



BioSynthesis

Volume 8, Issue 3 (December 2009)

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

Fall Semester Dates

DEC 3: Tutoring by Tri-Beta, 5 p.m. 161 HSC

DEC 11: COST Research Day, Kehr Union Multipurpose Room B.

DEC 14 - 15: Free Coffee and Do-Nuts, Tri-Beta, HSC, 8 a.m.

DEC 14 - 19: Final Exams

DEC 18: Graduate Commencement, Haas, 6:00 p.m.

DEC 19: Undergraduate Commencement, Colleges of Science and Technology and Liberal Arts, Haas, 10:00 a.m.

DEC 24: Fall Semester Grades available on STINF; official transcripts available.

JAN 18 (Mon): Martin Luther King, Jr. Day, no classes.

JAN 19 (Tues): Spring Semester 2010 classes begin.



Look what's inside:

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Pardon Our Dust!

This semester has certainly been atypical as the renovation of the east wing of Hartline is underway. Faculty and students have been meeting at new times and locations to accommodate the construction. The good news is that work on east Hartline is on schedule. Have you noticed the new windows and the large cranes? Thanks to all for your flexibility and good humor during this challenging time! It will be well worth it. In the meantime, here is a list of where you can find the BAHS faculty and staff. Come and visit us!



Faculty/Staff Name	Building	Office	Phone
Department Office <i>Ms. Vicki Beishline, secretary</i>	Hartline	178	4400
Amin, Mrs. Zareen	Wilson House	2	4349
Ardizzi, Dr. Joseph (co-chair pre-professional committee)	Old Science	G17	4887
Brubaker, Dr. Kris (graduate program coordinator)	Hartline	177	4137
Chamuris, Dr. George (chair)	Hartline	169	4735
Corbin, Dr. Clay	Hartline	173	4134
Davis, Dr. George	Hartline	272	4120
Diltz, Mrs. Melinda (lab coordinator)	Hartline	156	4888
Hansen, Dr. Carl	Hartline	270	4580
Henry, Dr. Karl	Hartline	172	4819
Hess, Dr. Angela	Hartline	271	4126
Hranitz, Dr. John	Old Science	G16	4130
Kipe-Nolt, Dr. Judy (allied health coordinator)	Hartline	269	4319
Klinger, Dr. Thom	Old Science	128	4118
Mehlbaum, Mrs. Christine (RA program coordinator)	Hartline	265	4527
Melnichuk, Dr. Mark (co-chair, pre-professional committee)	Hartline	266	4219
Nolt, Dr. Barry	Hartline	269	4136
Rier, Dr. Steve	Old Science	G16	4953
Surmacz, Dr. Cindy	Hartline	268	4132
Till, Dr. Margaret	Hartline	264	4780
Williams, Dr. Kevin	Old Science	G16	4131
Wood, Dr. Marianna (assistant chair)	Old Science	G09	4666

We are proud of all of our December graduates! Stay in touch and be sure to check out BioSynthesis on-line after graduation.

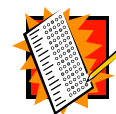
Antoinisha Wells, B.A. Biology



★★

A horizontal row of 28 yellow five-pointed stars.

All BS and BA Biology majors graduating in December must take the Major Field Test in Biology. Sign-up for a test time at the department office, 178 HSC.



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 2009. Great job!

B.S. Medical Imaging: Andre Acevedo, Jessica Albright, Christopher Arbogast, Maci Aumiller, Rebecca Conrad, Kelli Desanto, Hoyt Emmons, Ethan Ernst, Karmyn Gill, Kristin Gross, Jillian Kida, David Kolk, Rose Novinger, Laura Ogle, Gary Oster, Anna -Lee Pflomm, Amanda Pulsifer, Zachary Silver, Rebecca Snyder, Rachel Stoehr, Sara Taylor, Joan Thomas, Arifah Uqdah, Taylor Washburn, Jesseca Whitenight, Maura Williams, Victoria Williamson

B.S. Biology: Taylor Anderson, Michael Brabander, Marisa Cipolla, Amy Cortellini, Nathan Gainer, Charmaine Henderson, Heidi Huynh, Christopher Krum, Katherine Liebl (and Economics), Jared May, Marissa McDowell, Patricia Owen (and Speech Pathology and Audiology), Essie Reed.

B.S. Biology, Pre-Medicine: Emily Barkanic, Samantha Bussanich (and Spanish), Jennifer Candelora, Casey Carr, Leslie Cope, Kyle Correll, Darrin Doran, Chardei Eshleman, Nicholas Faino, Sarah Monaco, Jason Nolt, John Redinski, Matthew Snyder (and Mathematics), Michelle Stipanovic, Tracy Stutzcage, Cassaundra Thompson, David Yovic

B.S. Biology, Environmental Biology: Beth Boston.

