



# BioSynthesis

Volume 12, Issue 2 (December 2013)

BioSynthesis On-Line: <http://departments.bloomu.edu/biology/>

## Upcoming Events

- DEC 6:** CoST Research & Scholarship Day, ground floor HSC, 3:00 p.m.
- DEC 9 to 13:** Final Exams
- DEC 10:** Major Field Test in Biology for graduating seniors, 1:00 p.m.
- DEC 11:** Major Field Test in Biology for graduating seniors, 3:30 p.m.
- DEC 13:** Fall Graduate Commencement Ceremony, Haas Auditorium, 6:00 p.m.
- DEC 14:** Fall Undergraduate Commencement Ceremony, Haas Auditorium, 2:30 p.m.
- JAN 21:** Spring Semester Classes Begin



## Look what's inside:

<i>Celebrating Achievement</i>	2
<i>Get Involved</i>	3
<i>Meet Our Faculty &amp; Staff</i>	4 & 5
<i>Spring Electives &amp; Faculty Updates</i>	6
<i>Research Achievements</i>	7
<i>Allied Health and Pre-Professional News</i>	8 & 9
<i>Focus on Research</i>	10 &
<i>BAHS Student Accomplishments</i>	12

## Busy Fall Semester Nears End!

We hope that you had a rewarding fall semester! Special greetings to our freshman, transfer students, and new majors. **Ally Chory** (Medical Imaging) and **Jonathan Perez** (Biology) enjoyed corn genetics and chi square tests (top photo), while **Derek Tripp** (Medical Imaging) and **Sharnise Dozier** (Health Sciences) checked out “potato dissection” in A & P I.” If you haven’t jumped in already, we encourage you to become involved in the life of the department. We have a lot to offer! Consider getting involved with faculty research. Check out the professors’ interests on the BAHS website. You will find everything from stream ecology to neurophysiology. Get involved with our department’s clubs—the Biology and Allied Health Club and the Pre-Medical Sciences Club. This is a great way to meet new friends and explore your future profession. Consider opportunities to volunteer as a peer tutor or to serve in the community. The Department of Biological and Allied Health Sciences (BAHS) is a busy, vibrant, and diverse place. We are excited that you are here.



## Check out the Environmental Biology option!

Do you dream of one day being a biologist that gets paid to work outdoors? Majoring in environmental biology may help you fulfill this dream. Environmental biology focuses on the interactions between organisms and their environment and how humans alter these interactions. Graduates with backgrounds in environmental biology work as water pollution biologists, wildlife biologists, conservation biologists, environmental consultants, field technicians, naturalists, environmental educators and college professors. The B.S. Environmental Biology option at Bloomsburg University allows students to choose 21 credits of electives from courses in biology, marine sciences, geography and geosciences in order to customize their program to suite their interests. If you are interested in finding out more about this major please contact **Dr. Rier** (HSC G46) or **Dr. Pitt** (HSC 114).



## Saluting Student Success

Congratulations to Biology and Allied Health Students who earned a GPA of 3.5 or greater and were named to the Dean's List for Spring Semester 2013. Great job!

**Louisa Andrew**, Biology BS - Pre-Medical Sciences  
**Ryan Austin**, Biology BS - Pre-Medical Science  
**Steven Baade**, Biology BS - Environmental Biology  
**Morgan Balsbaugh**, Medical Imaging BS  
**Gabriel Barrile**, Biology BS - Environmental Biology  
**Carrie-Anne Barry**, Biology BS  
**Nicole Behner**, Medical Imaging BS  
**Ashley Bossert**, Health Sciences BS - Pre-Physical Therapy  
**Mikala Britt**, Health Sciences BS - Pre-Physician Assistant  
**Brian Campbell**, Pre-Pharmacy  
**Victoria Campbell**, Biology BS - Molecular Biology  
**Danielle Carlson**, Medical Imaging BS  
**Gina Carpenito**, Medical Imaging BS  
**Kahli Castagnera**, Health Sciences BS - Pre-Physical Therapy  
**Devon Chilensky**, Medical Imaging BS  
**Heather Cleary**, Health Sciences BS - Pre-Physical Therapy  
**Dan Copes**, Health Sciences BS - Pre-Physical Therapy  
**Samantha Crago**, Medical Imaging BS  
**Elaine Daubert**, Health Sciences BS - Pre-Physician Assistant  
**Tina Di Marco**, Health Sciences BS - Pre-Physician Assistant  
**Angie Diaz**, Medical Imaging BS  
**Robert Dorosky**, Biology BS - Environmental Biology  
**Laurel Downs**, Biology BS - Environmental Biology  
**Karen Esmus**, Biology BS - Pre-Medical Sciences  
**Timothy Faust**, Biology BA  
**Ashlin Fields**, Medical Imaging BS  
**Samantha Fields**, Medical Imaging BS  
**Nathaniel Flick**, Health Sciences BS - Medical Lab Science  
**Bryce Foster**, Biology BS - Environmental Biology  
**Katherine Geissinger**, Biology BS  
**Andrea Geist**, Biology BS - Environmental Biology  
**Jacqueline Glaser**, Health Sciences BS - Pre-Physical Therapy  
**McKensie Haines**, Medical Imaging BS  
**Kelsey Harm**, Health Sciences BS - Pre-Physical Therapy  
**Sean Hartzell**, Biology BA - Natural History  
**Katherine Hawkins**, Biology BS - Pre-Medical Sciences  
**Jade Heisman**, Health Sciences BS - Pre-Physician Assistant  
**Jennifer Hensley**, Health Sciences BS - Pre-Physician Assistant  
**Emma Jablonski**, Pre-Occupational Therapy  
**Lindsay Johnson**, Health Sciences BS - Pre-Physical Therapy  
**Brendon Juengst**, Biology BS  
**Erik Karpinski**, Health Sciences BS - Pre-Physical Therapy  
**Ashley Kerstetter**, Medical Imaging BS  
**Lindsay Kida**, Medical Imaging BS  
**Rachel Kobeski**, Health Sciences BS - Pre-Physician Assistant  
**Emily Kossifos**, Health Sciences BS - Pre-Physical Therapy  
**Bridget Krecko**, Health Sciences BS - Pre-Physician Assistant  
**Heather Langdon**, Health Sciences BS - Pre-Physical Therapy  
**Sarah Lebo**, Health Sciences BS - Pre-Physician Assistant  
**Kendall Leet**, Health Sciences BS - Pre-Physician Assistant  
**Sharon Loomis**, Medical Imaging BS  
**Angela Lynch**, Medical Imaging BS  
**Kelsey Matthews**, Biology BS - Pre-Medical Sciences  
**Elaine McCauley**, Health Sciences BS - Pre-Physician Assistant  
**Corey McKenna**, Health Sciences BS - Medical Lab Science  
**Shaun McNamara**, Medical Imaging BS

