



BioSynthesis

Volume 11, Issue 2 (October 2012)

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

Upcoming Events

OCT 1—4: Career Night Speakers, G40 or 101 HSC, times and topics on page 9.

OCT 5: Trip for Medical Imaging majors to Johns Hopkins Hospital, Baltimore, MD.

OCT 9: Seminar for Students Applying to Clinical Programs, G40 HSC, 5:30 p.m.

NOV 3: Practice MCAT, 262 HSC, 8:00 a.m.

NOV 4: Tri-Beta Initiation Ceremony, 108 HSC, 3:00 p.m.

DEC 11 or DEC 12: Major Field Test in Biology for graduating seniors.

DEC 7: CoST Research Day.

DEC 15: Fall Undergraduate Commencement Ceremony, Haas Auditorium, 2:30 p.m.



Look what's inside:

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Unleash your Inner Husky in Hartline!

Welcome to campus! We're excited to have you here where you can unleash your inner Husky, as well as your inner biologist and inner allied health professional!

How do you find that "inner you?" Getting involved is the key. Engage in hands-on discovery in the classroom, whether it's exploring photosynthesis in Integrated Physiology Lab like **Dr. Williams** and **Steven Paliswiat** (top photo) or designing body plane potatoes in Anatomy and Physiology I (bottom photo.)

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. BAHS professors engage in a wide range of research projects running the gamut from stream ecology to cancer biology. Undergraduate and graduate students are active members of our research teams. Check out the professors' research interests on the BAHS website and team up with someone whose work excites you. The Department of Biological and Allied Health Sciences (BAHS) is a busy, vibrant, and diverse place. We are eager to get to know you and we look forward to working with you. Have a great year!





Celebrating Student Success

Dean's List

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 2012. Great job!

BA Biology: **Lynnette Eichenlaub (Secondary Education), Timothy Faust, Larissa Johnson, Stephanie Murphy, Tracy Stutzcage (Secondary Education).**

BA Biology, Natural History: **Sean Hartzell.**

BS Biology: **Laurel Downs, Meghan Duell, Brendon Juengst, Marissa McDowell, Sarah Monaco, Jonathan Moore, Stephanie Murphy, Zachary Rhoden, Renee Risaliti, Breanna Romig, Elyse Ryan, Tracy Stutzcage, Marcus Sullivan, Bobby Turner.**

BS Biology, Environmental Biology: **Robert Dorosky, Andrea Geist, Amy Gresh, Richard Hampson, Sarah Hay, Kirk Jeffreys, Holly Kessler, Renee Noll, Ryan Smolock, Elizabeth Sowers, Tracy Stutzcage, Rachel Yanchek.**

BS Biology, Microbiology: **David Bower, Joshua Mullen, Michelle Updike.**

BS Biology, Molecular Biology: **Sabrina Wagner.**

BS Biology, Pre-Medical Sciences: **Ryan Austin, Brittany Carper, Derick Carr, Elaine Daubert, Katy Degraw, Brandon Dunbar, Karen Esmus, Nicole Geiger, Sarah Lebo, Kelsey Matthews, Joshua Mullen, Gabriel Ortiz, Dana Palermo, Steven Paliswiat, Amanda Pulsifer, James Redinski, Adair Riegert, Tatiana Samson, Amber Shifflett, Daniel Smith, Stephen Taylor, Cassaundra Thompson, Sandra Zelonis.**

BS Health Sciences: **Nicholas Agostinelli, Jamie Hessels, Adam Kulp, Thomas May, Daniel Smith.**

BS Health Sciences, Clinical Lab Science: **Deavon Dreisbach, Amy Gresh, Myrle Newcomer.**

BS Health Sciences, Pre-Physician Assistant: **Brittany Carper, Elaine Daubert, Katy Degraw, Tina Di Marco, Erin Downey, Marc Francola, Amy Gresh, Katherine Hawkins, Rachel Kobeski, Bridget Krecko, Sarah Lebo, Michael Moleseovich, Gretchen Moore, Kaitlynn Nale, Jenelle Romig, Suzanne Sager, Amber Shifflett, Lauren Sosnoski, Stephen Taylor, Michael Wechsler, Jonathan White, Heather Yohnke.**

BS Health Sciences, Pre-Physical Therapy: **Ashley Bossert, Courtney Bush, Angela Cipolla, Chris Dilullo, Brianna Dudeck, Sarah Hay, Erik Karpinski, Victoria Kennedy, Samantha King, Lindsay Kupferschmidt, Heather Langdon, Candice Luciani, Alison Meter, Patrick Miles, Amy Neitz, Moustapha Noubissi, Gabriel Ortiz, Alexander Riegg, Ashley Robertson, Michael Stecz, Shakira Tassone, Chelsea Wenner.**

