

PLEASE DO NOT PRINT THIS!

Welcome New and Returning Biology Students

Sustainability at SU



ANNOUNCEMENTS

Salisbury University is taking great efforts to make the campus and community more sustainable. Please go to the following website to find out how you too can help.

<http://www.salisbury.edu/president/sustainabilityinitiatives/index.html>

The Faculty at SU have been very busy this summer. Read below to find out how we have spent our summer vacations.

The Biology Faculty at SU are engaged in a number of projects that provide students with an opportunity to experience a research environment, whether in the field or laboratory. Please contact faculty members for their current research projects and openings in their labs. You can also go to the following webpage <http://www.salisbury.edu/biology/faculdir.html> to learn more. Start young, you will enjoy the experience.

The Fall 2009 Biology Seminar Series is posted:

http://faculty.salisbury.edu/~rlgutberlet/biology_seminars.html

The IACUC would like to remind all faculty members that vertebrate animal use requires an approved protocol BEFORE they can be ordered. In addition, there is online training required for all individuals using vertebrate animals. This process can take time, so plan ahead. The next deadline for protocol submission is October 1st for review on October 15th. Please don't wait until the week before you have lab to submit the protocol because we cannot guarantee approval. If you need help developing a protocol, please don't hesitate to ask.

UPCOMING EVENTS

September 19, 2009 Maryland Coast Day, Assateague State Park, Berlin, Maryland

The Assateague State Park grounds will turn into a world of wildlife, entertainment and environmental education when visitors flock to the barrier island park for the festival, replete with live animals, Eastern Shore eats, music, and arts and crafts. <http://www.mdcoastalbays.org/>

September 19, 2009 Chesapeake Bay Environmental Center, Grasonville, Maryland
Get on your best leather and tune up your motorcycle for a ride to benefit the Chesapeake Bay Environmental Center. Food, music and more!

October 2, 2009 - Decoys of Long Island - Ward Museum, Salisbury, Maryland
Long Island's extensive coastline, barrier beach and salt marches host a variety of water systems that attract an equally wide variety of ducks, geese and shorebirds. Long Island decoy carvers have used many types of materials, including cork from old life preservers and wood from fence posts. Exhibit features a sampling of brant, duck, goose and shorebird forms, as well as an assortment of the region's unusual confidence decoys. <http://www.wardmuseum.org>

October 3, 2009 - Field Sketching with Nancy Thompson - Ward Museum, Salisbury, Maryland
Time: 10am- 3:30pm. Nancy Carver Thompson is a renowned artist and traveler specializing in landscapes and portrait watercolor paintings. Learn techniques for quick sketching in the field. Add light paint to make the sketches come to life. This class is for all levels of expertise.
<http://www.wardmuseum.org>

October 9, 2009 - Chesapeake Wildfowl Expo - Ward Museum, Salisbury, Maryland
Time: 9am-4pm
Reception Date: Friday enjoy an Eastern Shore Pig Roast - 4:30pm-6:30pm.
Free appraisals of decoys available both days. Saturday the annual Chesapeake Challenge Competition draws decoy makers from around the mid-Atlantic region who compete for prizes in the floating decoy, shorebird, woodpecker and contemporary antique decoy divisions; owners of working decoys made prior to 1950 compete in the "Old Birds" Antique Decoy Competition. Nature walks, carving demos and children's crafts are held on Saturday. <http://www.wardmuseum.org>

ACHIEVEMENTS/AWARDS

In May 2009, 31 new students were inducted into TriBeta, Biology Honors Club.
Congratulations to Kimberly M. Alonge, Jennifer Bandy, Kimberly G. Bowen, Lauren M. Brenneman, Ashlyn J. Cohill, Roie L. Cordrey, Nelson W. Dyer, Jordan L. Estes, Amy Y. Hafez, Ross A. Jones, William R. Kerns, Sabrina E. Kunciw, Christopher L. Labe, Sarah M. Loutsch, Rachel L. Marine, Christina M. Martin, Kyle A. Martin, Erin M. Mason, Justin P. McGrath, Edward W. Mikula, Jr., Patricia F. Moran, Kayla K. Pennerman, Keith S. Polizois, Erin J. Ryan, Sara N. Schwarz, Jennifer R. Scott, Ainsley S. Todd, Brittney L. Uhland, Stephanie J. Velky, Kyle J. Ward, Andrew S. Yancura.

