

Inside this Issue:

Graduate Research Colloquium	2
Fort Johnson REU Program	2
MBGSA	2
Undergraduate Research Spotlight	3
Faculty Notes	4
Recent GPMB Degrees	6
Student Awards	7
New GPMB Students	8
Alumni Notes	8
GML Social Media	8

OH SNAP! BEHAVIORAL ECOLOGY OF SONG SPARROWS & SNAPPING SHRIMP

How does a particular behavior help an individual – that is, “why does that animal do that?” – is the question that fascinates Biology Professor Melissa Hughes, especially when related to communication, conflict and social or sexual behavior.

After a meandering undergraduate research path that included fish respiratory physiology and giraffe foraging ecology, Melissa started graduate school at Duke University with some pitiful attempts to make sense of complex communication in lemurs and cowbirds before discovering snapping shrimp: delightfully pugnacious creatures with chemical, visual and acoustical signals as well as social systems that were seemingly simple. Studying the relationship between signal structure and honesty in snapping shrimp led to an interest in more structurally complex signals: bird song. She’s been studying some mix of bird song and shrimp ever since.

Melissa came to the College of Charleston in 2001, after post-docs at Duke, the Free University Berlin, and Princeton University. Contrarian by nature, her research often begins with,

(Continued on page 3)



WELCOME TO NEW MARINE FACULTY

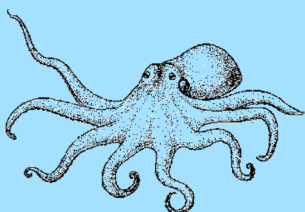
Heather Fullerton

joined the biology faculty at the College of Charleston in August 2017. She received her undergraduate degree in microbiology from the University of Washington, and PhD in microbiology from Cornell University. For her doctoral thesis, Heather studied organisms that detoxify carcinogenic compounds and developed a love for unique microbial metabolisms. To continue studying unique microbes Heather then moved back to Washington state for her post-doctoral position at Western Washington University. There she started her work with marine iron-oxidizing microbes, which were recently discovered at hydrothermal vents. Heather is continuing to research the dynamic environments of hydrothermal vents of the Pacific Ocean and is excited to search for the marine iron-oxidizers in the estuaries and coastline around Charleston. Heather enjoys bowling in her spare time and is Team Captain for the Punnett Spares, the Biology Department’s faculty/staff bowling team.



Matthew (Moshe) Rhodes

is an environmental microbiologist and astrobiologist. He moved to Charleston in August 2017 after a two-year stint in New York City, and he is very happy to be out of the big city! He received his undergraduate degree from Cornell University in Mathematics and Computational Biology and earned his doctoral degree from Penn State investigating the diversity and evolutionary history of life at extreme salinities (halophily). His subsequent post-doc focused on the human gut microbiome and its interplay with our immune system. His research program at CofC will focus on the mechanisms that halophiles employ to deal with the extreme salt concentrations of their environments and the impact that horizontal gene transfer has had on their evolution. He also loves to incorporate aspects of both his scientific passions (the human microbiome and extreme environments) into his teaching. When not at work he and his fiancé Kapri can often be found enjoying the Charleston culinary scene or out on the Frisbee field.



Grice Marine Laboratory
205 Fort Johnson Rd.
Charleston, SC 29412
843.953.9200
gricemarinelab.cofc.edu

Graduate Program in
Marine Biology
marinebiology.cofc.edu

GRADUATE RESEARCH COLLOQUIUM

The 21st annual Marine Biology Student Research Colloquium was held on September 23, 2017. The colloquium featured keynote speaker Dr. Billie Swalla, an evolutionary biologist and Professor of Biology at University of Washington's Friday Harbor Marine Lab. Dr. Swalla's research has examined molecular analysis of the evolution and development of the chordates. She gave the keynote address at this year's colloquium: "Origin, Evolution and Developments of the Chordates." Eleven marine biology graduate students gave oral presentations, and 14 marine biology students and one graduate student from the Citadel presented posters of their thesis research. Elizabeth Underwood won the best oral presentation award and Teresa Popp won the best poster presentation award. The colloquium concluded with a cookout and lowcountry boil for students, faculty, and attendees at the Marshland's House outdoor classroom.