**Lauren Miller**, Medical Imaging BS  
**Kelsey Mitchell**, Medical Imaging BS  
**Ashita Mittal**, Biology BS - Molecular Biology  
**Amalia Montoya**, Biology BS - Pre-Medical Sciences  
**Gretchen Moore**, Health Sciences BS - Pre-Physician Assistant  
**Philip Mosolino**, Health Sciences BS - Pre-Physical Therapy  
**Joshua Mullen**, Biology BS - Microbiology  
**Myrle Newcomer**, Health Sciences BS - Medical Lab Science  
**Bethany Noll**, Health Sciences BS - Pre-Physical Therapy  
**Renee Noll**, Biology BS - Environmental Biology  
**Dana Palermo**, Biology BS - Pre-Medical Sciences  
**Breanna Parsons**, Medical Imaging BS  
**Sharon Pitcavage**, Health Sciences BS - Pre-Physical Therapy  
**Daniel Polenik**, Health Sciences BS - Pre-Physician Assistant  
**Dominick Policare**, Health Sciences BS - Pre-Physical Therapy  
**Erik Rahner**, Biology BS - Pre-Medical Sciences  
**Kara Renninger**, Medical Imaging BS  
**Renee Risaliti**, Biology BS  
**Ashley Robertson**, Health Sciences BS - Pre-Physical Therapy  
**Tinille Roelofse**, Health Sciences BS - Pre-Physician Assistant  
**Courtney Rudisill**, Medical Imaging BS  
**Jessica Rutt**, Health Sciences BS - Medical Lab Science  
**Suzanne Sager**, Health Sciences BS - Pre-Physician Assistant  
**Meredith Salmon**, Biology, BA, Secondary Education, Biology  
**Alexandra Savidge**, Medical Imaging BS  
**Jessica Shaffer**, Medical Imaging BS  
**Bryce Showers**, Health Sciences BS - Pre-Physical Therapy  
**Robert Simpson**, Biology BS - Pre-Medical Sciences  
**Claire Sistek**, Biology BA - Natural History  
**Daniel Smith**, Health Sciences BS - General  
**Ryan Smolock**, Biology BS - Environmental Biology  
**Bethany Sneidar**, Biology BS  
**Elysha Sowers**, Biology BS - Environmental Biology  
**Michael Stecz**, Health Sciences BS - Pre-Physical Therapy  
**Ashley Stickler**, Medical Imaging BS  
**Allison Stiles**, Health Sciences BS - Pre-Physician Assistant  
**David Strawn**, Biology BS - Molecular Biology  
**Sara Struble**, Health Sciences BS - Pre-Physical Therapy  
**Ryan Stuart**, Health Sciences BS - Pre-Physician Assistant  
**Matthew Swift**, Biology BS - Pre-Medical Sciences  
**Stephen Taylor**, Biology BS - Pre-Medical Sciences  
**Michael Tekin**, Biology BS  
**Alyssa Torch**, Medical Imaging BS  
**Danielle Treon**, Biology BS  
**Derek Tripp**, Medical Imaging BS  
**Alyssa Tuorto**, Medical Imaging BS  
**Justin Vanderمولen**, Medical Imaging BS  
**Erika Vasconez**, Pre-Occupational Therapy  
**Allison Wacendak**, Medical Imaging BS  
**Jessica Warg**, Medical Imaging BS  
**Erica Weiler**, Health Sciences BS - Pre-Physician Assistant  
**Chelsea Wenner**, Health Sciences BS - Pre-Physical Therapy  
**Kendra Wetherhold**, Health Sciences BS - General  
**Heather Yohnke**, Health Sciences BS - Pre-Physician Assistant  
**Jennifer Young**, Health Sciences BS - Pre-Physician Assistant  
**Sandra Zelonis**, Biology BS - Pre-Medical Sciences

## Tri-Beta Biology Honor Society

Beta Beta Beta (Tri-Beta) is an honor society for biology students who achieve superior academic records and who display an aptitude for and an interest in the life sciences. Its mission is to stimulate scholarship, to disseminate scientific knowledge, and to promote biological research. This semester the chapter tutored students in introductory biology courses weekly and sponsored practice Kaplan exams for the MCAT, DAT, OAT, PCAT, and GRE. The group held a bake sale to benefit the Rabb Fund for undergraduate research in biology. The chapter presented a booth at the College of Science and Technology Career Day. Tri-Beta also plans to provide coffee and donuts to Hartline students, staff and faculty during finals week. The main event this semester was to initiate new members. The program included a presentation by featured speaker, **Dr. George Chamuris**, on the "Biology of Bark," and was followed by a reception for family and friends. Leading Tri-Beta this year are officers, from left: Vice-President, **Adam Bertino**; Secretary, **Ashley Robertson**; Co-President, **Emily Broach**; Co-President, **Julianne Heater**; Historian **Taylor Ball**; and Treasurer, **Laurel Downs**. **Dr. Surmacz** is the Tri-Beta advisor. For more information about Tri-Beta, please see any officer or Dr. S or consult the bulletin boards adjacent to 146 HSC.