BS Medical Imaging: **Emily Backel, Kellina Beers, Katherine Buchanan, Alyssa Butkiewicz, Danielle Carlson, Devon Chilensky, Andrew Christman, Kayla Drexel, Allison Fairchild, Brianne Fazio, Ashlin Fields, Leah Gaydos, Jessica Hagerman, Jamie Hessels, Ashley Kalage, Ashley Kerstetter, Jason Kneller, Robin Leonard, Angela Lynch, Lisa Magulak, Thomas May, Shaun McNamara, Ellen Meisel, Alison Meter, Christine Michalski, Amy Neitz, Caley Nevin, Valerie Niedelman, Jamie Oravec, Sarah Pagni, Josie Pervola, Amanda Pulsifer, Sebastian Ramirez, Erin Roberts, Jenelle Romig, Courtney Rudisill, Moira Sheridan, Samantha Snyder, Ashley Stickler, Katherine Sweger, Noelle Verosky, Michelle Weigle, Jonathan White.**

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 2013 must take the ETS Major Field Test in Biology. The test will be given on Tuesday, December 11, from 1:00-3:00 PM and Wednesday, December 12, 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 15, at 2:30 p.m. in Haas Auditorium.



Get Involved! Join an organization

Biology & Allied Health Sciences Club

The Biology and Allied Health Club welcomes all interested students to join in a diverse array of club activities. The group recently hosted a "Faculty and Student Meet and Greet" and is taking orders for their "BioHazard" T-shirts. A workshop by Dr. Kipe-Nolt for medical imaging students on how to apply for clinical programs is planned for October 9, 2012 at 5:30 p.m. in G40 HSC. The officers are also planning volunteer opportunities, speakers, and trips. Stay tuned.... Leading the club are President, **Stephen Paliswiat**; Vice President, **Heather Kinney**; Treasurer, **Katrina Rohr**; Public Relations, **Jeff Dailey** and **Amanda Naugle**; Historian, **Katrina Conrad**. **Drs. Hranitz, Corbin, and Brubaker** advise the club.



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. More information on Tri-Beta is available on the bulletin boards opposite 99 Hartline. The chapter is currently tutoring students in introductory biology courses each Thursday from 12:30 to 1:30 p.m. at ABLE. Last year, our local chapter hosted a regional biology conference, held a reception for graduating seniors, supported the travel of a member to present research at a national Tri-Beta Convention, supplied coffee and donuts during finals week, donated to a national student research fund, and provided "dinosaur games" at the Siblings & Children's Weekend. This year's officers pictured from left are President, **Stephen Taylor**; Secretary, **Jessica Fisher**; Vice-President, **Jesica Willis**; Treasurer, **Stephen Paliswiat**; and Historian, **James Redinski**. **Dr. Surmacz** is the Tri-Beta advisor. The chapter recently sent out membership invitations to eligible juniors, seniors, and graduate students. The deadline to submit completed applications to Dr. Surmacz is October 1, 2012. Applications and Tri-Beta brochures are in the wall-pocket outside 146 Hartline. The Initiation Ceremony and Reception will be held on Sunday, November 4, 2012 at 3 p.m. in Kuster Auditorium, in Hartline Science Center. **Dr. Barry Nolt** will be the featured speaker. Family and friends are invited to attend.

Tri-Beta Initiation Ceremony and Reception



Sunday, November 4, 2012
108 Hartline, 3:00 p.m.

Gain Hands-on Experience!

Internships are a great way to get on-the-job experience and earn academic credit. BAHS offers Biology 490, Internship in Biology, to eligible juniors and seniors. While internships may vary from 3 – 15 credits, no more than 3 credits may be applied as biology electives. Internships may be paid employment or may be volunteer. To learn about internship opportunities and procedures, contact your academic advisor. Check out some recent BAHS internships:

Emily Broach: Pulmonology Associates, Wynnewood, PA.
Ashley Cameron: Alpine Animal Clinic, Danville, PA.
Leslie Cope: Bloomsburg Veterinary Hospital, Bloomsburg.
Katy DeGraw: Pediatric Practices of NEPA, Honesdale, PA.
Maria DeStefano: Drayer Physical Therapy Institute, Mechanicsburg, PA.
Chris DiLullo: Pediatric Therapy Center of Bucks County, LLC., Doylestown, PA.
Kayla Drexel: Lancaster General Hospital, Lancaster, PA.
Jacqueline Glaser: Robbins Rehabilitation, Phillipsburg, NJ.
David Hall, Gabriel Ortiz, and Hoyt Emmons: Phoenix Rehabilitation and Health Services, Bloomsburg, PA.
Callie McCabe: John Pardini Orthodontics, Downingtown, PA.

Amanda Penny: Reading Berks Physical Therapy, Reading, PA.
Courtney Rudisill, Kellina Beers, Alleseaia Sanders, Brittany Bartol, and Noelle Verosky: School of Radiologic Technology, Geisinger Medical Center, Danville, PA. Medical Imaging.
Abigail Silfies: Northwestern Medical Center, New Tripoli, PA.
Rachel Yanchek: Valley Forge National Historical Park. Rachael's duties included vegetation and wildlife management, educating the public about environmental issues, data Management, and GIS and GPS analysis.
Christopher Yoch: The Reading Hospital Medical Group, Reading, PA.
Heather Yohnke: Bloomsburg Physician Services Orthopedic and Rehabilitation, Bloomsburg, PA.

