

PLEASE DO NOT PRINT THIS.

## INTRODUCTION TO EVOLUTION

**Dr. Eric Liebgold's** Introduction to Evolution course went on a fossil hunting trip to Bayfront Park in Chesapeake Beach, MD. For more information, see page 3.



### ANNOUNCEMENTS AND AWARDS

#### 2013 Tri Beta Inductees

Andrew T. Baskerville, Christina R. Bell, Erin L. Burns, Lauren M. Caponiti, Andrea V. Christ, Benjamin A. Clark, Sara Daneshpour, Megan N. Lehan, Ryan M. Mariner, Saad Mohammad, Joseph A. Restein, Michelle L. Rhodes, Nicholas G. Ross, Gina M. Sorce, Luke W. Tompkins, Ashley N. Williams

**Mallory Hagadorn** has been awarded an NSF Graduate Fellowship to support her research for the next 3 years. Congratulations Mallory!

**Katie Bolhorst** will be attending nursing school after graduation at Anne Arundel Community College.

**Catherine Fitzgerald** has an internship at Lonza labs.

**Alyssa Gabriel** will be working at the Smithsonian Environmental Research Center in the Nutrient/Chemistry Laboratory.

**Sean James** has been accepted at Virginia Tech for graduate studies in the Molecular Plant Sciences program.

**Konstantin Kovalev** has been accepted to the Philadelphia College of Osteopathic Medical School.

**Kate Kundratic** has been accepted to Baylor College of Medicine in Houston, Texas for a Master's degree in Prosthetics and Orthotics.

**Jacob Liechty** (May 2013 commencement speaker) is doing a 10-week internship at Johns Hopkins and then will be attending the Medical Master's program at Eastern Virginia Medical School.

**Amanda Poskaitis** has a summer position at Mountain and River Adventures as a white water rafting guide.

**Michelle Rhodes** has been accepted into SU's Second Degree Nursing Program for the fall 2013 semester.

**Eleanor Siri** has been accepted to Salus University (PCO), PA to complete an Optometry Doctor Degree.

**Whitney Smith** has been accepted into the Doctorate of Physical Therapy at the University of Maryland Eastern Shore.

**Luke Tompkins** has been accepted to the University of Maryland School of Dentistry.

**Leah Zinnert** has been accepted to the Physical Therapy Program at University of Maryland Eastern Shore.

### **Salisbury University Student Research Conference - Friday, April 26, 2013**

The Salisbury University Student Research Conference (SUSRC) committee announces the 13th annual SUSRC on Friday, April 26, 2013. Presentations are organized into themed sessions for all majors. The conference culminates in a poster reception during the evening. The conference is free and the public is invited. For more information visit <http://www.salisbury.edu/susrc>.

### **Relay for Life of Salisbury University: May 3, 2012**

The SU Biology Department is participating in Relay for Life of SU on May 3, 2013. In the past three years we have raised almost \$6000. This year, Mallory Hagadorn will be heading the team as our Team Captain. If you would like further information, please feel free to email Mallory at <mailto:MAHAGADORN@salisbury.edu>. If you would like to join our team (SU Biology) or make a donation, please go to the following link: [http://main.acsevents.org/site/TR?pg=entry&fr\\_id=41439](http://main.acsevents.org/site/TR?pg=entry&fr_id=41439) and click on "Sign Up" and then "Join an Existing Team".



**Drs. Briand, Emmert, and Geleta** received a grant of \$150,000 to conduct research on the "Impact of the soil amendment GreatGrow on corn yield and soil quality on the Delmarva Peninsula". The Maryland Industrial Partnerships (MIPS) and GreatGrow Incorporated have funded this project. The soil amendment, also named GreatGrow is thought to improve soil water holding capacity and increase the availability of plant nutrients through microbial activities. GreatGrow is expected to enhance the release of soil-held plant nutrients and eventually to reduce the amount of fertilizer applied to crops. Their research will evaluate the environmental and economic benefits of using GreatGrow on field corn grown on the Delmarva Peninsula. This project will involve growing corn under both dryland and irrigated conditions. It involves extensive laboratory and field data collection and analyses. The grant has funded a MS graduate student, Chelsi Rose, who will investigate the influence of GreatGrow on soil microbial activity. Chelsi did her undergraduate degree at Lock Haven University in Pennsylvania. The grant also has ample opportunities to involve interested undergraduate students.