### Congratulations to the New Members of Tri-Beta!

#### Regular Members:

Louisa Andrew  
Caitlin Bagenstose  
Danielle Bordner  
Alyssa Fearheller  
Bryce Foster  
Katherine Geissinger  
Katherine Hawkins  
Jamie Hessels  
Sarah Hower  
Catherine Hughes

Brendon Juengst  
Rachel Kobeski  
Emily Kossifos  
Adam Kulp  
Michael Lightner  
Megan McGowan  
Ashita Mittal  
Jacob Morton  
Myrle Newcomer  
Alexa Nisiotis  
Blake Shoemaker



Bryce Showers  
Claire Sistek  
Daniel Smith  
Michael Stecz  
Bobby Turner  
Julio Valencia-Velez  
Anthony Vendetti  
Chelsea Wenner  
Jonathan White  
Sandra Zelonis

#### Associate Members

Kent Cooper  
Sarah Dodgin  
Nathan Erie  
Elaine McCauley  
Tinille Roelofse

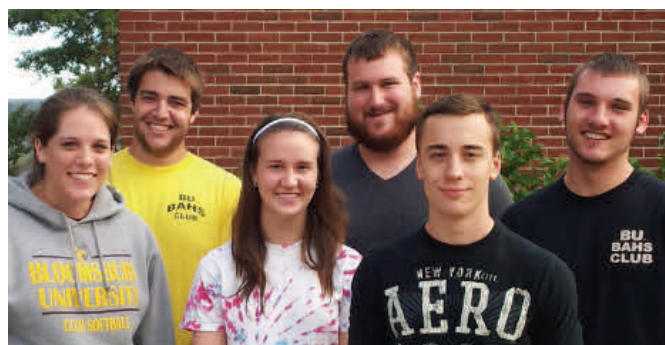
#### Faculty:

Dr. William Schwindinger



## Biology and Allied Health Club

The BAHS club is off to a busy start this year under the direction of officers, from left: Secretary, **Ashley Vought**; Vice-President, **Jeffrey Daily**; PR, **Jill Andrews**; President, **Spencer Randolph**; PR, Bryce Foster, and Treasurer, **Justin VanDerMolen**. Historian **Seth Brakefield** is missing from the photo. **Drs. Hess** and **Venditti** advise the club. The club hosted its annual "Meet the Professors Night" complete with a power point presentation and time for faculty and students to mingle over snacks. The club has kept busy with sales of baked goods and T-shirts and a clean-up at Kocher Park. The group plans on volunteering for the SPCA and learning about opportunities for research and internships. All interested students are welcome to join!



# WELCOME

BAHS welcomed three new faculty members to the classroom this semester

## Dr. Candice Klingerman

**Dr. Klingerman** grew up in Levittown, PA. She earned her B.S. in Small Animal Science from Delaware Valley College, her M.S. in Animal Science from the University of Delaware, and her Ph.D. in Integrative Biology from Lehigh University. Dr. Klingerman's expertise is in the area of behavioral testing and observation, including detecting differences in sexual and ingestive motivation in rodents. Her primary research interests are energy balance and reproduction in male and female mammals. She is investigating why female Syrian hamsters (*Mesocricetus auratus*) in negative energy balance (e.g. anorexia) increase their motivation for food (i.e. food hoarding) and decrease their motivation to reproduce (i.e. scent marking) but not food intake or sexual performance (i.e. lordosis reflex). Dr. Klingerman's secondary research interest relates to hydrogen sulfide, a toxic gas. She is trying to understand how it causes its deadly affects, so that successful antidotes can be developed that reduce its toxicity and increase the chance of survival. Dr. Klingerman has taught and/or performed research at Lehigh University, the University of Delaware, and Monash University (Clayton, Australia). Most recently, she was a post-doctoral fellow in the Department of Medicine, Pulmonary Division, at the Penn State University College of Medicine, Hershey, PA. This fall she taught Anatomy and Physiology I and Concepts in Biology I laboratories. In her free time, Dr. Klingerman likes to tend to her "zoo" which currently includes 2 dogs (a boxer and a dachshund), a rabbit, and lots of fish (1-large South American Cichlid aquarium, 2-damsel and clownfish salt water aquarium, 3-koi pond, and 4-her office freshwater, tropical aquarium). She also enjoys traveling around the world, eating good food, biking, hiking, gardening, canoeing, fishing, horseback riding, and spending time outdoors. Glad to have you with us Dr. Klingerman!



## Dr. Amber Pitt

**Dr. Amber Pitt** joins the Department of Biological and Allied Health Sciences this semester bringing expertise in the areas of conservation biology, ecology, herpetology, and aquatic ecology. Dr. Pitt hails from Vermont, but has lived and worked all over the country from Maine to Florida and South Carolina to Hawaii. She earned her B.A. in Zoology from the University of Vermont where she examined benthic macroinvertebrate (insect) communities in mountain streams. Her M.S. & Ph.D. are from the University of Florida in Interdisciplinary Ecology with a concentration in Wildlife Ecology and Conservation. Her graduate research examined long-term changes in river turtle communities, populations, and habitats in Missouri. Dr. Pitt's postdoctoral research and teaching experiences were at Clemson University where she coordinated and implemented three large-scale, interdisciplinary research projects to 1) map and conduct an ecological assessment of seasonal wetlands in the Blue Ridge and Piedmont ecoregions of South Carolina, 2) examine hydrological and biological connectivity among seasonal wetlands and traditional navigable waterways, and 3) examine the effects of prescribed fire on American toad movement and behavior in the Southern Appalachians. Dr. Pitt has also conducted research on Eastern and Ozark hellbender salamanders in the

Great Smoky Mountains National Park and Missouri, respectively. Dr. Pitt has served as an invited expert for the completion of a distribution-wide Population and Habitat Viability Assessment for hellbender salamanders in conjunction with the IUCN Conservation Breeding Specialist Group. Her conservation-driven ecological research that focuses on amphibians, reptiles, and aquatic ecosystems has been used to support state, federal, and international policy changes related to reptile, amphibian, and aquatic ecosystem conservation. This semester Dr. Pitt taught Concepts in Biology I lab. She will teach Population Biology during spring semester. For fun, she enjoys traveling, enjoying the great outdoors, and creating art. Welcome Dr. Pitt!



## Dr. William Schwindinger

**Dr. Schwindinger** is originally from Kendall Park, New Jersey, but has lived in the Bronx, New York and Baltimore, Maryland before locating to Lewisburg, PA. He received a BA degree in biochemistry from Rutgers, The State University of New Jersey, in New Brunswick, NJ and MD/PhD degrees from Albert Einstein College of Medicine, in the Bronx, NY. He has clinical training in Internal Medicine and Endocrinology. His Ph.D. work in Biochemistry was in the laboratory of Dr. Jonathan Warner at Albert Einstein College of Medicine. Dr. Schwindinger conducted post-doctoral work with Dr. Michael Levine at Johns Hopkins University School of Medicine. He served as a research scientist at the Weis Center for Research, Geisinger Medical Center working with Dr. Janet Robishaw. His work focused on G protein coupled signal transduction. He studied human diseases caused by mutation in GNAS, a gene encoding an alpha subunit of the heterotrimeric G proteins. He also created mouse models with relevance to human diseases by targeted deletion of genes encoding gamma subunits of the heterotrimeric G proteins. He has previously taught at Susquehanna University and Pennsylvania College of Technology. He is currently teaching Anatomy and Physiology I and II laboratory. In his free time, Dr. Schwindinger enjoys hiking. Welcome Dr. Schwindinger!