WELCOME

BAHS welcomes new faculty members to the classroom this semester:

Dr. Zareen Amin

Dr. Zareen Amin is teaching Anatomy and Physiology laboratories this academic year. Dr. Amin holds a B.Sc. with Honors in Biochemistry and Nutrition from the University of Dhaka and a Bachelor of Medicine and Bachelor of Surgery (M.B.B.S.) degree from Dhaka Medical College, Bangladesh. She also earned a Master's in Health Education from Kent State University. Dr. Amin worked as Project Manager with the American School Health Association. She worked on health projects sponsored by the Cleveland Clinic Foundation and the U.S. Dept of Education. Dr. Amin and her husband Shah (a member of the Department of Geography and Geosciences) have three children. She is an active member of the Bangladesh Association of Bloomsburg Area.



Ms. Donna Counterman

BAHS is delighted to welcome back Ms. Donna Counterman, who is teaching a section of Human Biology this semester. Ms. Counterman called Bloomsburg University home for six years, as she earned a BS in Secondary Education in Biology ('91), and an MS in Biology ('93). She has returned to BU previously to teach Human Biology, Zoology Laboratories, and Human Sexuality and to speak at COST Career Day. Ms. Counterman has taught biology for 18 years at Danville Area High School and is now in her second year teaching at Danville Middle School. When she has some spare time, she loves to garden, hike and picnic, and do pencil sketches and watercolors.

Dr. George Croll

Dr. George Croll joins the Department of Biological and Allied Health Sciences this semester to teach a section of Concepts in Biology I lab. Dr. Croll has a BS (Secondary Education, General Science) and a MS (Biology) from Bloomsburg University and a Ph.D. from the University of Alabama at Birmingham. Dr. Croll is also the instructor of the class "Teaching Secondary Science" at Bloomsburg University. He has taught Secondary Education Science for 24 years. Dr. Croll has taught Concepts in Biology I laboratory previously at Bloomsburg University and has taught Marine Biology at the Marine Science Consortium at Wallops Island. Dr. Croll enjoys bicycling, SCUBA diving, travel, cross-country skiing, and rejuvenating everything from cars to houses.



Mrs. Melinda Diltz

Mrs. Melinda Diltz is back again this semester to teach Concepts in Biology I lab. She holds a master's degree in biology from Millersville University and a bachelor's in biology degree from Bloomsburg University. Mrs. Diltz is the laboratory coordinator in the Department of Biological and Allied Health Sciences. She and her husband Mike have two sons. Mrs. Diltz serves as a Boy Scout Merit Badge Counselor and a Boy Scout Committee member. In her spare time she enjoys gardening, camping, fishing, and reading.

Professor Deborah Heitzman

Professor Deborah Heitzman will be joining us this academic year. She is currently teaching laboratories in Concepts in Biology I and Anatomy & Physiology I. Professor Heitzman hails from Elysburg, PA and received her B. S. in Biology at Bloomsburg University and her M. S. in Biology at Bucknell University. Her teaching experience includes Anatomy and Physiology I and II lectures and laboratories at Thomas Jefferson University and Core Curriculum Biology Labs at Bucknell University. In her leisure time Professor Heitzman enjoys spending time with family and friends, listening to a wide range of music, reading biographies, yoga, running, swimming and weight lifting.



Introducing our Office and Lab Staff

The BAHS department office is housed in 115 Hartline (the room with the large picture window!) We welcome back **Ms. Vicki Beishline**, our department secretary. Our part-time student secretaries are **Callie McCabe**, **Michelle Sekunda**, and **Vincent Saraceno**. **Mrs. Melinda Diltz** is our Lab Coordinator. Undergraduate lab assistants are **Libby Shober** and **Samantha Oakes**. **Ashley Robertson** is assisting with Cell Biology laboratories, while **Jessica Fisher** is the genetics assistant. Serving as graduate assistants are **Ben Carlucci** in Cell Biology and Integrated Physiology labs, **Ghaith Ibrahim** in the Anatomy and Physiology labs, **Zane Hoover** in the Microbiology Lab, and **Neil Sullivan** in the Concepts 1 laboratory.

Happy Birthday Biosynthesis!

September 2012 marks the 10th year of *BioSynthesis*, the newsletter of the Department of Biological Sciences. Past issues can be found on the BAHS website:

<http://departments.bloomu.edu/biology/biosynthesis.php> The newsletter provides a time capsule for the department's activities. Here are some of the highlights from the first issue in September 2002:



- BAHS began its affiliation with the Geisinger Health System's School of Radiography. This clinical program accepts up to ten BU Medical Imaging students for admission each year. The ten students in the inaugural class were: **Desiree Hackenburg**, **Janine Hess**, **Lisa Johnson**, **Natasha Kovach**, **Calvin Mahoski**, **Ember McCarty**, **Awawu Osunde**, **Lindsay Smith**, **Adam Strzempek**, and **Tara Womer**.
- BU approved an option within the B.S. biology major that provides a specialization in biotechnology. The option is going strong and has since been renamed the Molecular Biology option.
- **Dr. Barry Nolt** and **Dr. John Hranitz** began their tenure track faculty positions in the department.
- **Dr. George Chamuris** published the second edition of his *Hiker's Guide to the Trees, Shrubs, and Vines of Ricketts Glen State Park*. The guide introduces the reader to 79 species of woody plants that grow along the various hiking trails in this nearby park. It is now in the 4th edition.
- BAHS acquired a major piece of equipment, an Environmental Growth Chamber that allows plants to be grown under conditions of controlled light and temperature.
- **Dr. Jennifer Venditti** was admitted as a candidate to the Masters Degree Program and was assigned a graduate assistantship with responsibilities to the Concepts I and II laboratories. Dr. Venditti has since earned a doctorate at Lehigh University and has returned to BU as an assistant professor.



Looking Ahead: Spring Biology Electives

Here are the BAHS biology elective offerings for Spring Semester:

Bio 333, Molecular Biology (**Dr. Davis**)
 Bio 342, Medical Microbiology (**Dr. Henry**)
 Bio 361, Comparative Vertebrate Anatomy (**Dr. Corbin**)
 Bio 420/520, Global Change Biology (**Dr. Rier**)
 Bio 442 and 542, Virology (**Dr. Nolt**)
 Bio 489 and 589, Current Topics-Lyme Disease (may be used as a biology or health science elective) (**Dr. Wood**)
 Bio 571m Endocrinology (**Dr. Venditti**) See box at right for more information.

Physiology Offerings:

Bio 472: Animal Cell Physiology (**Dr. Hess**)
 Bio 474: Human Physiology (**Dr. Hansen**)
 Bio 477: Plant Physiology (**Dr. Williams**)
 Bio 479: Integrated Physiology Laboratory (**Drs. Coleman and Williams**)

Need a Spring 2013 Elective?
 Read this! Endocrinology (Bio 571)

Why does my grandma need insulin injections? What makes men produce sperm? Prader-Willi.....is he in my class? Intrigued by these questions? If you're interested in learning about hormones, how they work, and what happens when there's an imbalance consider taking **ENDOCRINOLOGY** (Biology 571). Undergraduate seniors needing less than 18 credits to graduate can apply to take this course as a biology or health science elective (PRP 3449 http://www.bloomu.edu/policies_procedures/3449). Interested students should pick up an application from the Biology Department office. Completed applications must be returned to the Biology Department office by Friday December 7, 2012. Please meet with your advisor prior to completing an application. Minimum pre-requisites include completion of Cell Biology (Biology 271). Endocrinology is scheduled for Tuesdays from 5-8 pm, so make sure to leave room in your schedule. Enrollment should be finalized by December 15th, 2012. If you have any questions about the course, please feel free to see **Dr. Venditti**.



Updates from BAHS Faculty

BAHS Faculty Awarded Tenure. **Dr. Angela Hess, Dr. Karl Henry, and Dr. Barry Nolt** were notified that they have been granted tenure. Congratulations!

Promotion Announced. **Dr. Angela Hess** was promoted to the rank of associate professor for her excellence in teaching, scholarly growth, and service. Congratulations Dr. Hess!

A New Addition. **Dr. William Coleman** and his wife Pamela welcomed their first child, Alice Victoria to the world on June 21, 2012. She was 20" long, weighed 7 lbs 1 ounce, and was born with a full head of dark hair! Best wishes to the new family!

Sabbatical Leave. **Dr. Clay Corbin** is on Sabbatical Leave fall semester 2012. His primary goal this semester is to write and submit manuscripts to scholarly journals on his work on morphological adaptation and foraging in birds. Specific topics include convergent evolution in flycatchers and bluebirds, morphology and bite-force in North American bird communities, and foraging velocity (attacks/time) of birds from around the world. He will be developing new projects in this line such as the efficacy of using the skeleton as an index to bird species' niche, and constructing a baseline bird community inventory for the Bloomsburg University campus. His secondary goals are to travel for collaborative research projects. He'll travel to Pelee Point, Ontario to participate in a dragonfly migration workshop, to Ohio University to work on an avian mega-population project, and Southeast Missouri State University to prepare toad tissue histological specimens. Hence, his time away from teaching and service at Bloomsburg University will help him complete a few stale projects and refresh and renew the scientific research aspect of his job for many years to come. We look forward to your return Dr. Corbin!

Grants. Several BAHS faculty have received grants recently:

Dr. John Hranitz received a 2012 Presidential Grant Award to initiate a Center for Undergraduate Research and Education in Science, Technology, Engineering and Mathematics.

Dr. Jennifer Venditti and **Dr. John Polhill**, assistant dean, College of Science and Technology, received a 2012 Presidential Grant Award to launch the Summer STEM Enrichment Program. The program got underway this past summer.

Drs. Kristen Brubaker (principal investigator), **John Hranitz** and **Cindy Surmacz** received a Henry Carver Margin of Excellence Award for their project "Understanding how environmental stressors affect organisms: Establishing an Integrative Toxicology Center at Bloomsburg University."