Billie Swalla, Ph.D.
University of Washington

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

MARINE BIOLOGY GRAD STUDENT ASSOCIATION

The MBGSA has been active this year in educational outreach, community service, fundraising, and social events. These activities foster positive relationships among students and connects them with the Charleston community. This year the MBGSA took part in public education events at five Folly Beach movie nights and as part of the biennial Fort Johnson Open House sponsored by SCDNR. Fundraisers allowed the MBGSA to provide financial assistance to 22 students presenting their research at national and international scientific conferences. Fundraisers also supported MBGSA educational outreach, community service events, and Fort Johnson get-togethers, including the weekly TGIF social following the Fort Johnson seminar.

The MBGSA participates in monthly volunteer events, including clearing Grice Beach of litter, two road cleanups on our adopted highway on Fort Johnson Road, collecting more than 100 pounds of canned food for the Lowcountry Food Bank, and helping Habitat for Humanity with low-income home construction. At Grice, our students supported sustainability by maintaining the Grice Green Teaching Garden and Native Bog Garden. Social events aimed at bringing the Grice community together this year included a faculty/staff/student holiday party, a float with Octoclaus in the Folly Beach Christmas Parade, and a trip to a Stingrays hockey game. This year has been punctuated with many thesis defense parties celebrating students' hard work and successful completion of the graduate program. As the spring semester closes, the MBGSA looks forward to the second annual faculty/staff/student barbecue at GML to celebrate another great academic year!

FORT JOHNSON REU PROGRAM

In summer 2017, the Fort Johnson campus welcomed 10 undergraduate research interns from 10 states and all parts of the country. These students were selected from over 250 applicants to participate in the NSF-sponsored Fort Johnson Research Experiences for Undergraduates (FJ-REU) summer program. Working

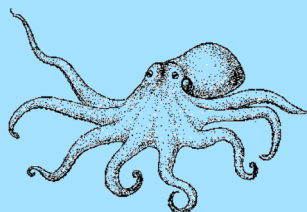


2017 REU Interns at the Angel Oak

with scientists from across the Fort Johnson campus, the interns addressed questions within the broad program theme of "Resilience and Response of Marine Organisms to Environmental Change," pursuing research problems that included the effects of environmental stressors and pollutants on corals, invasive seaweeds, echinoderm larvae, amphibian gametes, estuarine shrimp, manatees, phytoplankton, and macrophage as well as ecologi-

cal patterns in the distribution of benthic microalgae and larval fishes. Interns also participated in a weekly Science Communication Workshop Series (SCICOMM), led by science writer and educator Carolyn Sotka, which focused on how to take advantage of opportunities to publicize work, including the use of traditional press releases and social media tools

(check out the program blog at <http://blogreu.wordpress.com>). Interns also participated in workshops, field trips, and social events that provided opportunities for networking. Special thanks to all of the research mentors and program staff who helped to make the 2017 program a success! To learn more, visit <http://reu.cofc.edu>. (In late-breaking news, the FJ-REU program has been renewed by NSF for another three year cycle!)



OH SNAP!

(Continued from page 1)

“Well, that can’t be right...” Why else make the decision to study visual signaling in a species some assumed to be blind? Why else examine deception in a simple decapod at a time when those studying primates argued that deception required self-conscious cognition? In keeping with this practice, when writing a book chapter on crustacean territoriality, Melissa and former student Whitney Heuring (GPMB '16) recently argued that most spatial defense in crustaceans is not in fact classically territorial. Melissa’s lab is now questioning the assumption that sexually-dimorphic weaponry is evidence of sexual selection as well as exploring consistent individual differences (i.e. personalities) in shrimp and sparrows. In addition, she is working through projects from her long-term field study of song sparrows, including how song dialects evolve (a project involving over 70,000 recordings over 15 years in 3 populations) and, with biology faculty member Allan Strand, how females choose extra-pair mates. Collaborating with faculty members Chris Korey and Jason Vance on shrimp, she’s also studying the behavioral, morphological and neuro-plasticity underlying transformation over several molts of the small, unspecialized pincer claw into a large, specialized snapping claw when the large claw is lost.

Melissa teaches Animal Behavior and Ornithology, and is active in the Women’s and Gender Studies program. She recently completed the “Alan Alda Science Communication” program, sponsored by *Scientific American* and Stony Brook University, and hopes to do more science writing in the future (for samples, check out <https://www.scientificamerican.com/author/melissa-hughes/>). She lives on James Island with her husband, 3 cats (currently...), the second-oldest cockatiel known to our local bird vet, and an African grey parrot. She enjoys magical realism, non-competitive yoga, tai chi, and pretty much anything that involves being outside.