## News from the BAHS Department Office

BAHS bids a fond farewell to **Ms. Vicki Beishline** (left) who retired in August after 13 years as department secretary. Ms Beishline was at Bloomsburg University for over 30 years. She graduated from Bloomsburg University with a degree in business education. We thank Ms. Beishline for her patience, good humor, dedication and support. We will miss you!



BAHS welcomes **Ms. Amy Long** (right) as our new department secretary. Ms. Long has been at Bloomsburg University for nine years. She has served as assistant registrar and as a secretary in Accommodative Services and the Department of Business Education and Information Systems. Ms. Long is an alumnus of Bloomsburg University, earning a bachelor's degree in Sociology. She holds a M.S. in Student affairs from Kutztown University. Ms. Long enjoys spending time with her two children. She reports that she has enjoyed her first semester in the department and looks forward to working here. Welcome Ms. Long! Glad to have you aboard.



The department is aided by a hard-working staff of student workers. Our undergraduate lab assistants are **Julianne Heater, Ashley Robertson, and Jean Nicole Place**. Serving as Graduate Assistants are **Ben Carlucci** (Cell Biology and IPL), **Zane Hoover** (Microbiology) and **Keith Kinek** (Anatomy and Physiology). **Michele Sekunda, Tabby Jaff, Maria Hodapp and Krista Lipps** are our student secretaries.



### NOTICE TO DECEMBER GRADS

All students graduating with a BS or a BA in Biology or a BS in Health Sciences in December or student-teaching in Spring 2014 must take the ETS Major Field Test in Biology. The test will be given on Tuesday, December 10, from 1:00-3:00 PM and Wednesday, December 11, from 3:30-5:30 PM. Sign up for a date to take the test in the Department of Biological and Allied Health Sciences Office, 115 Hartline. Contact **Dr. Wood**, 147 Hartline, if you have any questions. Graduation is Saturday, December 14, at 2:30 p.m. in Haas Auditorium.



## Looking Ahead: Spring Biology Electives

Biology electives are a great way to explore fields of interest and to prepare for the future. Check out the BAHS biology elective offerings for Spring Semester:

Biology 233 Human Genetics (**Dr. Chamuris**)  
 Biology 332 Genetics (**Dr. Ardizzi**)  
 Biology 333 Molecular Biology (**Dr. Davis**)  
 Biology 334 Molecular Biology Lab (**Dr. Brubaker**)  
 Biology 361 Comparative Vertebrate Anatomy (**Dr. Corbin**)  
 Biology 411 Radiation Biology (**Dr. Simpson**)  
 Biology 421/521 Ecosystems Management (**Dr. Rier**)  
 Biology 435/535 Bioinformatics (**Dr. Davis**)  
 Biology 451/551 Conservation Biology (**Dr. Wood**)  
 Biology 460 /560 Population Biology (**Dr. Pitt**)  
 Biology 470 /570 Medical Parasitology (**Dr. Henry**)  
 Biology 476/576 Neurophysiology (**Dr. Coleman**)

Physiology Offerings:

Biology 474: Human Physiology (**Dr. Surmacz**)  
 Biology 480/580 : Comparative Animal Physiology (**Dr. Hansen**)  
 Biology 479: Integrated Physiology Laboratory (**Drs. Coleman and Williams**)

### Check out the new course on Ecosystem Management

Biology 421/521, Ecosystem Management, is a new biology elective for B.S. Biology majors, Environmental Biology majors and biology graduate students. It will focus on real-world case studies and will bring in actual practitioners of Ecosystem Management from this region into the classroom. The goals of the course are to cultivate an understanding of the processes underlying functioning ecosystems, how humans have altered these processes and how this knowledge can be applied for more effective management and restoration of ecosystems at both local and landscape scales. Please see Dr. Rier for additional information.

## Faculty News

**Dr. Hess** participated in a summer learning experience for twenty high school seniors from Allentown School District. During this three week program, Dr. Hess engaged the students in the laboratory with experiments and activities related to the scientific method, cell structure and function, genetics and DNA technology, anatomical terminology, and human cardiovascular physiology. The goal of the program was to give program participants the opportunity to experience campus life and to take college-level courses. Students also took courses in geosciences and computer forensics.

**Dr. Pitt** recently gave an invited presentation entitled "Synthesis of the Effects of Fire on Southern Appalachian Fauna" at the Wildland Fire in the Appalachians Conference in Roanoke, VA. The conference, which was co-sponsored by the Association for Fire Ecology and the Consortium of Appalachian Fire Managers and Scientists, brought scientists and land managers from across the United States together to exchange information about the use of prescribed fire as a management tool for restoring native ecosystems and species. The knowledge exchange will help guide fire-based ecosystem management in the Appalachian region of the eastern United States. Prior to European settlement of the United States, fire was historically common throughout the Appalachian region and contributed to the vast diversity of ecosystems and species within the region. Fire-based management is increasingly being used to restore native ecosystems and species to public lands in the Appalachians.

**Dr. Pitt** also recently published the following article: Pitt, A.L., J.J. Tavano, R.F. Baldwin, and T.A. Waldrop. 2013. Effects of fuel reduction treatments on movement and habitat use of American toads in a southern Appalachian hardwood forest. *Forest Ecology and Management* 310:289-299. You can check out the abstract at <http://www.sciencedirect.com/science/article/pii/S0378112713005598>

**Dr. Corbin** attended the international congress of vertebrate morphology in Barcelona, Spain during the summer. He presented two papers: "Between two worlds: the correlation between morphology and foraging ecology of migratory passerines in temperate and tropical environments," and "Killing rates and morphology in ambush-predator birds."