### Introduction to Evolution - Fossil Hunting

On April 13th, armed with a variety of children sand toys and makeshift sifters, 20 students in Introduction to Evolution took a field trip to Bayfront Park in Chesapeake Beach, MD to search for fossil shark teeth. Shark teeth are used to test phylogenetic relationships among shark species, for example, examining the relationship between extant Great Whites & extinct Megalodons. The trip was led by Dr. Liebgold, Dr. Hunter, and Matthew Del Grosso, who is our resident fossil expert with years of experience fossil hunting in the Chesapeake Bay area. The Chesapeake Bay is a great area for collecting fossil shark teeth. During the Miocene era, about 15-18 million years ago, this location was thought to be a calving ground for whales, which led to many sharks frequenting the area searching for young whales to eat.

It was an exciting trip for the class, climbing over debris and wading through nearly waste-deep water to get to the optimal beach for shark teeth and other fossils. Every student found shark teeth of at least 7 (mostly extinct) species ranging from tiny to 1 1/2 inches. We also found shark vertebrae, stingray dental plates, marine mammal bones, a porpoise tooth, a crocodile tooth, and a variety of invertebrate fossils. It was a great trip for all.



### Olivia's Birds: Saving the Gulf

Check out this amazing young woman (12 year old) who has raised thousands of dollars for the Audobon Society, and the ASPCA. For her fundraiser she donated 500 original watercolor illustrations. Many of these art showcased in her book, Olivia's Birds: Saving the Gulf. For more information about her artwork, or to purchase one of her illustrations got to:

<http://www.oliviabouler.net/artwork--book.html>



Graduate student **Kristin Zuravnsky** went to the desert southwest to see *Larrea* in the springtime. Her entire thesis project is focused on samples that are sent to us from citizen scientists. She was able to see the dominant desert plant in the desert SW and what this really means.



Kristin at Lake Mead in NV during spring break 2013.

### **Salisbury Abroad: Costa Rica - The Economics of Biodiversity**

After a very successful January 2013 course Mary Gunther and Dr. Eric Liebgold are once again taking students to Costa Rica in January 2014. If you know any students that would benefit from a study of ecotourism and biodiversity please pass this information along. For more information check out the following web page: <http://www.salisbury.edu/intled/StudyAbroad/programs/single.asp?pid=231>

## **OPPORTUNITIES**

### **Association of Applied Biologists: Student Travel Grant**

Web Site: <http://www.aab.org.uk>; Program URL: <http://www.aab.org.uk/contentok.php?id=132>

The Association of Applied Biologists (AAB) offers grants to students, whether members of the Association or not, for the purpose of attending an AAB conference or meeting. Applications must be made at least 2 months before the meeting the student plans to attend.

### **American Heart Association: Melvin L. Marcus Young Investigator Award**

Web Site: <http://www.americanheart.org/>; Program URL:

[http://my.americanheart.org/professional/Councils/AwardsandLectures/EarlyCareer/Melvin-L-Marcus-Young-Investigator-Award\\_UCM\\_322573\\_Article.jsp](http://my.americanheart.org/professional/Councils/AwardsandLectures/EarlyCareer/Melvin-L-Marcus-Young-Investigator-Award_UCM_322573_Article.jsp)

The Melvin L. Marcus Young Investigator Award in Basic Cardiovascular Sciences encourages young investigators to continue research careers in cardiovascular or circulatory physiology. Deadline: 06/07/2013.

### **National Institute of Nursing Research/NIH/DHHS: Ruth L. Kirschstein National Research Service Award (NRSA) for Individual Predoctoral Fellows in Nursing Research**

Program URL: <http://grants1.nih.gov/grants/guide/pa-files/PAR-11-117.html>

The sponsor invites applications for Individual Predoctoral Fellows in Nursing Research (F31) program. This FOA encourages Individual Predoctoral Fellowship (F31) applications from institutions/organizations that propose to increase the number of nurses prepared with a doctoral degree in order to meet the demands for adequately trained behavioral, biological, and biobehavioral scientists. NINR is particularly interested in facilitating the progress of students who are in research training programs for recent nursing graduates and students in BSN to PhD programs. The applicant should propose a research training program and dissertation research that is consistent with the scientific mission of the NINR. Applications are due annually on August 8, December 8, and April 8. The deadlines for receipt of AIDS-related applications are: January 7, May 7, and September 7 annually.

## FEATURED FACULTY

### DR. E. EUGENE WILLIAMS

Dr. Williams (shown right) is standing in front of his Icelandic apartment.



In 2012 I was awarded a Fulbright Scholarship to teach and conduct research in Iceland. I spent 4 months living and working at Hólar University (shown right) in northern Iceland during the fall of that year. The experience was the most remarkable of my professional career.

A major focus of my research explores the ways fish respond to temperature change at the cellular and molecular levels. My goal in Iceland was to test the hypothesis that populations of Arctic charr living for a very long time in a thermally stable environment will be less able to respond to changing temperature than closely related charr living in a thermally complex environment.