B.S. Biology, Natural History: Nicole Gerard

B.S. Biology, Microbiology: Krysta Whitmoyer

B.S. Secondary Education, B.A. Biology: Ashley Andrews, Alyssa D’Imperio, Patrick Deblass, Meghan Duell, Sharon Graff

B.A. Biology: Erinda Como, Nihal Coutinho, Dana Crayton, Tyler Dear, Kelsey Grabert, Carly Kessler, Jenelle Petresky

Clinical Lab Science: Alaina Egger

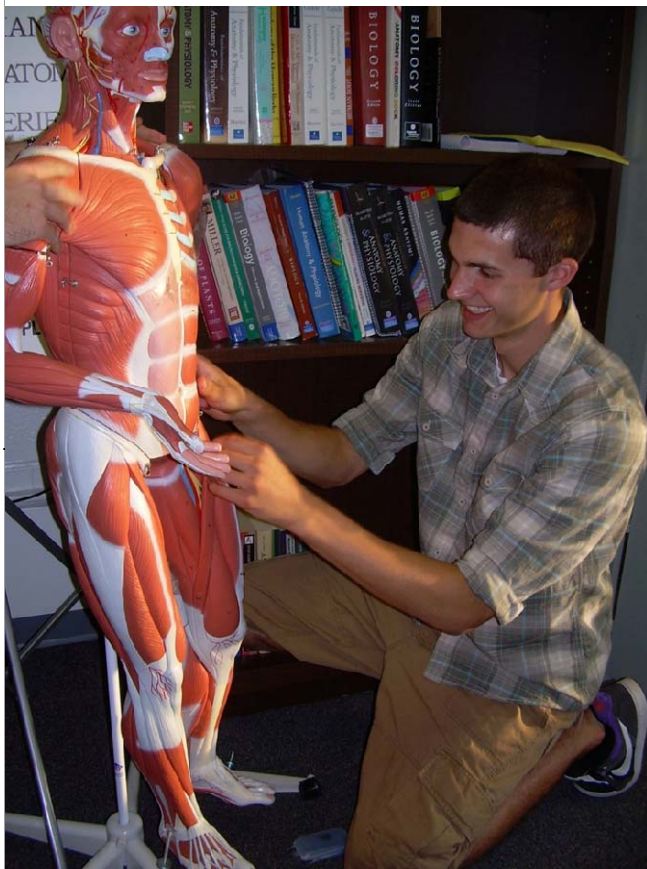
Pre-Physical Therapy: Melissa Goff, Brianna Hennessey, Justin Lavo, James Noll, Scott Pfaff, Julia Rush, Danielle Yoder

Pre-Physician Assistant: Erica Kocher, Michael Parks.

Pre-Occupational Therapy: Samantha McAteer, Aubrey Schmidt.

We saw you at ABLE!

ABLE, short for Academic Biology Learning Environment is located in the Science and Health Science Living-Learning Community Room on the first floor in Columbia Residence Hall. ABLE is open 9 a.m. to 7 p.m. daily and is available to all students in introductory biology courses to study individually and in groups together and with faculty. ABLE contains a variety of learning resources such as bones and skeletons; biological models; manipulatives for studying complex processes (protein synthesis, inheritance, mitosis and meiosis, etc.); microscopes and slides from lab courses; charts and posters, workbooks; and more! New this semester are computers with lab software and a new “cubby” especially for ABLE resources. We saw many of you checking out the resources at the OPEN HOUSE this semester. Come on over to Columbia!



We now have a Blackboard Site for all majors in BAHS, as well as Science and Technology/Undeclared students. We hope that this platform will facilitate communication on departmental issues and events. .

Consider an Internship—a great way to learn!

Internships are a great way to check out career options, get on-the-job experience, and earn credits at the same time. BAHS offers 50.490, Internship in Biology, to eligible juniors and seniors. While internships may vary from 3 – 15 credits, no more than 3 credits may be used as biology electives. Internships may be conducted either fall or spring semester or during the summer. Interns may be paid by the employer or be volunteers. To learn more about internships consult your academic advisor. Check out the university's official internship website for complete information: <http://internships.bloomu.edu/>

Here is a sampling of some recent BAHS internships:

Medical Imaging Internships. BAHS continues to offer internships in Medical Imaging with Geisinger Medical Center. The following students completed 120 hours of on-site experience at GMC and gained valuable insights into how to position patients, diagnostic x-ray procedures, orthopedic x-ray procedures, and other areas of imaging: **Maci Aumiller, Whitney Smith, Alissa Heimbach, David Kolk, Anna-Lee Pflomm** and **Amanda Mull**.