Credit: Arthur Anker Wikimedia (CC BY-SA 3.0)

One of Hughes’ study subjects, snapping shrimp

UNDERGRADUATE RESEARCH SPOTLIGHT

James Peyla will complete his undergraduate degree in Marine Biology this spring. As a rising senior he received the Navy League Council award from the Biology Department and has recently accepted a Fulbright Award to study cephalopods in Australia in 2019. He shared some insights into his undergraduate research.

Q: Can you briefly summarize your undergraduate research project?

A: I have been working on the distribution of Atlantic brief squid (Lolliguncula brevis) along the coast of South Carolina in order to understand some of the selection pressures that have pushed them into a unique ecological niche for cephalopods of tolerating brackish water. I am collecting data from specimens now and comparing them with data from thirty years ago to better understand how populations have changed.

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

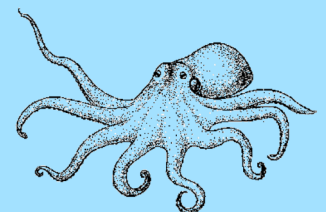
A: When I came to CofC, I came across Dr. Podolsky doing research on invertebrates and he said he was willing to support a project on squid if we could find an interesting question. That summer, I talked with a squid biologist I worked with at the Smithsonian who suggested looking into what the squid are doing in the estuary. Dr. Podolsky and I found some ideas in literature and then we talked with SCDNR about possible questions. I was able to pick up this project which was started in the 1980’s and am hoping someone will continue the work after I leave.

Q: What are your future goals in science?

A: I hope to be a university professor someday so I can combine research and teaching. I like the idea of academia because it allows me to ask questions that are of interest to me and academia promises the freedom to ask any question you want, as long as you can get it funded.

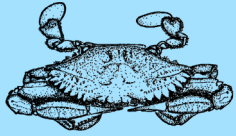
Q: What marine organism do you identify with?

A: It would have to be a cephalopod, I think a cuttlefish. They are really good at changing color, which has always caught my eye. Their ability to solve problems in unique ways has always been fascinating to me. I definitely have a logical and emotional connection to them.



Be sure to Like
us on Facebook!
[www.facebook.com/
GMLCofC](http://www.facebook.com/GMLCofC)
and
[www.facebook.com/
GPMBofC](http://www.facebook.com/GPMBofC)

FACULTY NOTES



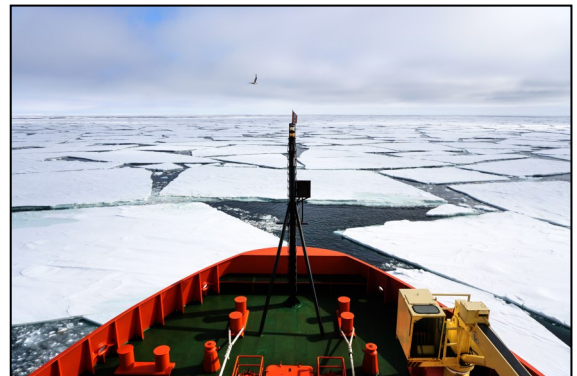
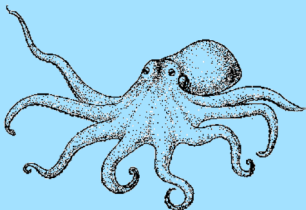
Burnett Lab: The Burnett lab continues to work on a number of projects. Shrimp treadmill studies continue to assess the effects of black gill disease on the ability of shrimp to perform at various levels of activity and in various levels of oxygen. This project is in collaboration with the Marine Resources Research Institute at SCDNR. The lab also continues to assess the impacts of environmentally-relevant low oxygen and high CO₂ on gene expression in blue crabs.