**Drs. Venditti** and **Surmacz** published an article in *The American Biology Teacher*: "Exploring Ovulation & Pregnancy Using Over-the-Counter Products: A Novel Guided Inquiry." Vol 74, No 9, pages 613-618. ISSN 0002-7685, electronic ISSN 1938-4211. Anatomy and Physiology 2 students currently conduct this experiment during their laboratory in Reproduction and Development.

**Dr. Venditti's** research group presented two papers at the 38th annual meeting of the American Society for Andrology in San Antonio, Texas. **Neil Sullivan** presented a poster on "Functional Distribution of Human Semen Alpha-L-Fucosidase as a predictor of fertility." **Charmiane Henderson, Elisa Busada,** and **Neil Sullivan** were co-authors on the poster "Investigating the Cytotoxic effects of novel compounds as potential spermicides."

## Meet our 2013 Scholarship and Award Winners

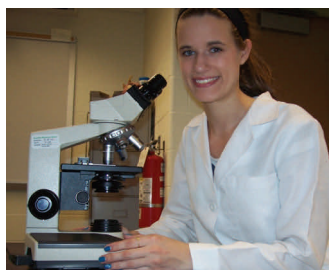


### James E. Cole Medical Imaging Scholarship

**Justin VanDerMolen**, a dean's list student, is a medical imaging major. He has conducted an internship at Geisinger Medical Center in the Radiology Department. Outside the classroom Justin serves as the treasurer of the Biology and Allied Health Sciences Club. He is a peer tutor at University Tutorial Services in the courses Concepts in Biology I and Anatomy and Physiology. Justin has served the local community through the group Developing Ambitious Student Leaders, cleaning up local wetlands, and helping out with The Big Event.

### Biological and Allied Health Science Scholarship

**Adam Kulp**, a B.S. Biology major, participated in the Undergraduate Research Scholarship and Creative Activities (URSCA) program during the summer of 2013. Adam received a stipend to perform research investigating the localization of the protein synapsin I (classically thought to only be present in nerve cells) in human sperm cells using immunocytochemical techniques. Adam's project was part of a collaborative research effort between Dr. William Coleman's and Dr. Jennifer Venditti's labs. Adam is a Community Assistant and has served as a project manager on a number of residence life events. He is also been actively engaged in community service activities as an active member of Developing Ambitious Student Leaders. He has recently been inducted into Tri-Beta Honor Society.



### James Parsons Medical Lab Science Scholarship

**Myrle Newcomer**, a Health Sciences major, medical laboratory science option, will enter the clinical program at Guthrie Medical Center in Sayre, PA. Myrle has received Bloomsburg University's Trustee Scholarship and was recognized for outstanding academic performance in her freshman year by the Honor Society of Phi Kappa Phi. She was recently inducted into Tri-Beta Honor Society. Myrle is a member of Developing Ambitious Student Leaders where she has served the community as a participant in the Big Event and as a volunteer at the SPCA.

### Margaret Till Physiology Award

**Renee Risaliti**, is a senior biology major, pre-medical sciences option and plans to attend veterinary school. Renee is a member of Tri Beta Biology Honor Society and the Honor Society of Phi Kappa Phi. She is a member of the Biology and Allied Health Sciences Club and has tutored biology and chemistry students. She is employed on campus and was nominated for Student Worker of the Year. She participates in the Presidential Leadership Program and has served as Vice President and Relay for Life Co-captain. She conducted a research project on the physiological, behavioral and cellular responses to heat stress in black worms. She will present her work at the national meeting of the Society for Integrative and Comparative Biology in January 2014 in Austin, TX.



### Outstanding Biology Student Award

**Kelsey Matthews** graduated magna cum laude with a B.S. in biology, pre-medical sciences option and a chemistry minor. She completed the requirements for the University Honors Program and conducted honors research on the signal transduction pathways involved in fluconazole resistance in yeast in the laboratory of Dr. Karl Henry. She was a member of the Phi Kappa Phi Honor Society and Tri-Beta Biology Honor Society. Outside the classroom, Kelsey was the Co-President of the Helping Others Club and a member of the Pre-medical sciences club. Kelsey participated in Jan Plan, an intensive two-week program at Geisinger Medical Center for pre-medical sciences students. Kelsey is currently a first year medical student at Lake Erie College of Osteopathic Medicine.

### Outstanding Health Science Student Award

**Brittany Carper**, a Health Sciences major, pre-physician assistant option, graduated magna cum laude. She is currently in the physician assistant master's program at Arcadia University. Brittany was a member of Phi Kappa Phi Honor Society and Tri-Beta, the biology honor society. She was recognized by Who's Who Among Students at Colleges and Universities. She has extensive health care experience as a volunteer EMT and as an intern at Susquehanna Valley Medical Specialties and Geisinger Medical Center. Brittany has volunteered at Camp Ability, a camp for physically and mentally disabled children.





## Pre-professional Committee UPDATES

### What is the pre-professional committee?

The BU pre-professional committee assists students in gaining admission to professional schools such as allopathic, osteopathic, podiatric, or veterinary medicine, as well as dentistry, optometry, podiatry, and chiropractic medicine. The committee hosted an informational meeting at ABLE in Columbia Residence Hall in September and a practice MCAT in November. During the spring semester, the committee will host "Pre-Med March Madness." This series of workshops will focus on drafting resumes, writing that all-important personal statement, and the application process. Sophomores and juniors are strongly urged to attend. The co-chairs of the committee are **Drs. Ardizzi** and **Surmacz** from BAHS. Other committee members are **Dr. Henry** (BAHS) and **Drs. Morgan** and **Bell** (Chemistry). For more information on pre-medical sciences at BU, students are encouraged to check the committee's website (<http://departments.bloomu.edu/biology/preprof.htm>) and the pre-med club bulletin board outside room 145 HSC. You are also encouraged to join the Pre-professional /Graduate Community on BOLT by contacting Dr. Bell (tbell2@bloomu.edu).