Research Achievements

Student-Faculty research published

Dr. Hess and Ghaith Ibrahim have been notified that their research has been accepted for publication in BIOS, the peer-reviewed journal of the national biology honor society Beta Beta Beta. Their article is entitled "Differential expression of EphB4 and ephrin-B2 in highly aggressive versus poorly aggressive human melanoma tumor cells." Ghaith also received a research grant from Tri-Beta to support this research. Ghaith is a 2011 graduate of Bloomsburg University, with a B.S. Biology, chemistry minor. He is currently a masters candidate and is pursuing thesis research on drug resistance in yeast with Dr. Karl Henry. Ghaith plans to pursue a doctoral degree.



Rabb Undergraduate Research Grant Awarded

Jessica Willis, B.S. Biology, pre-medical sciences option, has received a Donald D. Rabb Biology Research Award. The grant will be used to support her undergraduate research project that she is conducting with her mentor, **Dr. William Coleman**. Jessica will investigate the relationship of the synaptic proteins rab3a and synapsin while at rest and during synaptic activity. She is testing the hypothesis that if rab 3a and synapsin interact during synaptic activity, then these two proteins will show an increase in colocalization in the pre-synaptic terminal during treatment with high potassium solution. Jessica will gain experience with diaphragm muscle dissection and immunohistochemistry techniques as part of her study. Jessica plans to attend medical school.

BAHS Graduate Receives 3rd Prize in National Research Competition

Meghan Duell, a spring 2012 biology graduate, won third prize in the oral presentation category at the national convention of Beta Beta Beta, the biology honor society, in Puerto Rico in May 2012. Her presentation was entitled "Honeybee Stress: Behavioral & Physiological Implications of Flumethrin Treatment." **Dr. John Hranitz** is her mentor. Meghan qualified to present her work at the national convention by winning the outstanding presentation award at the 2012 Northeast District 2 Regional Convention held at Bloomsburg in March 2012. While in Puerto Rico, Meghan had the opportunity to visit El Yunque National Rain Forest, Luquillo Beach, Camuy River Cave System, and Arecibo Observatory. Meghan is currently pursuing a Ph.D. in biology at Arizona State University. Meghan, Dr. Hranitz, and their collaborators currently have two papers in press.



Abramson, CI, Çakmak, I, **Duell, ME**, Bates-Albers, LM, Zuniga, EM, Pendergraft, L, Barnett, A, Cowo, C, Warren, JJ, Albritto Ford, AC, Barthell, JF, Hranitz, JM & Wells, H. (2012) Feature-positive and Feature-negative Learning in Honey Bees. *Journal of Experimental Biology* (In Press).

Oruc, HH, Hranitz, JM, Sorucu, A, **Duell, M**, Aydin, L & Orman, A. (2012) Determination of acute oral toxicity of flumethrin in honey bees (*Apis mellifera anatoliaca*). *Journal of Economic Entomology* (In Press).



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's mission is to provide advisement, assist with the application process, evaluate student credentials, prepare committee recommendation letters, obtain resources for students relating to professional schools, and establish relationships with professional schools. The committee recently hosted an informational meeting at ABLE in Columbia Residence Hall. 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).

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.) 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. Many activities are planned for the fall semester. An admissions officer from Lake Erie College of Medicine will present an information session on programs in medicine, dentistry, and pharmacy on Thursday, October 18 at 5:30 p.m. at ABLE, first floor Columbia Residence Hall. A Halloween bake-sale fundraiser will be held on October 30 and 31. Leading the group this year are pictured from left: Vice President, **Adam Bertino**; Public Relations, **Martina Drew**; Treasurer, **Ashley Cameron**; President, **Jessica Willis**; and Secretary, **James Redinski**. **Dr. Joseph Ardizzi** is the club's advisor. For more information, please contact Jessica Willis at jmw78979@huskies.bloomu.edu



All about the MCAT

What is the MCAT?

MCAT, a test developed by the Association of Medical Colleges, is standardized, multiple choice examination required for medical school admission. The 2012 MCAT assesses mastery in biology, general and organic chemistry, physics, scientific problem solving, critical thinking, and writing skills. Scores are provided in four categories: biological science, critical thinking, physical sciences, and writing. The 2013 and 2014 MCAT will not include the writing section. Detailed information about the MCAT and the registration process can be found at <https://www.aamc.org/students/applying/mcat/>

Take BU's Practice MCAT!

The Pre-professional Committee will offer its annual Mock MCAT exam on **Saturday, November 3, 2012 from 8 a.m. to 3 p.m. in 262 Hartline**. By taking a practice MCAT you will become familiar with the depth and breadth of its questions. After receiving your "practice scores" you will get a better understanding of the content areas that require further study. The practice MCAT is recommended for sophomores, juniors, or seniors. Freshmen should probably wait until they have had more college science courses. To register for the practice test, please e-mail Dr. Toni Bell, Department of Chemistry and Biochemistry at tbell@bloomu.edu by October 27, 2012.