deBuron Lab: On sabbatical leave last year, Isau-re deBuron spent most of her time tying up loose ends on several ongoing studies and working abroad between Europe and Africa. In particular, thanks to support from the SCDNR and colleagues from Oregon State University, the temporal infection pattern of the seatrout muscle myxosporean was resolved. Furthermore, an ongoing collaboration with Dennis Kyle (CTEGD, UGA) and financial support from the Belle Baruch Foundation led to the exciting discovery of the first cycles of fish blood flukes in the Americas. This now makes a whopping six known cycles worldwide for these important fisheries parasites and students in the laboratory are currently working on identifying more of these life cycles. Also, thanks to Kristy Hill-Spanik (GML, CofC Molecular Core Facility Manager), the lab made major strides in identifying molecularly numerous ascaridoid larvae collected from local fishes provided by the SCDNR during the spring of 2016 - stay tuned for results but in general, it's best to avoid home-made sushi.... While abroad, Isau-re did some wildlife parasites consulting with Dr. Viktoria Majlathova (Slovak Academy of Sciences), who will join the lab next spring as a Fulbright Scholar co-hosted by Eric McElroy (CofC) and Vince Connors (USC-Upstate). She also kept involved with students: In Cameroon, she mentored graduate students on the field collection of endoparasites; at the University of Rabat, Morocco, she was an invited presenter, along with other researchers from Belgium and France, at a workshop that aimed to facilitate the training of graduate students and young professionals dealing with aquatic parasites in Africa. An exploratory trip to a hypersaline ecosystem in Southern Morocco where novel fish parasites were discovered opened a new and exciting line of research. Monogenean expert Walter Boeger (Universidade Federal do Paraná, Brazil) visited the lab for 3 months in the fall of 2017 to initiate a study on the effects of sea level changes on parasite diversity— yet, another line of research to pursue with students in the future!

DiTullio Lab: Jack DiTullio and co-PI Dr. Peter Lee were recently awarded two new 3 year NSF grants (2017-2020) through the OPP-Antarctic and Organisms Program and the Arctic Sciences Program. This past winter a 77 day expedition was completed aboard the RV/IB *Nathaniel B. Palmer* to study biogeochemical processes in Antarctic coastal waters. The expedition left from Punta Arenas, Chile in mid-December, 2017 navigated along the Antarctic Peninsula into the eastern Ross Sea and arrived in Hobart Tasmania on March 3, 2018 following a 3 day port call at McMurdo Station. Cruise participants included former students Nicole Schanke, MS (2014) and Lauren Lees, BS (2017) as well as former Grice post-doctoral associate Dr. David Jones (Rutgers Univ). In addition, Ph.D candidate Francesco Bolinesi (University of Napoli, Italy) and marine technician Pasquale Castagno (University of Napoli) were also part of the CofC team. The project, in collaboration with Woods Hole and Stanford, investigated *Cobalamin and Iron Co-Limitation Of Phytoplankton Species in the Ross Sea (CICLOPS)*. This summer's high Arctic cruise to the North Pole will depart Longyearbyen, Svalbard on August 1 and return to Tromso, Norway on September 25, 2018 aboard the Swedish icebreaker RV/IB *Oden*. The expedition is part of a USA-Sweden research initiative (Arctic Ocean 2018) to investigate the production and fate of aerosols to the atmosphere in the high Arctic. The CofC team will also include Nicole Schanke and Francesco Bolinesi. The CofC contribution to the international project is entitled "*Microbial Oceanography Links to New Aerosols in Ice-Covered Regions in the Arctic Ocean.*" The project will investigate the link between microbial community composition and physiology with the production of volatile organic compounds that lead to aerosol formation. During the 2017-18 academic year, 5 peer-reviewed papers were published including one in Nature-Microbiology with two more in press (see DiTullio faculty website). GPMB grad student Lena Pound completed her MS thesis in

Follow us on Instagram!

@gricelab



The RV/IB *Nathaniel B. Palmer* breaking ice.

FACULTY NOTES

(Continued from page 4)

August, 2017 (Lee, major advisor) and is now a Ph.D candidate at the Univ. of Tennessee. Kirk McIntosh is now completing his CofC Honors undergraduate Bachelor's Essay in our lab (McIntosh, BS; May 2018).

Harold Lab: Current research continues with a focus on relative growth trajectories and form of jaw and pharyngeal teeth in the Naked Goby, *Gobiosoma bosc.* A poster on this work was presented at the 2017 American Society of Ichthyologists and Herpetologists conference in Austin, Texas, and included undergraduate co-authors Miranda Brooker (volunteer), Tasneem Dossaji (BIOL 499) and Dana Warheit (BIOL 397). This year Harold's lab assistant, Geoffrey Gill, has 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. Melanie Herrera joined the lab as an NSF REU intern during summer 2017 and helped to establish a new project on patterns of abundance and diversity of larval and juvenile fishes inhabiting algal beds dominated by the invasive alga *Gracilaria vermiculophylla* in Charleston Harbor. Undergraduate independent study Madison Martin worked on obtaining fish specimen length data for all the vouchers and presented a poster on the analysis at the 2018 School of Sciences and Mathematics Poster Session. Other activities from the lab recently have resulted in co-authorship of the Red List of Marine Bony Fishes of the Eastern Central Atlantic, and description of a new species of deep-sea Bristlemouth (*Gonostoma dracula*) from the Eocene of Romania. Graduate students Mary Ann Taylor and Nikki Enright (GPMB) continue with their ongoing research. Thanks to the Marine Resources Research Institute (SCDNR) at Fort Johnson, for resources in aid of Mary Ann's histological work.