Arctic charr of Iceland can be found in several different thermal settings including spring fed lakes that are stable and constantly cold (4°C) and in shallow lakes where temperature can vary from 4°C in winter up to 20°C or more in the summer. All of these populations have existed under these thermal conditions for roughly 10,000 years or the equivalent of thousands of generations. This is sufficiently long for them to be fully acclimatized to those conditions on a geological time scale, but apparently not long enough for them to have formed new species; they can still interbreed but do not in the wild. In addition, we know that Salmonids (salmon, trout, and charr) are adept at acclimatizing to new temperatures. Taken together, these characteristics of Icelandic Arctic charr make them ideal for the work I planned to do. They are phenotypically plastic, and individuals *of the same species, with the same genomes* can be found that have experienced very different thermal habitats for thousands of generations. My goals were to use fish from distinct populations of Icelandic Arctic charr with different thermal histories to test the hypothesis. The test of this hypothesis will provide important insights into what might be expected of fish populations in Iceland when confronted with climate-induced changes in environment temperature. Data were collected and are currently being analyzed in my lab at SU.

On that first day I moved in to my beautiful and more-than-adequate 50 m<sup>2</sup> apartment on campus. It was the upper-corner unit of a six unit apartment building. Five of the six units in the building were rented by graduate students who studied at Hólar and worked at Verið. The remaining unit was occupied by Magnus, an employee of the University and part time student in the tourism department. Very quickly our days became routine. Every morning a vehicle (or two, depending on demand) left from our parking lot to go to Verið in Sauðarkrökur. It was a 30 minute commute along the most beautiful coast in Iceland. Every day we saw Skagafjörður (the fjord) and the islands Málmei, Drangey and Lundey (-ey means “island”, “lund” is “puffin”). It was breath-taking view that never got old. We took turns driving each day and it was always a group of faculty and graduate students. Some of us made the trip every day. At around 7 PM, we would shut things down and head back to Hólar. We continued this routine six days a week (yes, these were hard-working graduate students!). The office I was provided was a very comfortable cubical among the graduate students. By coincidence, that summer almost all of the graduate students were from France. Only Amy Fingerle (a Master’s student originally from Michigan) and I were from the United States.



Driving (left), Work space (middle) and Sauðarkrökur (right).

The Fulbright experience has helped to solidify my working relationships with our Icelandic colleagues. The experience has led to an amazing new set of scientific possibilities and questions for me, my colleagues, and my students here at SU and HU. The U.S. Fulbright Scholarship program represents an amazing opportunity for U.S. scientists to work and study abroad. The U.S. Fulbright Fellowship Program offers similarly outstanding opportunities for undergraduate students. I encourage you to explore these programs if you are interested in advancing your research, while simultaneously having a lot of fun living in a new country.



Pony round up (left and middle), and sheep round up (right).

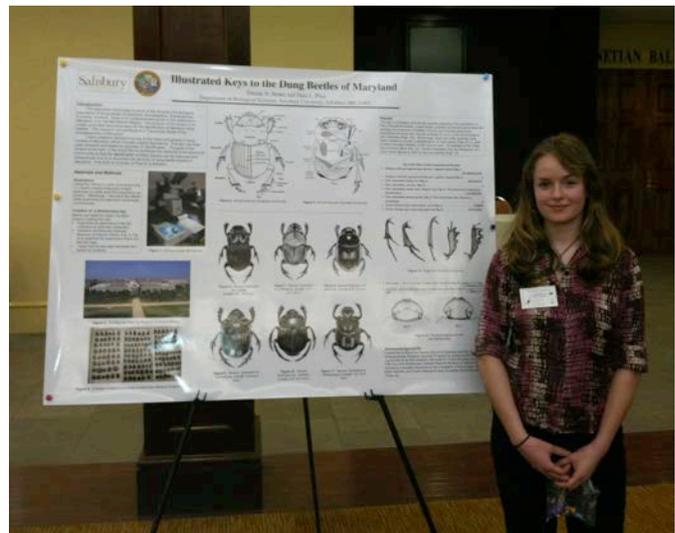
## TRAVEL and PRESENTATIONS

Biology faculty members Mark Holland, Les Erickson, Sam Geleta, and Patti Erickson attended the Mid-Atlantic-American Society of Plant Biologists (ASPB) Annual Winter Meeting on February 22, 2013, at the University of Maryland, College Park. Most of the students in Dr. Holland's Plant Physiology course also attended. This Dinner Meeting was enriched by a talk given by guest speaker, Dr. Peggy Lemaux, ASPB President and UC-Berkeley Professor. Fun Fact: Dr. Lemaux, an ordained minister, presided over the marriage between Les and Patti Erickson, back in Berkeley in 2002.