MCAT 2015

Significant changes are being made to the content of the MCAT beginning in 2015. This is the exam that most of the 2012 freshman pre-medical science students 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. To learn more about MCAT 2015, please consult the new preview guide at <https://www.aamc.org/students/download/266006/data/2015previewguide.pdf>

Allied Health News

BAHS Students Head to Clinical Programs

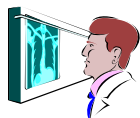


Nearly 50 BU students have entered clinical programs this semester. Their clinical sites and specialties are listed below (Key: RT, Radiologic Technology; CT, computerized tomography; NM, Nuclear Medicine; S, Sonography; CLS, Clinical Lab Science.)

Johns Hopkins Hospital, Baltimore, MD: **Lauryn Belcher** (RT), **Andrew Christman** (RT), **Samuel Ebeling** (NM/CT), **Rachael McColl** (RT), **Valerie Niedelman** (S), **Josh Ruffner** (RT), and **Maira Sheridan** (S). College Misericordia: **Katherine Brandolino** (S), **Leah Gaydos** (S), **Ashley Kalage** (S), **Caley Nevin** (S), and **Erin Robers** (S). Reading Hospital and Medical Center: **Brianne Fazio** (RT), **Britney Klinger** (RT), **Christine Michalski** (RT), **Sarah Pagni** (RT), **Heather Ressler** (CLS), **Samantha Snyder** (RT), **Danielle Strausbaugh** (RT), and **Alexander Thai** (RT). University of Pennsylvania Hospital: **Nathan Heltebrielle** (RT), **Jena Herner** (RT), **Brian Marshall, Jr** (RT), **Sebastian Ramirez** (RT), **Angela Sansoni** (RT), **Michelle Weigle** (RT), and **Hilary Zellner** (RT). York Hospital, York, PA: **Emily Backel** (RT) and **Nicole Martin** (RT). Long Island University, Brooklyn, NY: **Christopher Bowman** (S). Bucks County Community College: **Kimberly Gerlach** (RT). St Francis Medical Center, Trenton, NJ: **Lisa Magulak** (RT). St Christopher Hospital, Philadelphia, PA: **Bridgette Mooney**. Crozer-Chester Medical Center: **Katherine Buchanan** (RT) and **Megan Murphy** (RT). South Hills Sch. Bus. **Kellina Beers** (S), **Bethanne Smith** (S), and **Sara Lech** (S). Lackawanna College, Scranton: **Kaitlin Feik** (S). Lancaster General Hospital, Lancaster: **Katherine Sweger** (S). Thomas Jefferson University, Philadelphia, PA: **Melissa Montgomery** (CLS) and **Laura Perchy** (NM/TH). Geisinger Medical Center, Danville, PA: **Alyssa Butkiewicz** (RT), **Jacob Conklin** (RT), **Raymond Fragassi** (RT), **Thomas May** (RT), **Ellen Meisel** (RT), **Amy Neitz** (RT), **Lindsey Pealer** (RT), **Kaitlyn Tange** (RT), and **Shaina Wagner** (RT).

Medical Imaging Students – Sophomores and Juniors

Trip to Johns Hopkins Hospital Schools of Medical Imaging



Friday, October 5, 2012
Sign up with **Dr. Kipe-Nolt**, Allied Health Coordinator (HSC 269)

Seminar: Clinical Application Procedures

Tuesday, October 9
5:30 pm in HSC G40



You are Invited...

Career Nights in Biology and Allied Health

Monday, Oct. 1

7:00 pm, G40 HSC

Mr. Steve Uhl

Physician Assistant

Evangelical Hospital

Tuesday, Oct. 2

7:00 pm; G40 HSC

Mr. Kenneth Roszel

Radiography

Geisinger Medical Center

Wednesday, Oct 3

4:00 pm, 101 HSC

Mr. Don Sharples

Physical/Occupational Therapy

Thomas Jefferson Univ.

Thursday, Oct 4

7:00 pm, G40 HSC

Mr. Brian Spezialetti

Medical Laboratory Sciences

Robert Packer Hospital

For upperclassmen:

5:00 pm, 101 HSC

Mr. Don Sharples

TJU Programs

PT/OT/Pharmacy/Physician Assistant and others

BAHS Students Present at Geisinger Research Symposium

Geisinger Medical Center's Henry Hood Center for Health Research was the site of the second annual Susquehanna Valley Undergraduate Research Symposium this summer. 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. Several BAHS students presented research results. **Charmiane Henderson** (BS Biology) and **Neil Sullivan** (MS Biology) presented a poster entitled "Evaluating the Cytotoxic Effects of Novel Compounds as Potential Spermicides." **Dr. Venditti** is their mentor. **Kristen Venditti** (BS Health Sciences) presented a poster, entitled "Annual Snapshot #4: Susquehanna River Water Chemistry at Milton, Danville, Watsontown, and Shady Nook, PA" Her research mentor is Dr. Hallen, Department of Chemistry and Biochemistry.