Koryn Turlis, a pre-physician assistant student, worked in the surgery unit at Shamokin Hospital.

Stacy Brussell, a pre-veterinary student, served as an intern at Cherry Ridge Veterinary Clinic in Honesdale, PA.

Several pre-physical therapy students gained valuable hands-on experience in various physical therapy clinics. **Amanda Kaehler** gained experience in the rehabilitation of hip and knee replacements at Hanover Orthopedics SPORT Center, Hanover, PA. See Amanda at left posing with a goniometer at her internship site. **Jimmy Noll** and **Shannon Carper** served as PT interns at Phoenix Rehabilitation in Bloomsburg, PA. At Phoenix, the interns were under the supervision of **Michael Goetz**, a BAHS alumnus and graduate of the physical therapy program at Thomas Jefferson University. **Amber Sosnovik** served as a intern in a private physical therapy practice called Corner Stone Physical Therapy in Tranquility, NJ. Amber was exposed to manipulation techniques, daily anatomy quizzes, and all aspects of the field including record keeping, the business side, and establishing relationships with patients and staff. All of the interns found their internships worthwhile and highly recommend that others consider these fun and rewarding learning experiences.

Sherrol Browne, a B.S. Biology major, gained experience as an intern with outpatient care at the Bloomsburg University Student Health Center. Sherrol learned about the diagnosis and treatment of diseases and injuries that are common on a college campus and was involved in delivering programs on health awareness and disease prevention.

Julia Rush, a pre-physical therapy student, did an internship this summer at Lafayette College working with their strength and conditioning coach, Mr. Brad Potts. Julia learned about injury prevention, athletic agility, and power strength. This opportunity took her outside on the practice fields and inside in the weight rooms with the teams to do their conditioning, agility exercises, plyometric workouts, and body rejuvenation activities.

Megan Dager interned at Arrow International, a company which makes critical care medical devices such as catheters. Megan worked as the engineering intern on a spinal needle project. Her job was to find an acceptable alternative spinal needle for a new spinal anesthesia kit. She was involved with developing the plan and product testing.

Brittany Tropea did an internship at Lankenau Hospital in the pathology department.

Nicole Chinnici gained valuable experience in the in-patient pharmacy during her pharmacy internship at Shore Memorial Hospital in Somers Point NJ.



What can you do with your degree?

Freshmen in University Seminar learned about careers in biology and allied health sciences from local professionals. Speakers included Marty Friday (environmental biology), Karen Avery (high school teaching), Ken Roszel (radiography), Stephanie Ranck (cardiovascular technology), Brian Spezialetti (clinical lab science), Debbie Walter (graduate school), Joe Halko (physical therapy), and Dan and Stacy Grassi (pharmacy). Students discovered the education and preparation needed for different careers and the opportunities and rewards of different options.



Spring Semester Electives

Here is a snapshot of some of the cool stuff you will be learning next semester.



Molecular Biology (50.333), Dr. Davis and Dr. Brubaker

Prerequisites: Cell Biology, Microbiology, and Fundamentals of Organic Chemistry or Organic Chemistry I

Investigates the practical and theoretical aspects of molecular biology and gives students an opportunity to explore ontogenic and developmental problems from a molecular perspective. Topics include information processing from DNA to proteins, regulation of gene expression, DNA mutability and repair, and genetic engineering. Two hours lecture/discussion, three hours lab per week.



Medical Microbiology (50.342), Dr. Henry

Prerequisites: Microbiology (50.242) and Cell Biology (50.271)

Did you ever wonder why malaria is such a world-wide problem but you have never known anyone that has it?

Have you ever tried to imagine how the organism that causes necrotizing fasciitis ("flesh-eating" disease) is capable of "eating" flesh (not to mention if it prefers to have it with some fava beans and a nice chianti)? You can

learn the answers to these questions and more this Spring by enrolling in Medical Microbiology and learning more about the organisms that cause human disease. In addition to lectures that will cover the epidemiology, pathogenesis, mechanisms, and treatment/prevention of disease-causing agents, we will also take a hands-on approach to the diagnosis and testing of many clinically-relevant microbes. Two hours of lecture and 3 hours of discussion/laboratory per week.



Comparative Vertebrate Anatomy (50.361), Dr. Corbin.