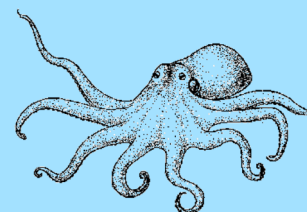
McElroy Lab: The McElroy lab continues to keep one foot in saltwater and the other on dry land. GPMB graduate student Emily Welling quantified the effect of digestion on metabolic rate in juvenile cobia (*Rachycentron canadum*). She presented her findings at the Annual Meeting of the Society for Integrative and Comparative Biology in San Francisco, California. Emily is currently completing data collection for her thesis project, which will quantify the effect of temperature on aerobic scope and metabolic rate in juvenile red drum (*Sciaenops ocellatus*). Graduate student Zac Lane studied the effect of flow rate and food presence on the feeding behavior of the sea turtle barnacle (*Chelonibia testudinaria*) and plans

on graduating in Summer 2018. On dry land, the McElroy lab continued its work on introduced populations of the Texas Horned lizard (*Phrynosoma cornutum*). MES student Kristen Gold finished her study of the sand dune invertebrate communities at Sullivan's Island and their relationship with horned lizard presence. She will defend her thesis in Summer 2018. At SICB 2018, McElroy presented the results of three years of work comparing introduced horned lizard to their native counterparts in Texas. Finally, McElroy completed a comprehensive book chapter on anti-predatory behavior in lizards for a forthcoming book on lizard behavior. The chapter is the first comprehensive review in ~30 years. Finally, the dry (lizard) part of the McElroy lab will be moving into the renovated space at the Rita Hollings Science Center. The flumes, metabolic equipment, and muscle testing rigs will remain at MRRI to continue supporting collaborations at Fort Johnson and mentoring of GPMB students.

Plante Lab: Research continues to focus on marine microbiology, with recent emphasis on the ecology and biogeography of benthic microalgae (BMA). Craig Plante presented work on a biogeographic study of benthic diatoms on South Carolina barrier island beaches at the 11th International Phycological Congress in Szczecin, Poland in August (this work was conducted with former REU summer intern, Jessica Lowry, and Kristy Hill-Spanik). CofC honors student Zach Dellacqua finished up his Bachelor's Essay project that tested whether short-term changes in light (both natural and experimental) were responsible for previously observed day-to-day changes in BMA community composition on local beaches. Christine Hart, a Clemson student that spent the summer at Grice as an REU intern, conducted field experiments designed to determine whether those short-term changes in BMA communities during tidal emersion were due to differential growth or vertical migration of specific diatom populations. MES graduate student Kara Pettigrew is finishing up her study looking at the disturbance and recovery of BMA following the 2014 renourishment project on Tybee Island, GA. 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



Red drum in experimental flume set-up



(Continued on page 6)

Follow us on Twitter!
@GriceMarineLab

RECENT GPMB DEGREES

Visit us online!
gricemarinelab.cofc.edu
 or
marinebiology.cofc.edu

Rebecca Balazs – Spermatogenesis Zonality and Age of Sexual Maturity in Male Common Bottlenose Dolphins (*Tursiops truncatus*) Stranded in South Carolina, USA (Advisor: Lori Schwacke)

Ben Flanagan – Rapid Evolution of Thermal Tolerance and Genomic Divergence During the Invasion of a Prolific Non-Native Red Seaweed, *Gracilaria vermiculophylla* (Advisor: Erik Sotka)

Keilin Gamboa Salazar – Age and Size Dependency of Spawning, and Effects on Egg Production, in Gag and Scamp Grouper off the Southeastern U.S.A. (Advisor: Wally Bubley)

Rachel Grey – Invasive Lionfish Biology Among Four Areas of the Western Atlantic and Caribbean (Advisor: Virginia Shervette)

Zaida Hager – Effects of Venting and Recompression on Post-Release Behavior and Mortality of Snapper-Grouper Species (Advisor: Marcel Reichert)

Katie Harper – Cryptic Lineages and Hybridization in a Cosmopolitan Marine Invertebrate (Advisor: Erik Sotka)