### BAHS Students head to Professional Schools

The pre-professional committee congratulates all students who have successfully gained admission to professional school: **Darrin Doran** (Philadelphia College of Osteopathic Medicine), **Kimberly Lebron**, (Dental School, University of Maryland), **Kelsey Matthews** (Lake Erie College of Osteopathic Medicine), **Ian McAndrew** (School of Optometry, Salus University), **Stephen Paliswiat** (Philadelphia College of Osteopathic Medicine), **Brandon Petrone** (Philadelphia College of Osteopathic Medicine), **James Redinski** (Lake Erie College of Osteopathic Medicine), **Michelle Stipanovic** (School of Optometry, Salus University), **Cassandra Thompson** (Lake Erie College of Osteopathic Medicine), and **Dreka Williams** (School of Optometry, Nova Southeastern University). Best wishes for continued success.

### Join the Pre-Medical Sciences Club!

The Pre-Medical Sciences Club welcomes all students interested in any of the medical sciences (allopathic or osteopathic medicine, optometry, podiatry, dentistry, veterinary medicine, chiropractic, etc.) Leading the group this year are pictured from left: Treasurer, **Taylor Ball**; President, **Ashita Mittal**, Vice-President, **Martina Drew**; Historian, **Julianne Heater**; Advisor, **Dr. Ardizzi**; and Secretary, **Katie Hawkins**.

The club hosts speakers and professional school admissions officers, provides mentoring, assists with the application process, provides MCAT and DAT review material in the library, and offers opportunities for pre-professional students to get to know each other. This year the group is focusing on volunteering in the community and traveled to Vintage Knolls, an assisted living community in Danville, PA to help with their Bingo event. The group recently held a bake sale fundraiser in Hartline lobby. Yum! Also on the agenda is a future trip to the Mutter Museum in Philadelphia. This is a museum of medical history and there are unusual anatomical specimens on display. For more information on membership or activities, check out their bulletin board outside 145 HSC or contact any officer.



### Get Ready for the New MCAT

MCAT, a test administered by the Association of American Medical Colleges, is a standardized, multiple choice examination required for medical school admission. The 2013 and 2014 MCAT assess mastery in biology, general and organic chemistry, physics, scientific problem solving, and critical thinking. Scores are provided in: biological science, critical thinking, and physical sciences. Significant changes are being made to the MCAT beginning in 2015. This is the exam that most students who entered after fall 2012 will take. The MCAT 2015 has four sections: 1) Biological and Biochemical Foundations of Living Systems; 2) Chemical and Physical Foundations of Biological Systems; 3) Psychological, Social, and Biological Foundations of Behavior; and 4) Critical Analysis and Reasoning Skills. Scores will be reported on scale of 1-15 like the current exam. Detailed information about the MCAT and the registration process can be found at <https://www.aamc.org/students/applying/mcat/>



## Allied Health News

### BAHS Students Head to Clinical Programs



Nearly 50 BU students have entered clinical programs this semester. Their clinical sites and specialties are listed below (Key: RT, Radiologic Technology; CT, computerized tomography; NM, Nuclear Medicine; S, Sonography; CLS, Clinical Lab Science.)

Lancaster General Hospital: **Alison Reigle** (CVT)

Geisinger Medical Center: **Kelsey Mitchell** (CVT); **Kyle Sisak** (CVT); **Brittany Bartol** (RT), **Matthew Chiboroski** (RT), **Michael Duff** (RT), **Ashlin Fields** (RT), **Ashley Kerstetter** (RT), **Cicelia Paulus** (RT), **Courtney Rudisill** (RT), **Alexandra Savidge** (RT), **Ashley Stickler** (RT)

Johns Hopkins Hospital: **Allison Fairchild** (RT), **Nikotah Kistner** (NM, CT), **Robin Leonard** (RT, CT)

University of Pennsylvania Hospital: **Samantha Crago** (RT), **Alyssa Kresge** (RT), **Jacquelyn Lutz** (RT), **Megan Ortlieb** (RT)

College Misericordia: **Christina Gamba** (S), **Angela Lynch** (S), **Shaun McNamara** (S), **Breanna Parsons** (S) **Jennifer Sabins** (S), **Nicole Verosky** (S), **Jessica Warg** (S).

Bucks County CC: **Lindsay Dooley** (RT), **Alicia Kelly** (RT), **Sharon Loomis** (RT), **Jamie Oravec** (RT)

York Hospital: **Emily Gross** (RT), **Bryana Loss** (RT)

Christ Hospital: **Chelsea Armstrong** (RT), **Zachary Frace** (RT)

Drexel University: **Joelle Orlando** (RT)

SUNY Update Medical: **Allison Wacendak** (S)

Susquehanna Health: **Deavon Dreisbach** (MLS)

Robert Packer Hospital: **Alexa Fisher** (MLS), **Heidie Warren** (MLS)

## Medical Imaging Majors Hit the Road!

**Drs. Nolt and Klingerman** and seven BAHS majors headed to the Johns Hopkins Hospital Schools of Medical Imaging in Baltimore recently. Johns Hopkins offers medical imaging programs in radiography, nuclear medicine, and diagnostic medical sonography. MI majors making the trip are at right: **Nellie Marsh, Olivia Peck, Kendall Thoensen, Taylor Kreston, Justin VanDerMolen, Alyssa Butkiewicz, and Carl Basore.**



## Thinking Ahead to Careers

There have been many opportunities this semester for students to think about life after BU and to explore options for careers. First-year students in University Seminar had the opportunity to hear from the following speakers: Mr. Ken Roszel, Radiologic Technology Program at Geisinger Medical Center; Ms. Christine Wheary, Medical Laboratory Science Program at Susquehanna Health; Ms. Susan Webster and Ms. Michele Kashner, Physical Therapy, Geisinger Health South; **Dr. Steven Rier**, environmental biology careers, Bloomsburg University; **Dr. Candice Klingerman**, biology research careers, Bloomsburg University; **Dr. William Schwindinger**, medical school, Bloomsburg University.

The annual College of Science Career Day brought BAHS alumni and friends to campus to discuss their career paths. Insights were shared and advice was offered. It was a wonderful opportunity to explore the diverse options offered by degrees in biology, health science, and medical imaging. Joining us for the biology panel were: Oran Tansey, a brewer at Weyerbacher Brewery; Paige Ricci, a quality control scientist at Leclerc Foods; Stephanie (Findley) Rider, Director of Gleim Environmental Group; Dr. Jack Pyne, a gastroenterologist at Kaiser Permanente Riverside Medical Center; Leslie Thompson, lead zookeeper at Clyde Peeling's Reptileland. The allied health panel included: Laura Laidacker Moore, a third-year physician assistant student at Shenandoah University; Jennifer Kubilus, an MRI technologist at Geisinger Medical Center; Zane Hoover, a medical laboratory scientist at Geisinger Medical Center, currently working on a MS in Biology at Bloomsburg; Laura Halon Yeager, a pathologist assistant at Geisinger Medical Center; and Dr. Matthew Ritter, a chiropractor at Ritter Chiropractic Clinic, Bloomsburg, PA. Special thanks to **Dr. Brubaker** for organizing this well-attended and well-received event.