Focus on Research

“Stream Cleaning”

Steve Baade (BS Biology, environmental biology), **Meredith Salmon** (BA Biology, Secondary Education) (at right) and **Kyle Halat** (BS Biology environmental biology) worked on a project with **Dr. Rier** this summer quantifying the effects of the “stream cleaning” that occurred following the September 2012 floods. Stream cleaning involves bulldozing and realigning the channels, creating dikes with bed materials and removing large woody debris in an effort to increase the capacity of stream channels to carry water. Although “stream cleaning” has the potential to temporarily alleviate some of the negative effects of local flooding in the near future, there is potential for these activities to considerably undermine many economically important features associated with unaltered streams. For example, cold water streams in Pennsylvania contribute to a greater than 1.5 billion dollar per year sport fishery. In addition, small streams have the ability to remove up to 50% of nitrogen pollution from the water before it is exported downstream to receiving waters, such as Chesapeake Bay.



The purpose of this project is to quantify the effects of “stream cleaning” on two economically important “ecosystem services” associated with natural streams – sport fishing and nitrogen retention. The goal is to provide empirical data to municipalities, managers and environmental regulators that establish whether or not there are economically significant tradeoffs when these activities are allowed to proceed. We hope that this work will help to improve decision making at the regulatory level in the future. For example, the PA Senate is expected to take up “stream cleaning” legislation this fall.

This past summer Dr. Rier’s research team measured stream nitrogen uptake and transient storage, ecosystem metabolism, biofilms (ash free dry mass, chlorophyll *a* and enzyme activities), benthic organic matter storage, canopy cover and water chemistry. Dr. Jon Niles (Susquehanna University) measured fish community composition, diet and biomass and benthic macroinvertebrate community composition and biomass. Dr. Rier’s Freshwater Biology course this fall will measure leaf litter decomposition. This research is supported by the Degenstein Foundation and the Foundation of Pennsylvania Watersheds.

Research in Reproductive Biology



Neil Sullivan, M.S. candidate, started his thesis project evaluating the functional distribution of sperm associated alpha-L-fucosidase in fertile and infertile men. This is a collaborative project between BU and Geisinger Fertility Services. Neil’s project is funded by a Bloomsburg University Research and Development Grant awarded to **Dr. Venditti**.

Elisa Busada, senior biology major, is conducting research using HeLa cell culture to evaluate the cytotoxic effects of novel compounds as potential spermicides. **Dr. Venditti** is her mentor.

What do neurons and sperm have in common?



Certain proteins that are known to regulate exocytosis of vesicles in neurons have also been shown to be present in other types of secretory cells. Drs. **Coleman** and **Venditti** are excited to start a collaborative research project investigating the localization of previously considered “neuron specific” proteins in sperm cells. Interested students should talk with Dr. Coleman or Dr. Venditti about research opportunities.

Summer NSF-REU Experiences

The National Science Foundation (NSF) funds opportunities for undergraduates to participate in research projects each summer at institutions across the country. During the summer of 2012, two BAHS students participated in these NSF-Research Experiences for Undergraduates (REU). **Keith Kinek** (left) conducted research at the University of Georgia where he worked with a Ph.D. student on a landscape-scale stream ecosystem experiment in the Little Tennessee River Basin. Additionally, he developed and executed his own independent research project investigating the effects of land use and water column nutrient ratios on whole stream metabolic rates.

Robert Dorosky (right) participated in the REU program hosted by the Department of Plant Pathology and Microbiology at Texas A&M University. Robert investigated bacterial-plant interactions, particularly bacteria in the genera *Pseudomonas*. He worked with a pathovar of the bean pathogen, *Pseudomonas syringae*. He generated deletion mutations in two pilus assembly genes in *P. syringae* and conducted swarming assays, plant assays, and real time PCR of other pilus assembly genes. He also had the opportunity to work in a bacteriophage lab where he isolated and identified viruses that were specific to *P. syringae* and various other *Pseudomonas* sp.. At the conclusion of the program, Robert shared his results in a poster session. During the REU, Robert also took a 4-week GRE preparation course and was offered early admission to the doctoral program at Texas A & M. He highly recommends the REU program to students who are considering attending graduate school or pursuing research careers. Information on the NSF-REU program can be found at: <http://www.nsf.gov/crssprgm/reu/>



Medical Research at the Weis Center, Geisinger Clinic

This past summer **Dreka Williams** (BS Biology) and **Charmiane Henderson** (BS Biology) spent the summer engaged in a 10-week medical research experience at the Weis Center for Research at Geisinger Clinic. Working in the laboratories of Drs. Helena Kuvaniemi and Jerold Tromp, their research focused on identifying genetic risk factors underlying the development of aortic aneurysms.

Honors Research Underway

Kenny Pallis, an Honors Independent Study student, is analyzing and writing about the research he conducted last semester. In the spring, Kenny captured and then measured wing morphology of birds on upper campus at Bloomsburg University. Upon release, using a high-speed camera, he measured acceleration and wing beat frequency. This semester, his goal is to analyze those data testing specific predictions of avian flight biomechanics. Look for Kenny to present his research at the end of the semester in the COST research symposium. **Dr. Corbin** is his mentor.