On April 6<sup>th</sup>, Biology faculty members Samuel Geleta, Les Erickson, Patti Erickson, Richard Hunter, and Mark Holland, along with Biology undergraduate students Miles Peterson and Frances Dunkley, and Biology graduate students Ganna Miller and Stephen Kelly attended the Spring Meeting of the Mid-Atlantic section of the American Society of Plant Biologists. The meeting was held at the Delaware Biotechnology Institute at the University of Delaware in Newark, DE.

**Simone Nemes** presented her undergraduate research at the MAESA meeting.

**Nemes, S., and D. L. Price.** Illustrated keys to the Scarabaeinae (dung beetles) of Maryland. Ecological Society of America, Mid-Atlantic Conference, Dover, Delaware, April 2013.



Graduate student **Mallory Hagadorn** presented her research at the MAESA. **Joseph Restein** (left) will be working with Mallory this summer and will be supported on a Guerrieri Undergraduate Research Grant.

**Mallory and Joe's poster tied for first prize in the Graduate Student Poster Competition.**

**Hagadorn, M., J. Restein, and D.L. Price.** Dung beetles their gut endosymbionts. Ecological Society of America, Mid-Atlantic Conference, Dover, Delaware, April 2013.



**Dyer, N.\*, and D.L. Price.** Notes on the diversity and foraging height of the carrion beetles (Coleoptera: Silphidae) of the Nassawago Creek Preserve, Maryland, USA. Ecological Society of America, Mid-Atlantic Conference, Dover, Delaware, April 2013.

**Judith Stribling** attended the Atlantic Estuarine Research Society Conference in Williamsburg, VA April 11-13. She participated as a member of the Board of Directors and as a judge of student presentations.

**Whitney Smith** (shown below), **Kimberly Hunter**, and **Chris Frye** presented a 30-minute talk at the Biodiversity without Boundaries 2012 Meeting (The NatureServe Conservation & Natural Heritage Conference) in Baltimore, MD. It was held at the very ritzy Tremont Hotel. The title of the talk was: Genetic Variation in the Endangered Plant (*Ptiliminium nodosum*): Maryland and West Virginia Populations.



Whitney Smith



Endangered *Ptiliminium nodosum*

## PUBLICATIONS

**Chappell, D.L.,** T. McAvoy, B. Weiss, R. Weiner, O.F. Laterza. 2012. Development and validation of an ultra-sensitive method for the measurement of plasma renin activity in human plasma via LC-MS/MS. *Bioanalysis* 4(23): 2843-2850. Derek Chappell is an alumnus of the Biology Department of Salisbury University and is currently working at Merck as an Associate Principle Scientist.

Roberts, J.J., **P.A. Greca**y, S.A. Ludsin, S.A. Pothoven, H.A. Vanderploeg, and T.O. Hook. 2012. Evidence of hypoxic foraging forays by yellow perch (*Perca flavescens*) and potential consequences for prey consumption. *Freshwater Biology* 57: 922-927.

Scott, J., **A. Hogue**, and M. Ravosa. 2012. The adaptive significance of mandibular symphyseal fusion in mammals. *Journal of Evolutionary Biology* 26:661-673

**A. Hogue.** 2011. Coyote, friend or foe for Delmarva's ecology? Worcester County Times, December 15, 2011 issue.

## ALUMNI NEWS

Salisbury University alumnus **Greg Burzynski '07** is helping unravel the roots of the animal kingdom. See press release: <http://www.salisbury.edu/newsevents/fullstoryview.asp?ID=5194>

May '08 Dual Degree grad **Lindsay Carroll** was accepted to graduate programs at UC San Diego (SCRIPPS) and Oregon State University, and OSU offered her full funding, so she will be starting there in the fall in the master's program in Environmental Policy and Management.

**Past Graduates who has recently been hired at Lonza (<http://www.lonza.com/>):**

**Valerie Brinsfield** worked for a year as an Operations Technician I in Salisbury, before moving to Fredrick in her current position with SAIC-Frederick (NIH) in Fredrick, MD.

**Sasha Charleron** is currently employed as an Operations Technician in Salisbury.

**Greg McNew** currently filling a temporary position and is likely to be hired for a permanent position either in Salisbury or Walkersville.

**Brett Spangler** was in Salisbury his first year as an Operations Technician I, and then transferred to Walkersville. He is currently in Quality Control.

**If you have announcements to add or general comments regarding the Newsletter, please email [dlprice@salisbury.edu](mailto:dlprice@salisbury.edu).**

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