May 2009, Dr. Mark Holland was elected as the New President-Elect of the Washington Academy of Sciences.

UPCOMING SEMINARS

September 10, Adam Lowe (Cornell University) will present "SNP Detection by Surface Enhanced Raman Spectroscopy Coupled Ligase Detection Reaction". Hosted by Dr. Gene Williams.

September 17, Dr. Dana Price (Salisbury University) will present her research on dung beetle ecology and evolution. "If You Make It, They Will Come: Dung Beetle Ecology and Evolution"

September 24, Dr. Sethanne Howard (US Naval Observatory)
"4000 Years of Women in Science, Engineering, and Other Altogether Creative Stuff". Hosted by Dr. Gene Williams.

September 25, Dr. Sethanne Howard (US Naval Observatory),
"Why Spiral Galaxies Spiral". Hosted by Dr. Gene Williams.

October 1, Dr. Robert Bryant (University of Virginia)
"Dynamics In and Around Proteins", Hosted by Dr. Miguel Mitchell.

October 8, Dr. Karin Akre (University of Texas at Austin). Hosted by Dr. Ryan Taylor.

October 15, John Christy (Smithsonian Tropical Research Institute), Hosted by Dr. Ryan Taylor

October 22, Program Planning--No Seminar

October 29, Program Planning--No Seminar

MEETINGS AND PRESENTATIONS

Dr. Gene Williams and his students, Jacob McMullen, Sarah Ullah, and Lauren Crowder went to the Annual Meeting of the American Society for Biochemistry and Molecular Biology in New Orleans last April. All presented posters. Lauren is now in the Master of Public Health program at Pitt and Sarah is a first year medical student at Maryland Med. Jacob is a returning Junior.

In May Dr. Elizabeth Emmert and Katie Pflaum (SU undergraduate) presented a poster entitled, "Use of *Bdellovibrio bacteriovorus* as a biocontrol agent to protect *Caenorhabditis elegans* from Gram negative pathogens" at the American Society for Microbiology General Meeting in Philadelphia.

Drs. Kim and Richard Hunter, Dr. Katherine Miller, and Shelby Smith presented a poster at the European Society of Evolutionary Biology 12th Congress in Turin, Italy. The title of the poster was Nordihydroguaiaretic Acid in the Polyploids of *Larrea tridentata*: Effects of Temperature and Developmental Stage.

Dr. Clement Counts attended the American Malacological Society meeting at Cornell University in July.

Dr. Ron Gutberlet attended the American Ornithologists' Union conference in Philadelphia in August.

GET TO KNOW YOUR FACULTY – FACULTY SUMMER ACTIVITIES

Dr. Ann Barse - One exciting thing I did this summer is to return to the “weigh-in” for the annual Ocean City White Marlin Open fishing tournament. This event is held every summer in early August for 5 days, and it is the only way to obtain biological samples from our three local billfishes (Family Istiophoridae): white marlin, (*Tetrapturus albidus*) (top fish in photo of pair of billfish), the newly recognized roundscale spearfish (*T. georgii*) (fish on bottom of photo) and blue marlin (*Makaira nigricans*) (see biology student, Meredith Murray and myself posing next to the new Maryland state record 1,062 lb blue marlin). With student assistants, we collect parasites for myself, primarily monogenean flatworms. We collect muscle and fin samples for colleagues at the Southeast Fisheries Science Center in Miami and from Nova Southeastern University for genetic studies. And this year, we also collected billfish hearts for a colleague at Auburn University interested in the Sanguinicolid blood flukes of fishes. See photo of Meredith extracting the heart from a marlin! Is she having fun yet?