Kevin Mack – Populations of the Green Porcelain

Crab, *Petrolisthes armatus*, Vary in Cold Tolerance Within the Species' Northernmost Invaded Range (Co-Advisors: Dara Wilber and Bob Podolsky)

Christine Michael – Gathering of Life History and Diet Data for Six Forage Fish Species Common in Reef and Near-Shore Habitats of the South Atlantic Bight (Advisor: Tracey Smart)

Lena Pound – Impact of Vitamin B₁₂ and Nitrate on Dimethylsulfoniopropionate (DMSP) Concentrations in Marine Diatoms (Advisor: Peter Lee)

Julia Reynolds – Effects of Model Design and Environmental Variables on Juvenile South Atlantic King Mackerel, *Scomberomorus cavalla*, Abundance (Advisor: Tracey Smart)

Hannah Sassman – Intergenerational Effect of Exposure to Crude Oil and Dispersants on the Estuarine Sheepshead Minnow *Cyprinodon variegatus* (Advisor: Paul Pennington)

Jordy Taylor – A Geometric Morphometric Approach to Identify Patterns of Tooth Shape in Extant and Fossil Elasmobranchs (Advisor: Gavin Naylor)

FACULTY NOTES

(Continued from page 5)

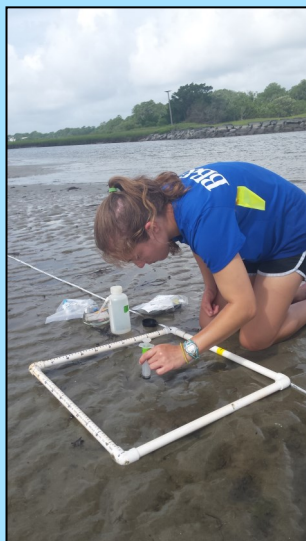
sequencing and bioinformatics to compare fungal and bacterial communities in high- and low-hatching success nests to test whether high metabolic activity due to abundant broken eggs or specific pathogens caused nest failure. She presented her work at both the Colonial Academic Alliance research conference in Elon, NC, and the Benthic Ecology Meeting in Myrtle Beach, SC.

Podolsky Lab: Studies focused this year on several invertebrate systems and on the ecology and physiology of several life history stages. Undergraduate James Peyla, assisted by CofC undergrad Darina DeBenedictis, has been steadily collecting data on the squid *Loliguncula brevis* in coastal waters of South Carolina. This species, one of the only cephalopods with tolerance of low salinity, is collected as bycatch by the SCDNR crustacean monitoring program. We are comparing data that James is collecting to similar data collected by David Whitaker at DNR in the 1980s, focusing on how abundance and distribution of the squid have changed over a period that has included massive development of the SC coast. During summer 2017 the lab hosted Hailey Conrad, an undergraduate from Rutgers University, for research as part of the Fort Johnson REU program. Hailey tested whether a population of the sea urchin *Arbacia punctulata* from the northern Atlantic showed genetic variability

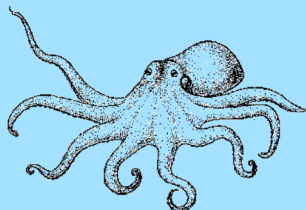
for resistance to ocean acidification (OA) during larval development, paralleling a study done by another REU student three years earlier on a local population of *A. punctulata*. In collaboration with Hailey, CofC undergraduate Carly Lovas carried out a parallel study looking at genetic variability for resistance to OA during gamete fertilization. Doing the studies in parallel allows a test for genetic correlation between two life-history stages where the effects of OA are likely to involve different mechanisms. In May 2017, Kevin Mack, a graduate student in the lab co-advised by Dara Wilbur, successfully defended his Master's thesis on the invasion biology of the porcelain crab *Petrolisthes armatus*. Kevin's research involved both field studies of the effects of *P. armatus* on natural crab assemblages and laboratory studies of their tolerance of extreme cold, which is thought to have limited poleward range expansion of the species. In August 2017 Bob Podolsky presented research at the 11th International Larval Biology Symposium in Honolulu, Hawaii, focusing on correlations across species between measurements of the pH gradients inside of gastropod egg masses created by embryo respiration and the resistance of embryo development to OA.

