanik

Christopher Newport University

Megan Sporre

Coastal Carolina University

Graham Wagner

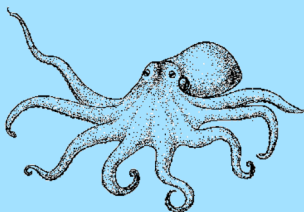
James Madison University

Nick Weber

University of Notre Dame

Emily Welling

Auburn University



Wendy (Nadik) Carricato (2002): After graduating, I moved back to Pittsburgh, Pennsylvania. In early 2003, I started working at the University of Pittsburgh, doing kidney research on zebrafish and *Xenopus*. Mid-2004, I began work at the University's DNA sequencing and Peptide synthesis facility. Late 2007, I transferred to my current position as lab manager at Pitt's Center for Craniofacial and Dental Genetics. I have worked on numerous projects including DENTAL SCORE (a study on the association of dental plaque buildup and heart disease), COHRA (studies on childhood caries prevalence), OFC (studies on oral facial cleft genetics), as well as many others. When I'm not working, I spend time with my husband and two children, helping to coach their numerous basketball and soccer teams as well as volunteering at their school.

David Cabrera (2000): After graduating, I began work at the National Institutes of Health (NIH) in Bethesda, Maryland. At NIH, I was laboratory manager in the Molecular Neuropharmacology Section at the National Institute of Neurological Disorders and Stroke from 2001-2009 before being accepted into the 2-year NIH Management Intern fellowship. Following my fellowship, I was a science policy analyst in the NIH Office of Science Policy and NIH Office of the Director. In 2013, I joined Van Andel Research Institute (VARI) in Grand Rapids, Michigan as Science Policy and Administrative Manager in the Office of the Chief Scientific Officer. I am now Chief of Staff in the Office of the CSO and a course director in the Van Andel Institute Graduate School. I serve on the Government Affairs Committee of the Association of Independent Research Institutes and am a member of the Society for Neuroscience, American Society for Pharmacology and Experimental Therapeutics, and Sigma Xi.

Jason Ferrante (2010): After completing my degree from the GPMB with Dr. Mike Janech, I moved to Gainesville, FL to begin my Ph.D. at the University of Florida. I was offered a position in the Aquatic Animal Health program within the graduate program in veterinary medical sciences. My research focused on using molecular and cellular biological techniques to investigate immune function in the Florida manatee. I spent

much of my time developing real-time, quantitative PCR assays. These allowed me to investigate viral loads in manatees and to define baseline mRNA levels of cytokines in a sub-population of FL manatees. After graduation, I moved to St. Augustine, FL where my wife Lauren (CofC class of 2008; M.A.T. Special Education) was finishing her first year of a doctorate in physical therapy. Since then we have married and now have a beautiful 5 month old daughter, Isabella. After graduating, I began a post-doc/contract position at the USGS in Gainesville working in a conservation genetics lab. My current research involves everything from continuing the manatee immune function research through using digital PCR to measure environmental DNA. Through eDNA studies, we are able to investigate water samples for cryptic species (both invasive and endangered) in management areas of concern. I am also studying manatee population genetics, moose genetics and immune function in response to climate change (I've become semi-terrestrial!), and performing yet more methods optimization and validation for wildlife studies.

Eric Zolman (1996): Since receiving my MSc from the College of Charleston I have continued to work as a contractor for NOAA's National Ocean Service right here at Fort Johnson. The primary focus of my work in the intervening 20+ years has been inshore bottlenose dolphins (*Tursiops truncatus*) in the southeastern U.S. In 2008 we completed a 5 year project that resulted in the first published abundance estimate of the "Charleston Estuarine System Stock" (the population of bottlenose dolphins resident to the greater Charleston area). We have also been heavily involved in research into the health of bay, sound, and estuarine dolphins, and subsequently coastal dolphins too, in southern Georgia. And in 2010 (and continuing to the present), we played a key role in the Natural Resource Damage Assessment process in the wake of the *Deepwater Horizon* disaster, specifically impacts to bottlenose dolphins in the northern Gulf of Mexico, specifically in central Mississippi Sound MS and Barataria Bay LA.

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