“Sweet Sorghum for Ethanol” - **Drs. Briand and Geleta** launched a new bioenergy research project to produce ethanol from sweet sorghum. Since, sweet sorghum is not grown on Delmarva, they are conducting a variety of screening trials to select varieties that are best adapted to the region. Their research is funded by the Maryland Grain Producers Utilization Board. Students Kayla Pennerman and Brian Knepper worked on this project over the summer.



Dr. Clement Counts - I brought my malacological collection from Wallops Island Marine Science Consortium to the Salisbury University Biology Department in July. In August I traveled to Prudhoe Bay and Barrow, Alaska.

Dr. Elizabeth Emmert - I mentored Katie Plaum (SU undergraduate) this summer. Katie continued her research from the spring as a Guerrieri summer scholar. Over the summer she worked out the protocol for monitoring levels on *Bdellovibrio* remaining inside the worms and generated some preliminary data. Her results indicate that *Bdellovibrio* only persists inside the worms for 24 hours. I also enjoyed lots of time at home with my children: Alex (5), Andrew (3), and Persephone (11 months). Our family took two trips to Pennsylvania. During one we visited extended family and the other was a kid-centered vacation. Finally we bought a new house, moved, and sold our old house!

Dr. Les Erickson - I caught a 14 lb. Northern Pike while fishing in North Dakota.

Dr. Patti Erickson - I attended a week-long workshop in St. Louis, MO to learn techniques for using the powerful reverse genetics technology, RNA interference (RNAi), in the nematode worm, *C. elegans*. We will be using this technology in Contemporary Genetics (Biol 440) this fall. Afterwards, my husband (Mr.) Dr. Erickson and our son joined me for a road trip up to North Dakota, where we spent time exploring the sights and relaxing with relatives.

Dr. Aaron Hogue - The Hogue lab was busy this summer. With a \$14,000 grant from the Maryland Coastal Bays Program, and internal funding from a Guerrieri Undergraduate Research grant, bio majors Josh Larmore and Bill Kerns conducted field work on mammalian carnivores. Specifically, camera traps and track boxes were set at various field sites in Worcester, Dorchester, and Somerset counties to document terrestrial carnivore populations in different forest types. This is part of a year long effort to inventory carnivore populations in the area and assess the relationship between species composition and forest management practices. We are also hoping to determine whether several species historically present throughout the peninsula still remain.

Hunter Lab - Indonesia: Drs. Kim and Richard Hunter and their student Shelby Smith went to the Wakatobi National Marine Preserve on Hoga Island in southwest Sulawesi, Indonesia. The goal of the trip was to incorporate molecular biology into conservation field expeditions lead by Operation Wallacea. They worked on two species of hard corals that occur in suboptimal conditions in mangroves. DNA extractions were done in the field and final analyses will be done at SU.

Dr. Wanda Kelly - When summer arrives I become a farmer, growing 4000+ oriental, Asiatic and hybrid lilies. I participate in several farmers markets each week where I sell plants for landscaping and create bouquets out of lilies, wild flowers, grasses and weeds (under appreciated flowers). I also fill in for church musicians during the summer playing the piano, my first major and undergrad degree in college before I discovered biology.

Dr. Ron Gutberlet - I enjoyed working with a group of faculty on revisions to the Biology 210 course. I conducted 2 USGS breeding bird surveys (<http://www.pwrc.usgs.gov/BBS/>), marshbird surveys for the National Estuarine Research Reserve, a nightjar survey route for the Center for Conservation Biology (<http://www.ccb-wm.org/nightjar/nightjar.htm>), and helped survey breeding birds for the Lower Shore Land Trust and for MD/DC Audubon. I spent most of the rest of the summer birding across Maryland, from the Baltimore Canyon offshore to Backbone Mountain in Garrett County. Highlights included encounters with 3 Leatherback Turtles, a large Hammerhead Shark, and multiple whale species offshore; experiencing the spectacle of shorebird migration on Poplar and Hart-Miller Islands in the Chesapeake Bay; and finding most of MD's 37 warbler species.