Prerequisite: Concepts in Biology I (50.114)

This course is essential for students who are interested in both the health professions and biology careers. In other words, to be a well rounded biologist, you need this course! For most students, this will be an eye-opening course into the adaptive phenomenon that is the vertebrate body plan. Concentrating on the vertebrates, we will cover topics such as anatomy, morphogenesis, evolutionary adaptation, and cutting edge trends in functional and ecological morphology. In the lab we'll focus on dissection/prosection of (at least) lamprey, shark, and cat. Possible field trips include the Marine Science Consortium at Wallops Island, Virginia (additional student cost). Also, we will be digging into the latest primary literature surrounding the ever growing field of CVA. This action packed course consists of two hours of lecture and three hours of laboratory per week.



Virology (50.442 and 50.442), Dr. Nolt

Prerequisites: Microbiology (50.242) and Cell Biology (50.271)

Examines the common strategies viruses employ to infect diverse hosts as well as the unique characteristics of viral pathogenesis in the human host. Topics will include the nature of viruses, how viruses are classified, the molecular events in the infection and replication of viruses in prokaryotic and eukaryotic cells, how viruses cause disease in humans, the host response to virus infection, and the spread and control of viruses infecting humans. Prions and other subviral agents will also be examined. Three hours of lecture/week.

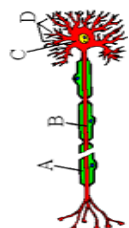


Introduction to Pharmacology (50.445), Dr. Till

Prerequisites: Cell Biology (50.271) AND Anatomy & Physiology II (50.174)

OR Human Physiology (50.474)

Introduction to Pharmacology is a particularly relevant class for allied health/BA Biology and Medical Science majors. The course examines the basic principles of pharmacology and medication for commonly used drugs. The drug's effects on physiology and disease are specifically discussed.



Neurophysiology (50.476 and 50.576) Dr. Till

Prerequisites: Anatomy and Physiology II (50.174) or Human Physiology (50.474)

Examines normal physiology of the nervous system, specifically studying cellular neurophysiology, sensory physiology, motor control, and their integration. Three hours lecture and discussion per week.

Additional Spring 2010 Electives...

Current Topics: Microbial Pathogenesis (50.489.01 and 50.589.01), Dr. Henry

Prerequisites: Microbiology (50.242) and Cell Biology (50.271)

This class examines the mechanisms and current theories by which viral, prokaryotic and eukaryotic pathogens colonize, evade, and injure the human host. Current peer-reviewed literature will be the primary reference material presented in both a lecture and seminar format. Three hours of lecture/seminar per week.

Current Topics: Vertebrate Sex Chromosomes (50.489.02 and 50.589.02), Dr. Ardizzi

Prerequisite: Cell Biology (50.271); Human Genetics is recommended

This course provides an overview of the development and control of sex chromosomes. The course will examine the origin and evolutionary history of these chromosomes. Sex-determining strategies will be explored by contrasting and comparing several systems (birds, reptiles, mammals). The role of sex-determining genes and their effects will be examined in normal and aberrant development. Normal and aberrant effects of silencing and imprinting on the control of gene expression will be explored. Also, the molecular basis of balancing gene expression between the sexes, dosage compensation, and its effects on the organism will be discussed.

The following course fulfills the physiology requirement in the biology and health science majors:

Comparative Animal Physiology (50.480 and 50.580), Dr. Hansen

Prerequisite: Cell Biology (50.271)

This course examines physiological mechanisms as they relate to the diversity of environments in which animals live. Central issues in comparative physiology address adaptive mechanisms related to water balance, energy production, respiration, circulation, temperature, locomotion, and sensory perception. Each of these issues is examined in the context of marine, fresh water and terrestrial environments. The course will draw on examples from a wide variety of taxa to emphasize the principles that unify environmental and evolutionary physiology. Three hours of lecture per week.



Summer Research Provides Ricci (Paige Ricci) Experiences

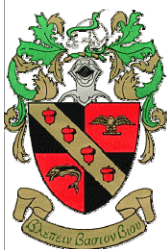
Our own **Paige Ricci** conducted research in Greece and Turkey as an undergraduate student researcher in a NSF-REU program. Her experience in molecular biology, genetics, and population biology at BU were important to her selection for the program. After one week of training in Oklahoma, Paige spent seven weeks in Greece and Turkey. Experiments that she and other students (**picture at left**: Miyeon E. Presky, Brett Freeman, Meredith Clement, JeAnna R. Redd, **Paige R. Ricci**, Lucy Liu, Manuel A. Giannoni, Blake K. Stevison) conducted investigated flower choice and nectar reward in bees as well as conditioned learning in honey bees. Travel through the Mediterranean afforded opportunities to visit historical sites in Istanbul, Troia (Troy), and Bursa, Turkey and Lesvos, Greece. She is currently developing microsatellite primers for population genetic studies of a Leafcutting Bee that is invasive to the US.