## Focus on Student Research



### URSCA Recipients

Several BAHS students received URSCA Awards over the summer. URSCA, short for Undergraduate Research, Scholarship, and Creative Activities, provides summer stipends of up to \$6,000 to support students participating in a 12 week program of summer research, scholarship, or creative activities. URSCA award recipients and their faculty mentors are:

- **Adam Kulp**, mentored by **Dr. Coleman**, "Localization of Synapsin Proteins in Human Sperm Cells."
- Chandra Dewar, mentored by **Dr. Davis** and Dr. Hallen, "Uptake Specificity of Synthetic Phitosidesphore Analogs by Gramineaceous Plants."
- **Sarah Dodgin**, mentored by **Dr. Hranitz**, "GIS Mapping of Larval and Juvenile Anuran Habitats on Assateague Island VA."
- **Paola Lunardi**, mentored by **Dr. Hranitz**, "Co-Occurrence of Larval and Juvenile Anurans and Potential Competition for Resources on Assateague Island VA."

### News from the BAHS Research Labs



**Brendon Juengst** and **Victoria Campbell** are using yeast as a model system to evaluate the functionality of a putative iron transport protein isolated from oats (*Avena sativa*) in **Dr. Davis's** lab. They will also be following up on previous work to evaluate the ability of a synthetic iron chelator to mine iron to accelerate yeast growth from a low-iron medium.

**Adam Bertino** and **Dan Smith** are conducting research in **Dr. Hess's** lab this semester. Their project will investigate the cellular stress response in human keratinocytes and melanocytes after low term exposure to low doses of ionizing radiation. This project is in collaboration with Dr. Naz Afarin Fallahian from the Department of Physics and Engineering Technology.

**Taylor Ball**, a B.S. Biology major, is investigating the spermicidal effects of novel compounds in **Dr. Venditti's** lab.

**Bobby Turner**, a B.S. Biology major, pre-medical sciences option, is exploring the physiological, behavioral, and cellular responses to various kinds of stressors in *Lumbriculus variegatus*, a bioindicator in aquatic ecosystems. **Dr. Surmacz** is his mentor.

**Adam Kulp**, a B.S. Biology major, performed research investigating the localization of the protein synapsin I (classically thought to only be present in nerve cells) in human sperm cells using immunocytochemical techniques. Future studies will focus on the function of synapsin proteins in human sperm cells. Adam's project was part of a collaborative research effort between **Dr. Coleman's** and **Dr. Venditti's** labs. Drs. Coleman and Venditti have received a Research and Scholarship grant to fund this project.

**Julianne Heater** and **Michael Tekin**, B.S. biology majors, conducted research this semester with **Dr. Coleman**. They are working on a new research project in Dr. Coleman's lab that will investigate presynaptic protein distribution (and as a future goal, synaptic vesicle cycling dynamics) at the earthworm neuromuscular junction.

**Jessica Willis**, BU Biology alumna, has joined the Masters in Biology program and will be continuing research with **Dr. Coleman** that she started as an undergraduate.

**Elisa Busada** presented her research "Investigating the Cytotoxic Effects and Morphological Changes in Human Cervical Cancer Cells Treated with Novel Compounds" at the 3<sup>rd</sup> Annual Susquehanna Valley Undergraduate Research Symposium held at the Henry Hood Center for Health Research, Danville, PA. **Dr. Venditti** is her mentor. This symposium, jointly sponsored by Geisinger Center for Health Research, Bloomsburg University, and Bucknell University, aims to provide a platform for area students to share research, experience a professional meeting, and gain insight into other disciplines.

#### THE BU MASTERS PROGRAM

BAHS offers a Masters of Science degree in Biology. Our master's program in general biology provides opportunities for course work and research at the supraorganismal, organismal, cellular, and molecular levels of biology. The program prepares students for admission to doctoral programs or professional schools and also enhances the knowledge and experience of high school biology teachers. For more information, contact the graduate program coordinator, **Dr. Thomas Klinger**, B54 HSC. [tklinger@bloomu.edu](mailto:tklinger@bloomu.edu)

## Summer NSF-REU Experience

Each summer the National Science Foundation (NSF)'s Research Experiences for Undergraduate (REU) program brings students from across the country to various institutions for an intensive research experience. During the summer of 2013, **Sarah Hay** (pictured at right), a B.S. Biology major, environmental science option, spent the summer conducting research above the arctic circle. Sarah's program was based at the University of Alaska, Fairbanks. She was stationed at Toolik Field Station, about 10 hours north of Fairbanks. Sarah's project compared bacterial communities in streams to those in connected lakes. Her objective was to better understand how species of bacteria change during stream processing and the role of landscape input. She quantified landscape input by estimating the number of acidobacteria. Acidobacteria are abundant in soil environments, and thus an increase in acidobacteria in the water environments, suggests an input of soil microbes. Her project was part of an effort aimed at understanding the microbial communities in arctic tundra. This will allow scientists to better understand the consequences of environmental changes, such as climate change or increase carbon inputs. Information on the NSF-REU program can be found at: <http://www.nsf.gov/crssprgm/reu/>