Three birds traveling south for the first time (top to bottom): (1) a Semipalmated Plover takes advantage of exposed mud along the perimeter of the Youghiogheny Reservoir in Garrett County, MD to rest and feed as it makes its way from the Arctic or sub-Arctic to wintering grounds along the southern US coast or perhaps even further south; (2) while we return to school, thousands of Broad-winged Hawks like this one are on the move--most will eventually winter in South America, in fact, well over a million Broad-winged Hawks migrate through Veracruz, Mexico each fall; (3) Baird's Sandpipers are long-distance migrants that primarily pass through the Great Plains and the Rocky Mountains during spring and fall migration, but a few juveniles--like this one in Allegany County, MD--follow a more eastern or western path during fall migration (with luck, this bird will make it to southern South America where it will spend our winter).

Dr. Ellen Lawler - I traveled south through the Carolinas, Georgia and Florida all the way to Key West and the Dry Tortugas where I observed the terns, frigatebirds and pelicans that nest there. My trip also included stops at Everglades National Park, Sanibel Island, Wakodahatchee Wetlands and other great places for observing birds and nature. A number of species were new to me, including Cottonmouth snake (see my photos below) and Common Myna, a very invasive bird that was first seen in the U.S. (Miami) in 1983 and is now well established in South Florida. I also worked on my research on the writings of colonial naturalist, Henry Callister, which I'll continue during my sabbatical this year.



Cottonmouth at an Audubon Center (Francis Beidler Center) in South Carolina



Grasshoppers at Loxahatchee National Wildlife Refuge in FL.



Purple Gallinule at Wakodahatchee Wetlands in Delray Beach, FL

Dr. Joan Maloof - I attended a conference in Victoria, British Columbia, in June. While on the other side of the continent I also visited old-growth forests there and had my first ride in a seaplane. In August I was awarded a residency at a cabin in Oregon through the Spring Creek Project of Oregon State University. During the residency I worked on a book about old-growth forest ecology and aesthetics. I will be on sabbatical during the fall semester but will be around and actively working on research in forest ecology/aesthetics involving Bio 101 students this Fall 09.

Dr. Barbara Pollock - My family and I have been enjoying life on the farm and were busy this summer growing and processing our organic produce. My husband David and I had a great time in Scotland and Ireland in July and are expecting our first grandchild in December.

Dr. Dana Price – I spent my summer conducting research on Maryland’s Eastern Shore. Lauren Breneman (SU senior) and I collected dung beetles in Wicomico and Worcester counties. We currently have collected at least 25 species of dung beetles. I also spent time creating lectures for Entomology 316 offered during the fall, and Insects and Society (Biology and Society 105), a non-majors course offered during the winter and summer.

Dr. Judith Stribling - Michelle Meinenger (a Guerieri Summer Research Student) and I worked on the Creekwatcher Program. Besides maintaining the ongoing operation of the water quality analysis for the Wicomico River, Michelle and I are reviewing the past 5 years of nutrient data for trends and correlations with external forcing functions such as rainfall. I also spent many hours working with several groups to develop more conservation-minded approaches to land use in Wicomico County.

Dr. Elichia Venso - I went to see my son in Connecticut in May immediately after graduation. When I returned, I analyzed data and submitted the final report for "Fecal Indicator Bacteria and Potential Human Pathogens" at four beach sites for the Maryland Department of the Environment and submitted the final report on bacterial source tracking for eight Maryland watersheds (both for the Bacterial Source Tracking Laboratory). Then I went on a two-week vacation to see more family in the sizzling hot state of Texas! Had a wonderful, if hot, time.



Dr. Eugene Williams - I vacationed with my family in Wilmington, NC (our hometown), Williamsburg, VA, and Washington DC. We also did a lot of boating this summer. Professionally, I spent part of this summer putting together a new field course that is open to biology students. It is a field course on Arctic fishes that will be held at Holar University College in Iceland this upcoming winter 2010. See the flyer below or go to the following website: <http://www.salisbury.edu/intled/StudyAbroad/summer/iceland/> for more information.