From BU to the Mediterranean and then graduation... where is Amy Savitski (B.A. Biology, May 2008) now?

Amy Savitski, from nearby Mount Carmel PA, graduated in May 2008 and has been out in the "real world" for over a year. Her journey from BU to where she is today may help others understand how interests and career choices evolve with experiences in the biology curriculum. Amy enrolled in the Physician Assistant program at BU, and by the time she was enrolled in Anatomy & Physiology with Dr. Hranitz, she became interested in research. After volunteering in an undergraduate research project with Dr. Hranitz, Amy applied for a National Science Foundation Research Experience for Undergraduates (NSF-REU). She was awarded the NSF-REU in the summer of 2007, conducted research in Greece and Turkey, and, later that year, she analyzed samples from Greece and California for her Research in Biology study. She has recently celebrated her one-year anniversary as a Research Technician at the Department of Pulmonary Research at The Children's Hospital of Philadelphia. This research lab seeks to better understand cellular processes such as underlying pulmonary diseases. Amy's work focuses on potassium pumps and cytokines. Her experiences in the molecular biology lab at BU have contributed to her successful employment. Amy co-authored a manuscript based on the 2007 NSF-REU research that was recently published in the *Uludag Bee Journal* (August 2009). She also presented the results of her Research in Biology investigation at the 2008 meeting of the Society for Integrative and Comparative Biology in San Antonio, TX. She is currently co-authoring a second manuscript based on her undergraduate research.

TRI-BETA NEWS



Beta Beta Beta (Tri-Beta) is a society for students dedicated to improving the understanding and appreciation of biological sciences and extending boundaries of human knowledge through scientific research. Since its founding in 1922, more than 175,000 persons have been accepted into lifetime membership, and more than 430 chapters have been established throughout the United States and Puerto Rico. The mission of Tri-Beta is: 1) to stimulate scholarship; 2) to disseminate scientific knowledge; and 3) to promote biological research. To fulfill this mission, the national organization of Beta Beta Beta recognizes the accomplishments of outstanding individuals and chapters and publishes a national journal, *BIOS*.

The chapter this year is led by current officers pictured at right: President, **Samantha Bussanich**; Vice-President, **Michael Hollman**; Secretary, **Essie Reed**; Treasurer, **John Redinski**; and Historian, **Stacy Brussell** (missing from photo.) **Dr. Surmacz** is the Tri-Beta advisor. This semester Tri-Beta provided weekly tutoring for students in introductory biology courses. The society also made a financial contribution to the research fund of the national organization, earning them the honor of being named a "Silver Star" chapter. Tri-Beta member and Vice-President **Michael Hollman** is the first BU student to receive a Tri-Beta Research Grant. Mike received a grant to fund his research on a soil-borne fungal pathogen, a *Pythium* species, infecting ornamental lilies at Dillon Floral. His work is being conducted in the lab of **Dr. Nolt**. For its last activity of the semester, Tri-Beta plans to sponsor free coffee and donuts for COST students and faculty during finals week. Look for details!



The main event of Tri-Beta this semester was to induct new members at a ceremony for family and friends held in early November. **Dr. Clay Corbin** was the featured speaker and addressed "Functional and Ecological Morphology of Caribbean Birds." Congratulatory remarks were offered by **Dr. George Chamuris**, BAHS chairperson, and **Dr. Marande**, Dean of the College of Science and Technology.

The following BAHS students were inducted into Tri-Beta (pictured below):

Regular Membership: **Michael Bierds, Joelle Bittner, Michael Brabander, Michael Busada, Shannon Carper, Marisa Cipolla, Erinda Como, Kyle Correll, Megan Dager, Melanie DiMartino, Ashley Erdman, Chardei Eshleman, Shannon Grimes, Dustin Hunsinger, Ghaith Ibrahim, Amanda Kaehler, James Kearns, Laura Laidacker, Carrie McClure, Jason Nolt, Scott Pfaff, Amy Schulz, Sean Scubelek, Megan Scully, Michelle Stipanovic, Melanie Yodock, and Krysta Whitmoyer.**

Associate Membership: **Beth Miller, Than Vu.**

Current Members: **Emily Barkanic, Stacy Brussell, Samantha Bussanich, Michael Hollman, James Noll, Christopher Ort, John Redinski, Essie Reed, Stephanie Solomon, Brandi Stout, Aaron Raski, Debra Walter, Roseann Wienrich and Di Zhou.**





Allied Health News BAHS Students Head to Clinical Programs

Over 25 BU students have entered clinical programs this semester. Their clinical sites and specialties are listed below (Key: R, Radiologic Technology; RT, Radiation Therapy; NM, Nuclear Medicine; S, Sonography, CLS, Clinical Lab Science).