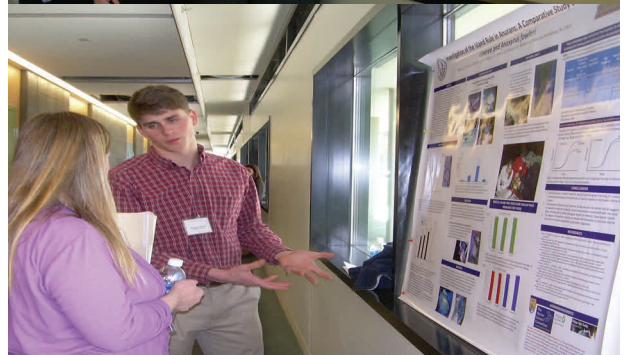
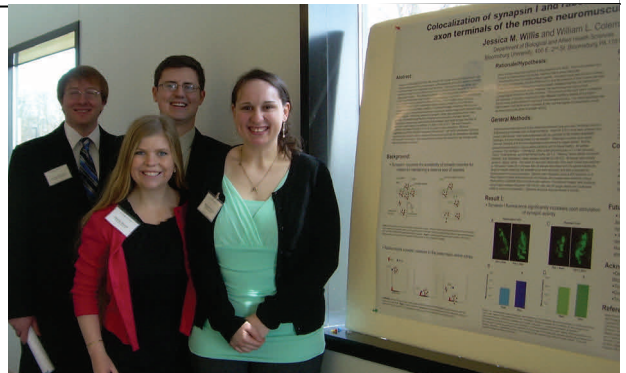
## Rabb Research Award

**Brendon Juengst** has received the Rabb Undergraduate Research Award to support his research project, *A "Trojan Horse" delivery system for grasses*, that he is conducting under the direction of **Dr. George Davis**. Brendon, shown at left with Dr. Davis, is a B.S. Biology major and member of the University Honors Program. This award supporting undergraduate research in biology was established in honor of Dr. Donald D. Rabb, faculty emeritus and former chairperson of the Department of Biological and Allied Health Sciences. Any BAHS undergraduate who is conducting research under the direction of a BAHS faculty member is eligible for this award. Please see your research mentor for details.

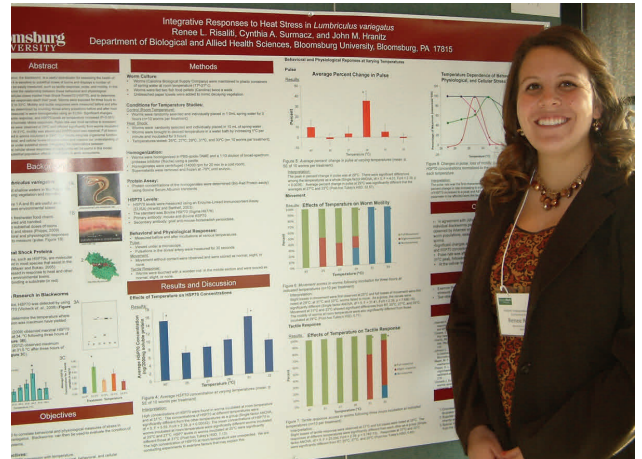
## BAHS Students present research at Tri-Beta District Convention

BU's chapter of Tri-Beta Biology Honor Society was well-represented at the Northeast District 2 Convention at Lincoln University last spring. Attending from BU were **Emily Broach, Corey Bower, Erik Rahner, Stephen Paliswiat, Stephen Taylor, Jessica Willis, Dr. Coleman, and Dr. Surmacz**. **Jessica Willis** presented her research investigating the relationship of the presynaptic proteins rab3a and synapsin while at rest and during synaptic activity at the mouse diaphragm neuromuscular junction. Jessica's work was supported by a Tri-Beta Foundation research grant. **Dr. Coleman** is her mentor. **Corey Bower** presented a poster on "A Comparative Approach to the Evolution of Body Size in Island and Mainland Environments." His mentor is **Dr. Hranitz**.

BU's Tri-Beta chapter was notified at the convention that it was named the second place winner of the Lloyd M. Bertholf Award, a national award established to recognize excellent chapters. The criteria for selection include various aspects of chapter programming, such as guest speakers and tutoring and other service projects, but emphasizes most heavily the encouragement of scholarly activity and research among the members. Congratulations to our past and present members for your dedication to the goals of Tri-Beta!



## BAHS Students Recognized for Research



Several BAHS students have been recognized for their research accomplishments at state conferences. At the annual Commonwealth of Pennsylvania Biologists Meeting, **Kelsey Matthews** (left), a May 2013 biology, pre-medical sciences graduate, earned first place in the Undergraduate Research Presentation category for her project “Testing the effects of signal transduction inhibitors on azole resistance in the opportunistic fungal pathogen *Candida glabrata*.” **Dr. Henry** is her mentor. Kelsey also received Bloomsburg University’s CPUB Outstanding Student Award for the 2012-13 academic year. **Ghaith Ibrahim** (middle), a master’s student (B.S. Biology 2011) won a second place award in the Overall Graduate Student Division for his research entitled “Identification of a putative Gcn5-like histone acetyltransferase and its role in anti-fungal resistance in *Candida glabrata*.” Ghaith is also advised by **Dr. Henry**. At the first annual PASSHE STEM Conference for Undergraduate Research at Slippery Rock University, **Renee Risaliti**, B.S. Biology, was awarded third prize in the poster category from a field of 77 posters. Renee’s research investigated the integrated responses to heat stress in black worms. **Dr. Surmacz** is her research mentor.

### Mark Your Calendars!

You are invited to the College of Science and Technology Research Day on Friday, Dec 6 at 3 p.m., ground floor Hartline. Come and learn about student research projects that are being conducted throughout the college.

Bloomsburg University will host the annual meeting of the Commonwealth of Pennsylvania University Biologists (CPUB) on April 11– 13, 2014. CPUB is an organization comprised of faculty from the fourteen state-owned universities in the Pennsylvania State System of Higher Education (PASSHE). The annual meeting is an opportunity for faculty and students from throughout the state to join for a day of presentations, lectures, and workshops. This is a great forum for students to present the results of their research projects. We hope to see you there!

### Five BAHS Students Honored for Outstanding First-Year Performance



Phi Kappa Phi is the nation’s oldest, largest, and most selective honor society that recognizes and promotes achievements in all disciplines. Each year, the Bloomsburg University chapter presents awards to exceptional students on the basis of their academic performance in the freshman year. This year five BAHS students were among those honored. Receiving the award at a November recognition ceremony were current BAHS sophomores: **Aaron Brown**, Biology; **Angie Diaz**, Medical Imaging; **Nathaniel Flick**, Health Sciences; **McKensie Haines**, Medical Imaging; and **Jessica Shaffer**, Medical Imaging.

### BAHS Students in the Community

Members of the BAHS Club and Tri-Beta team up with **Dr. Corbin** on a Saturday morning in November for a volunteer work day at Kocher Park.