(Continued on page 7)

Sancho Lab: Nick Weber (GPMB) successfully had his first field season sampling blacktip sharks in



Christine Hart, REU Intern
 sampling in Grice Cove



STUDENT AWARDS

Erik Andersson won second place for Best Platform Presentation at the 2017 Annual Meeting of the Carolina's Chapter of the Society of Environmental Toxicology and Chemistry (CSETAC) last May (2017).

Amanda Bayless and **Graham Wagner** received Joanna Deep Water Fellowships (2018).

Hannah Becker, **Alejandra Enriquez**, **Megan Sporre**, and **Nick Weber** received Marine Genomics Fellowships.

Danielle Beers, **Jessica Karan**, **Meghan Reilly**, and **Emily Welling** were awarded Presidential Summer Research Awards from the College of Charleston.

Baylye Boxall, **Kevin Spanik**, and **Nick Weber** received Slocum-Lunz Foundation research grants.

Elizabeth Gugliotti was awarded the McAlister Fellowship and a McLeod-Frampton Scholarship from the South Carolina Agricultural Society.

Elizabeth Gugliotti, **Graham Wagner**, and **Emily Welling** and were nominated and elected to Sigma Xi Scientific Research Society.

Zac Lane won 1st place at the 12th Annual Gradu-

ate Student Research Poster Session as well as the People's Choice Award at the 2017 3MT Competition.

Rachel Leads won first place for student presentations at the 2017 Carolina SETAC meeting, and first place Master's Best Student Platform Presentation at the Society of Environmental Toxicology and Chemistry 2017 Annual Meeting. She also won second place for oral presentations at the GPMB student research colloquium.

Teresa Popp won Best Poster Presentation at the GPMB student research colloquium. **Emily Welling** won second place.

Elizabeth Underwood won Best Oral Presentation at GPMB student research colloquium. She also received the Thurlow C. Nelson Award for best presentation at the 2016 National Shellfisheries Association Annual Meeting.

Nick Weber won the Best Poster Award at the 2018 SCFWA/SCAFS Joint Annual Meeting.



Zac Lane presenting his First Place poster at the 12th Annual Graduate Student Research Poster Session

FACULTY NOTES

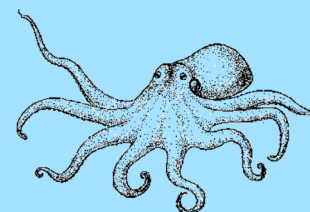
(Continued from page 6)

conjunction with multiple local recreational anglers. His thesis on the stress response and post-release mortality of blacktip sharks captured in recreational fisheries keeps him awake, spending most weekends fishing for sharks at night at local beaches. In collaboration with Bryan Frazier and the inshore fisheries group of SCDNR, plus Mike Janech from MUSC, Nick hopes to determine how stressed are these sharks after fighting with anglers, and if they survive handling after capture. In the coming months you will see Nick with his portable physiological lab and surf-rods on some local beaches at night, drawing blood and attaching satellite tags to large sharks. He is loving it. This spring Brittney Parker (MES) joined the lab to start a study measuring the intake of microplastics by different fish species in Charleston Harbor. In collaboration with SCDNR she will be collecting fishes this summer, and then processing their stomachs to identify and quantify plastic and tire fragments ingested by different species of fishes. We apologize in advance for the possible associated fishy odors on the days she processes her stomach samples. Alison Gaffney (Marine Biology undergraduate) spent the last year working on her senior thesis describing population and diversity changes to the shark

community over the last 20 years in Bulls Bay, using historical sampling data from SCDNR. Kim Schmutz and Kim Darville (Marine Biology undergraduates), in collaboration with Bill Roumillat (CofC Adjunct), worked on the reproduction and aging of Gafftopsail, analyzing gonads and otoliths throughout the fall. Gorka Sancho taught Biology of Fishes and Oceanography classes, and travelled to the Ocean Sciences meeting in Portland, Oregon to present work on the movements of Tiger Sharks off the coast of South Carolina, and participate on a sampling trip for large POC in coastal Oregon rivers in collaboration with colleagues from Oregon State University.

Strand Lab: This year the Strand lab continued their 7 year program to generate gene copy numbers from Arabidopsis mutant lines to support the unPAK (<http://arabidopsisunpak.org/>) project. In addition, they have two new projects that are newly underway. First Megan Sporre (GBMP) is estimating parentage in diamondback terrapins in Charleston Harbor. This work will allow her to develop a functional relationship between the proportion of males in a population and the amount of multiple paternity in this species for the first time.