Johns Hopkins Hospital: **Andre Acevedo** (NM), **Grace Colangeli** (NM), **Jon Mengel** (RT), **Rachel Stoehr** (NM), **Arifah Uqdah** (S); Thomas Jefferson University: **Nicole Zapotsky** (RT/S); Reading Hospital: **Matthew Fickinger** (R), **Taylor Lisella** (R), **Sonya Wolfe** (R); University of Pennsylvania Hospital: **Matthew Sandt** (R); Clearfield Hospital: **Joseph Hinchliffe** (R); College Misericordia: **Stephanie McGaw** (S); **Taylor Washburn** (S); Wyoming Valley Hospital, Wilkes Barre: **Jessica Whitenight** (R); Geisinger Medical Center: **Christopher Arbogast** (R), **Kelsey Castle** (R), **Kyle Concini** (R), **Kelli Desanto** (R), **Jessica McFee** (R), **Rose Novinger** (R), **Gary Oster** (R), **Meghan Rudy** (R), **Zachary Silver** (R), and **Victoria White** (R); York Hospital/Wellspan: **Joshua Capelli** (CLS); Susquehanna Health System/Williamsport: **Kristin Day** (CLS).

Scheduling Reminder to Health Science students – Introduction to Abnormal Psychology, 48.235, is only offered in the spring semester. You are advised to take it spring 2010 if you can and if you have the prerequisite.



Thirteen BAHS Students Honored for Outstanding Freshman Year Performance

Phi Kappa Phi is the nation's oldest, largest, and most selective honor society that recognizes and promotes academic achievement in all fields of higher education. Each year, the Bloomsburg University Chapter of the Honor Society of Phi Kappa Phi presents awards to exceptional students on the basis of their academic performance in the freshman year. This year thirteen BAHS students were among those honored by the Society. Receiving the award at a November ceremony were current BAHS sophomores: **Jessica Albright**, **Rebecca Conrad**, **Ethan Ernst**, **Amanda Pulsifer**, and **Victoria Williamson** (Medical Imaging); **Darrin Doran**, **Brandon Dunbar**, and **David Yovic** (Biology, pre-medicine), **Meghan Duell** (Secondary Education, Biology); **Heather Love** (Health Science, pre-physician Assistant); **Sarah Monaco** and **Tracy Stutz** (Biology), and **Alaina Egger** (Clinical Lab Science). We are proud of you!



BAHS has a Rising Star



BAHS own **Michelle Stipanovic** is featured as a rising star on the BU website. Michelle (left) is a junior biology major in the pre-medical sciences option. Michelle is a Dean's List student, a recipient of the Phi Kappa Phi Outstanding Freshman award, and a new member of Tri-Beta, the biology honor society. She served as a biology tutor in the Science and Health Science Living Learning Community. Michelle is the vice-president of the BAHS club. She also participates in the BU Dance Ensemble and the campus group, Developing Ambitious Student Leaders. Check out the video of Michelle on the BU website.



Marine Science Consortium College Summer Program Schedule, Summer 2010

The following courses are being offered at the Marine Science Consortium at Wallops Island, VA. Some of them can be applied towards biology elective credit for the B.S or B.A. Biology degree. For more information, please see **Drs. Hranitz, Klinger, or Corbin**.

Session I: May 17- June 4: MS-100, Windows to the Ocean; MS-241, Marine Biology; Introduction to GIS; MS-491-Coral Reefs

Session II: June 7 -25: MS-120, Introduction to Ecology; MS-211 Field Methods; MS-3xx Plant Ecology; MS-343, Marine Ichthyology.

Session III: June 28-July 16: MS-221 Marine Invertebrates; MS-451, Coastal Environmental Oceanography

Session IV: July 10-August 6: Molecular Biology; MS 343, Marine Ichthyology; MS-464, Biological Oceanography.

BAHS Research

The following undergraduates are conducting research with BAHS faculty:

Emily Barkanic worked with **Dr. Rier** and members of the Susquehanna Heartland Coalition for Environmental Studies on the installation of monitoring equipment in the municipal water intakes for Danville and Milton.