The Biology of Arctic Fishes - Iceland

The 2010 International Field Studies Program in the Biological Sciences is offering a course in the Biology of Arctic Fishes. The course will be taught at Hólar University College in Iceland and will give students the opportunity to study the ecology, physiology, and evolution of these fishes in their natural setting. Hólar is in northern Iceland in the Hjaltadalur valley of the Skagafjörður district. The area is renowned for horse breeding and training, and heritage tourism. The University is near the city of Sauðárkrúkur, the second-largest town on the north coast of Iceland. The setting at Hólar University College provides a unique opportunity for students to study the biology of Arctic fishes within a few miles of the Arctic Circle while enjoying a mild climate.



CLASS: Students will receive three credits for BIOL 399: International Field Studies. Instruction will be over a two week period beginning June 4, 2010. Dr. Bjarni K. Kristjánsson of the Department of Aquaculture and Fish Biology at Hólar University College and Dr. E. Eugene Williams of the Department of Biological Sciences at Salisbury University will jointly teach the course. The course will include lectures, laboratories and field activities, including a trip to Lake Mývatn (pictured). Topics covered in the course include the evolutionary ecology of Arctic fishes, Iceland's unique geology and its impact on the biology of Icelandic fishes, the evolution of Icelandic freshwater fishes, fish physiology at the organismal and molecular levels, mechanisms of acclimation and adaptation, and other topics.

HOST INSTITUTION: Hólar University College traces its roots to an agricultural school that was established at Hólar in 1882. Over the years, the agricultural school developed into a modern university and became specialized to suit the needs of the region. Today, Hólar University College is a scientific educational and research institution offering degrees in aquaculture and fish biology, equestrian studies (horsemanship as well as horse breeding), and rural tourism studies.

EXCURSIONS: In addition to studying the biology of Icelandic fish, a significant portion of the course will focus on Icelandic culture. Three hours each week will be devoted to studying the language of the Vikings, Old Norse, now called Icelandic. Group trips to see the work of local artists displayed in Skagafjörður Library and Archives, in the Safnahús in Sauðárkrúkur, and to the Glaumbær Folk Museum (with an 18th century turf-house farm) are planned. Trips to local geological sites, like Dettifoss, the most powerful waterfall in Europe, may also be planned. We plan to spend one full day and night in Reykjavik, either at the beginning or end of the course to explore the world's most northern capital city. Students may also enjoy horseback riding and river rafting very close to the University.

HOUSING: Students will live in the dormitories at Hólar University College and eat in the University cafeteria. You will live like an Icelandic student!

COST: Tuition and fees for the 2010 BIOL 399 course are estimated to be close to \$3500. Final costs will be determined in spring 2010. The price will include all tuition, round-trip airfare, room and board in Iceland, all travel within Iceland, and international health insurance. Costs not included in the program fee are passport fees, costs for personal items purchased in Iceland, and some miscellaneous expenses. US citizens do not need visas to visit Iceland. Passports, which are required, must be valid for three months beyond the end of the intended stay.

DEPOSIT AND PAYMENT INFORMATION: An initial deposit of \$250 is due at the time of application. This deposit is part of the total advertised cost of the program. Once the faculty director academically admits a student, the initial non-refundable deposit is due to the Cashier's Office. The student will be automatically enrolled into the study abroad course. The University Billing Office will then bill each registered student for the total cost of the study abroad program (less the deposit amount) through the regular university billing system. Standard university deadlines for withdrawals do not apply to study abroad programs. *Once the published Application Deadline occurs, the accepted student is responsible for the entire amount of the study abroad program charge.*

APPLICATION INFORMATION: Application forms are available at the Center for International Education or from the faculty director. Completed application forms are currently being accepted by the faculty director or by the Center for International Education. Students should also submit a completed faculty recommendation form from a faculty member who knows the student well. Admission is competitive and enrollment is very limited. Students will be admitted on a rolling basis until the program is full. The application deadline is February 15, 2010. For more information see the program website at www.salisbury.edu/intled/studyabroad/summer/iceland/. All questions concerning the program should be addressed to the program director:

Dr. E. Eugene Williams
Department of Biological Sciences
Phone: 410-548-2062, e-mail: ewilliams@salisbury.edu

PUBLICATION/ARTICLES/ABSTRACTS

(*UNDERGRADUATES, **MASTERS STUDENT)

****Fenwick, A.M., R.L. Gutberlet Jr, J.A. Evans*, and C.L. Parkinson. 2009.** Morphological and molecular evidence for phylogeny and classification of South American pitvipers, genera *Bothrops*, *Bothriopsis*, and *Bothrocophias* (Serpentes: Viperidae). *Zoological Journal of the Linnean Society* 156: 617-640.