(Continued on page 8)





New GPMB Students 2017-2018

Courtney Bayles

Charleston Southern University

Hannah Becker

Saint Vincent College

Danielle Beers

Univ. North Carolina, Wilmington

Peter Bergeson

University of Utah

Alejandra Enriquez

New Mexico State University

Breanne Hanson

University of Utah

Katie Hoffman

Univ. North Carolina, Wilmington

David Jones

Old Dominion University

Jessica Karan

University of South Carolina

Julie Loewenstein

Roger Williams University

Alyssa Marian

Nebraska Wesleyan University

Edwina Mathis

Clemson University

Tessa Pfeifer

Univ. North Carolina, Wilmington

Chris Pickens

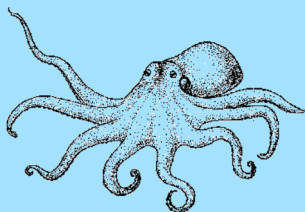
Oberlin College

Caroline Vill

American University

Sarah Zuidema

Gordon College



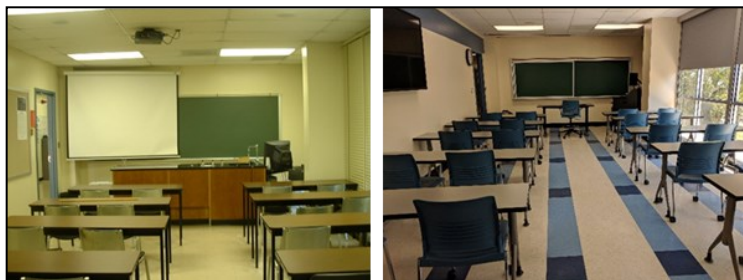
ALUMNUS NOTE

Katie Anweiler (2013): After finishing my studies at Grice Marine Lab, I stayed in Charleston and continued working with the Marine Stock Enhancement Section at SCDNR. There I had the opportunity to learn about fish husbandry techniques, tank systems, and fish production, while also continuing experimental lab work on spotted seatrout and striped bass. I now work for the Inshore Fisheries Section of SCDNR. We conduct surveys to investigate estuarine-dependent finfish

species. Through these surveys we are able to collect data on the life-history characteristics and abundance of select inshore species, thereby helping resource managers effectively manage recreational fisheries. My current work allows me to split my time between field surveys, lab work, and interacting with volunteers. This provides my coworkers and me an opportunity to meet people of all ages around the state that are interested in marine biology and our natural resources!

FACILITY UPDATES

GML experienced several improvements over the last year. In summer 2017, the wet and dry classrooms in the GML Main building benefitted from significant renovation including audio-visual upgrades, new and expanded chalkboard space, new ceilings and lighting arrangements and changes to their appearance with floor and wall accents. The dry classroom, GML 202, also benefitted from installation of much-needed electronic blackout shades, improved electrical access and new furniture. In addition, a recycling dumpster was added to provide weekly pickup, a composting barrel is serving the dorm kitchen and conference room kitchenette, and four new kayaks were added to our fleet. Finally, all GML staff offices have been relocated to the north side of the GML Annex building, improving privacy and security for dorm residents.



Room 202 before (left) and after (right) recent upgrades

FACULTY NOTES

(Continued from page 7)

Second Allan Strand is working on a set of coupled genetic/fossil/environmental reconstruction models to characterize relatively recent species range expansions.

Sotka Lab: In 2017, Ben Flanagan successfully defended his MS in Marine Biology, and began his fully-funded PhD candidacy at the University of Southern California to work on molecular genetics of aging. Katie Harper also successfully defended her MS in Marine Biology, and continues to work

part-time in the laboratory, helping to finish a couple of side-projects. CofC undergraduate Lauren Lees graduated with a BS in Marine Biology, and went to Antarctica with Dr. Ditullio for 77 days at sea. She reports no scurvy. Olivia Drabiak and Kenzie Hammers continue their work on the genetics of ancient salt marshes and ecology of invasive *Gracilaria*, respectively. Erik Sotka was on sabbatical for Fall semester 2017, largely staying on campus to think (for once).

GML SOCIAL MEDIA

Follow us on Facebook, Twitter, Instagram, and our blog!
Send updates, lab pictures, article links, and your handle to
Katie Hiott at hiottkm@cofc.edu.



www.facebook.com/GMLCofC
www.facebook.com/GPMBCofC



@GriceMarineLab



@gricelab



blogs.cofc.edu/gricemarinelab

**Alumni* Please expand our alumni notes. Send updates!*