Shannon Carper worked in the laboratory of **Dr. Hess** this summer studying the role of ephrin-A1 in mediating melanoma migration, invasion, and proliferation. Shannon is the recipient of a Kozloff Undergraduate Research Scholarship.

Ghaith Ibrahim is conducting toxicological research on stress responses in the blackworm *Lumbriculus variegatus* with **Drs. Surmacz** and **Hranitz**. Ghaith is testing for hormesis (a graded stress response) in blackworms.

Jeffrey Pfeiffer is performing microsatellite genotyping on collared lizards (*Crotaphytus collaris*) from a population in Oklahoma. Genotypes are used to assign parentage of hatchling lizards to adult male and female lizards in a study of reproductive fitness. **Dr. Hranitz** is his mentor.

Paige Ricci is developing microsatellite primers for the population genetic study of an invasive bee (*Megachile apicalis*). These primers will be used to compare the genetic diversity of native and invasive populations of this bee and to identify the source population(s) for invasions in the US. Paige is working with **Dr. Hranitz**.



Students Receive Research Grants.

Jonathan Busada received a research grant from the Commonwealth of Pennsylvania University Biologists for his independent research project titled: "High levels of the receptor tyrosine kinase EphA2 lead to increased cell migration rates through increased activity of Rac and RhoA GTPases." **Dr. Hess** is his mentor.

Michael Hollman received a research grant from Tri-Beta Honor Society to study a soil-borne fungal pathogen infecting ornamental lilies at Dillon Floral. He has isolated a *Pythium* species from infected roots and infested soil and is trying to key his *Pythium* isolates out to the species level. His future research plans include pathogenicity studies on selected isolates and quantifying inoculum density in greenhouse soils. **Dr. Nolt** is his mentor.

Jillian Kida received a research grant from the Pennsylvania Academy of Sciences for her honors independent research project titled "EphA2 as a promoter of melanoma proliferation." Jillian is working in **Dr. Hess's** lab.



Attention student researchers!

Share your results at the upcoming College of Science and Technology Research Day on Friday, December 11 at Kehr Union, Multipurpose Room B. See your research mentor for details.

Faculty News

Dr. Hess has been invited by the US Department of Defense Peer Reviewed Cancer Research Program to submit a full proposal for funding consideration for her project titled: "From melanocytes to melanoma: a role for Eph/ephrin interactions."

Dr. Wassmer is a Fulbright scholar this semester at Mbarara University in Uganda where he is teaching entomology and conducting research. Check out his photos at <http://www.facebook.com/bloomuniversity>. We look forward to hearing about his experiences when he returns to campus next semester.

Dr. Rier working with members of the Susquehanna Heartland Coalition for Environmental Studies (includes seven regional universities, government agencies, and non-profit organizations) have installed real-time monitoring stations on both the North Branch and West Branch of the Susquehanna River (photo at right). These stations are linked to the web and allow researchers, government agencies, municipalities, teachers, and ordinary citizens to follow the health of the river in real-time. The data can be accessed at the following link: http://www.departments.bucknell.edu/environmental_center/susquehanna_river_monitoring/index.html



Dr. Rier was granted tenure and was promoted to associate professor. Congratulations Dr. Rier!



Pre-professional Committee UPDATES

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. During fall semester, the committee hosted a meeting at ABLE in the Columbia Science and Health Science Living Learning Community Room for all students interested in the pre-medical sciences. The group also held a free, practice MCAT exam for sophomores and juniors with funding generously provided by the College of Science and Technology. The co-chairs of the committee are **Drs. Joseph Ardizzi** and **Mark Melnychuk** from BAHS. Other committee members include **Dr. Cindy Surmacz** (BAHS) and **Drs. John Morgan** and **Toni Trumbo-Bell** from 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 to join the Pre-professional /Graduate Community on Blackboard by contacting Dr. Trumbo-Bell (tbell2@bloomu.edu). Pre-professional students are also encouraged to join the pre-medical sciences club.