THE BU MASTERS PROGRAM

The Department of Biological and Allied Health Sciences 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.**

Graduate Program Updates

Welcome to the following new graduate students who are joining us this semester: **Benjamin Carlucci** (Shippensburg University); **Kimberly Daley** (King's College); **Zane Hoover** (Bloomsburg University); and **Sagan Simpko** (Pennsylvania State University). Our new Graduate Assistants are **Benjamin Carlucci** (Cell Biology and Integrated Physiology lab) and **Zane Hoover** (Microbiology). Our continuing Graduate Assistants are: **Neil Sullivan** (Concepts in Biology I) and **Ghaith Ibrahim** (Anatomy & Physiology I and II).

Congratulations to the following masters students who successfully defended their theses under the direction of **Dr. Hess**.

Diana Pierce: "Comparative Expression Profiles of Eph Receptors and Ephrin Ligands in Human Keratinocytes, Melanocytes, and Melanoma Cell Lines." Diana is now enrolled in the Pathologist Assistant program at Quinnipiac University.

Andrew Ackerman: "The Effects of Low-Dose Ionizing Radiation Exposure on Primary Skin Cells *In Vitro*"

ABLE OPENS FOR BUSINESS!

ABLE (Academic Biology Learning Environment) opened September 17th with an open house kickoff at 5:30 pm in room 119 Columbia Hall (part of the Health Science LLC). Students had an opportunity to check out the resources that ABLE has to offer. This was a great opportunity to meet other students to form study groups and to meet the professors who are here to help you succeed in your biology courses. Free food and door prizes were enjoyed by all! Check out the monthly ABLE calendars for the dates and times of review sessions, tutoring, faculty office hours, and special events. Tri-Beta Honors Society will provide tutoring/mentoring every Thursday from 12:30 to 1:30 p.m. for students in introductory biology classes.



BAHS ALUMNI UPDATES

Uri Anderson, pre-pharmacy, is attending the pharmacy program at Temple University.

Michael Brabander (BS Biology, 2011) is currently an Operating Room pharmacy technician at Geisinger Medical Center.

Aubrey Jones Curley (BS Biology, 2007) is employed by the U.S. Fish and Wildlife Service as a Fisheries Biologist at the Nashua National Fish Hatchery in Nashua, NH. She was recently named Assistant Hatchery manager. Aubrey has recently married. Congratulations!

Jared Geissinger, BS (Biology, 2008) earned an M.S. in microbiology at Virginia Tech University. He is currently working at Techlab in Blacksburg, Virginia, a company that produces medical diagnostics for patients with intestinal parasites. Jared is interested in pursuing a career as a physician assistant.

Christine Huntington (BS Biology Secondary Education, 2011) is an adjunct professor at Luzerne County Community College and teaches biology and anatomy and physiology.

Larissa Johnson (BA Biology, 2012) is working as a research technician at the Weis Center for Research, Geisinger Clinic Danville, PA.

Michael Kaminski (BS Biology, pre-medical sciences) has pursued a career in the U.S. Navy after graduating from the Philadelphia College of Osteopathic Medicine with his medical degree. Dr. Kaminski has combined his love of medicine and scuba as a dive medical officer with the U.S. Navy at Fort LeJeune, North Carolina. He is certified in hyperbaric medicine and plans to pursue a residency in anesthesia.

Giselle Lara (BS Biology, 2011) is working at the PA Department of Health in Harrisburg in the rabies division.

Stacey Minarski (BS Medical Imaging, 2006, MBA 2011) is an orthopedics X-ray technologist at Geisinger Medical Center, Danville, PA. She recently traveled to the Philippines as part of a Rotary Group Study Exchange team.

Eliza Reed (BS Biology, 2012) is enrolled in the graduate program in biomedical sciences at Philadelphia College of Osteopathic Medicine, Philadelphia, PA.

Cassandra Thompson (BS Biology, 2012) is a patient care assistant at Harrisburg Hospital.

Sabrina Wagner (BS Biology, 2012) is employed at Merck in Durham, North Carolina in the Maurice R. Hilleman Center for Vaccine Manufacturing. This is a biolevel one vaccine production facility that manufactures Varivax (chicken pox) and MMR (measles, mumps, and rubella) vaccine. Sabrina is a Quality Assurance Coordinator and oversees environmental monitoring of these facilities to insure that the product is not contaminated as it is received and packaged.

Erica Winter (BS Biology, 2012) is working at Fibrocell Science, Inc., Exton, PA. Fibrocell develops cellular therapeutics for medical and scientific applications.

Melanie Yodock (BS Biology and BA Anthropology, 2011) has entered the MS program in Biology at Shippensburg University and will obtain a certification in teaching.

SEMINAR

Everyone is invited to the seminar "Whiteout: Understanding How and Why White-nose Syndrome Kills Bats" by Dr. DeAnn Reeder of Bucknell University. The seminar will take place on Friday, September 28, 2012 in HSC G38 at 3:00 p.m. The seminar is part of the Seminar Series of the College of Science and Technology. Refreshments will be provided by the Biology and Allied Health Club.