****Jadin, R.C., R.L. Gutberlet, Jr., and E.N. Smith.** Phylogeny, evolutionary morphology, and hemipenis descriptions for the Middle American jumping pitvipers (Serpentes: Crotalinae: *Atropoides*). Submitted in July 09 to the *Journal of Zoological Systematics and Evolutionary Research*.

Price, D.L. and M.L. May. 2009. Behavioral Ecology of *Phanaeus* Dung Beetles (Scarabaeidae: Scarabaeinae): Review and New Observations. *Acta Zoologica Mexicana* 25(1): 211-238.

ALUMNI NEWS

Matthew Anderson, Graduated from Georgetown University with a Ph.D. in Tumor Biology

Keri Athanas, Working as a research assistant on a bat/frog predation project in Ecuador.

Erin Baldwin, Accepted to Harvard's Graduate School of Education and will be enrolled in the fall in the Mind, Brain and Education Masters Program.

Ryan Cannon, Attending Towson Univ. Graduate School for an MS in Biology

Elizabeth Clifton, Recently hired by Dupont Biotechnology in Wilmington DE.

Conor Cox, Accepted to PT School, UMES

Angela DiFabio, Accepted to graduate school In Public Health at George Washington University.

Kristen Dixon, Accepted to Univ. of Md. Baltimore School of Pharmacy

Amanda Ely, Pursuing an M.D. at Penn State Medical School.

Kristin Fowler, Obtained a second B.S. Degree from Delaware Valley College in Ornamental Horticulture and Environmental Design. She graduated Magna Cum Laude and is the Greenhouse manager at Nonesuch Farm in Buckingham PA.

Stephen, Giarratano, Accepted into Ross University School of Veterinary Medicine for January 2010.

Lisa Guy, Working at the Oyster Hatchery, Horn Point Lab. Returning to Grad School a year later for Fish Ecology.

Nikki Harrison, Getting married, both Nikki and her husband will be teaching English in South Korea for a year. When she returns she will be employed as a Zoo Animal Keeper.

Matt Jones, Accepted to Ross University School of Medicine.

Brittany Kiessling, Accepted to Two Doctoral Programs for Anthropology, Univ. of Georgia and Florida International Univ.

Christopher Labe, Accepted to the University of Tennessee's Graduate Program in American History. Pursuing a Master's and Ph.D. in Southern History/History of Medicine.

Lauren Leonard, Accepted to 3 Vet Schools, Va. Tech, NC State and U Penn. She will be attending Va. Tech.

Maria Luciotti, Hired at U.S. Army's Medical Research Institute of Chemical Defense.

Jenna Makris, Applying for high school biology teaching position in South Jersey and Wicomico County.

Rachel Marine, Accepted to University of Delaware, would like to get a Ph.D. in Biological Sciences

Paul McFadden, Will be working for a business called "The Cave" in Philadelphia PA.

Jonas Merrill, Accepted to PA School, Touro College in Bay Shore NY

Glen Owen Monk, Graduated from College of Medicine, Univ. of Arkansas for Medical Sciences.

Chris Mortoriff, Currently in the US Army Medical Research Material Command

Diane Moss, Accepted to Ross University School of Medicine.

Jessica Samler, Accepted to Va. Tech. Masters Program in Forensic Entomology

Kristin Simmons, Working FT in Microbiology Lab, Greater Baltimore Medical Center

Sarah Ullah, Attending University of Maryland School of Medicine.

Shannon Walters, Accepted to College of Notre Dame of Maryland School of Pharmacy

Emily Seldomridge, Accepted into the Geology Program at UMD with guaranteed funding as a TA for three years.

**If you have announcements to add or general comments regarding the Newsletter,
please contact Dr. Dana Price: dlprice@salisbury.edu
Your opinion matters!**