2010 MCAT Dates are Posted

The Medical College Admission Test, MCAT, is a computerized exam required for admission to medical school. It is administered over 20 times per year with your choice of a morning or afternoon testing session. Score reports will be available in 30 days. Dates for 2010 are: January 29, 30; March 27; April 10, 17 and 23; May 1, 21, 22, 27; June 17; July 8, 16; 29, 30; August 4, 5, 12, 13, 19, 20; 24; Sept 2, 3, 9, 11. Additional information can be found at <http://www.aamc.org/students/mcat/>

Pre-Medical Sciences Club



The pre-medical sciences club invites students who are considering a career in any medically related profession to participate in the group's activities. The pre-med club is led this year by President, **Essie Reed**; Vice-President, **Samantha Bussanich**; Secretary, **Megan Kopec**; Treasurer, **John Redinski**; and Public Relations Officer, **Melanie Yodock**. **Dr. Ardizzi** is the club's advisor. See the happy group at left! This semester the pre-med club sponsored trips, speakers, and fund raisers, in addition to mentoring new pre-medical science students. Representatives from The Commonwealth Medical College, the Philadelphia College of Osteopathic Medicine, The New York College of Podiatric Medicine, and Temple College of Podiatric Medicine were on hand to inform students of opportunities available in the medical sciences. Dr. Stephen Schell, M.D, a 1975 BAHS alumnus, visited campus last spring to provide guidance to pre-med students about the professional school application process. Dr. Schell provided encouragement and urged students to challenge themselves while at BU. The photo at left shows Dr. Schell with members of the Pre-medical Sciences Club. The club also organized trips to Philadelphia College of Osteopathic Medicine, Primary Care Day at Hershey Medical Center, and the AED conference at Temple University. in Philadelphia. This regional meeting brings together over 350 pre-professional students from 25 colleges and 13 different professional schools to discuss topics related to careers in health care. The club also raised our blood sugar at their Halloween Bake sale and is working on the design of a pre-professional T-shirt. Be sure to check out the club's activities next spring!



Members of the Pre-Medical Sciences Club met with Dr. Stephen Schell '75, center, this spring. Learning firsthand what undergraduates can do to position themselves for successful entry to medical school were (front from left): Essie Reed, Gina Grasso, Samantha Bussanich, Megan Kopec, Laura McCourt, Amy Schultz. Back: Brandon Dunbar, John Redinski, Heather Love, Dr. Schell, Nate Gainer, Josh Prall, Kyle Bartol.

Graduate Program Updates

RA PROGRAM STUDENT NEWS

Congratulations to **Ross Klausing** and **Joshua Tussing** who completed the RA program in August and were recently notified that they passed the ARRT national certification examination. They are now registered radiologist assistants (RRA). Congratulations to **Mrs. Melhlbaum** RA program coordinator, RA students, and all involved with the program—BU has a 100% pass rate on the national certification examination!

Alexander Khudysh is currently doing his RA clinical this semester at Maimonides Medical Center in Brooklyn, NY.

Rhyan Kleiner is doing his RA clinical this semester at Evangelical Hospital in Lewisburg, PA

The RA program welcomed the following new students this semester, pictured below: 1st row: **Calvin Mahoski** (Philadelphia, PA); **Christine Win** (Sylvania, OH); **Kourtney Saba** (Kingston, PA). 2nd row: Mrs. Mehlbaum, RA program coordinator; **Evans Nkowa** (Elks River, MN); **Mary Streeter** (Richmond, VT); **Jeffrey Smith** (Cincinnati, OH); **Thomas Outlaw** (Stroudsburg, PA). Missing from the photo is **Heidi Streeter** (Williston, VT).



UPDATES FROM THE MASTER'S PROGRAM IN BIOLOGY

The graduate program welcomes several new students: **Karl Ackerman** (East Stroudsburg University); **Jonathan Bobek** (University of Scranton); **David Kolb** (Bloomsburg University); **Ryan Stetz** (Wilkes University); **Daniel Weaver** (Lock Haven University); and **Ekaterina Yarunova** (Lock Haven University). We are glad that you have joined us!

Several master's students are serving as graduate assistants this semester. **Debra Walter** is assisting with Cell Biology lab and Integrated Physiology Lab. **Jon Bobek** is the graduate assistant serving the Anatomy and Physiology laboratories. **David Kolb** is assisting in Microbiology and Concepts in Biology. **Ekaterina Yarunova** is working as a student secretary in the BAHS office. Thanks to all of our graduate assistants for your hard work and service.

Ryan Stetz is beginning his masters thesis project investigating parameters that affect methane gas production from the Sun-Re cheese anaerobic digester. This is primarily a field study involving bi-weekly monitoring of the digester. He plans to measure the effects of different treatments on gas production (i.e. reseeded with fresh manure, mixing regimes, temperature control). Results from this research will have practical applications to optimizing the performance of the digester. **Dr. Nolt** is his mentor.

Debra Walter will present her thesis research at the American Society for Cell Biology annual meeting in San Diego, CA December 5-9. Her poster is titled: "In the presence of EphA2, checkpoint kinase 2 promotes unregulated cell growth in cutaneous melanoma. **Dr. Hess** is her thesis advisor.