



BioSynthesis

Volume 7, Issue 4 (December 2008)

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

Fall & Spring Semester Dates

DEC 5: COST Research Day, 2 p.m. 79, 83, and 86 HSC

DEC 8 - 9: Free Coffee and Donuts, Tri-Beta, 178 HSC, 8 a.m.

DEC 8- 13: Final Exams

DEC 12: Graduate Commencement, Haas, 6:00 p.m.

DEC 13: Undergraduate Commencement, Colleges of Science and Technology and Liberal Arts, Haas, 10:00 a.m.

DEC 17: Fall Semester Grades available on STINF; official transcripts available.

JAN 12 (Mon): Spring Semester 2009 classes begin.

JAN 19 (Mon): Martin Luther King, Jr. Day, no classes.



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Biology Students in the Field



Bernie Svab (left) and **Nate Gainer** (right) are measuring nutrient uptake in a stream impacted by abandoned mine drainage (AMD) in the Wilkes-Barre area. Bernie is examining the effects of intermittent AMD on the ability of streams to sequester nitrogen and phosphorus for his master's research with **Dr Rier**. Nate is an undergraduate volunteer research assistant in Dr. Rier's lab.



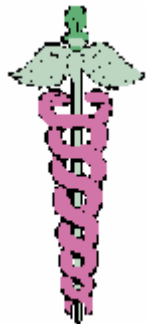
Congratulations to December Graduates!

Best wishes for continued success. Stay in touch!

B.S. Biology: **Diana Pierce**, **Shirshendu Saha** (molecular biology), **Margaret Yesalavage** (pre-medicine), **Amanda Griffiths**, **Tara Schultz**.

B.A. Biology: **Jennifer Beagle**, **Jolene Gaus** (pre-physical therapy), **Megan Krajewski** (pre-physical therapy), **Cynthia Kurtek**, **Cassandra Newcomer**, **Michael Root** (pre-physical therapy), **Andrew Shaffer**, **Angela Shaffer** (pre-physical therapy), **Kevin Sommers** (pre-physical therapy), **Kyla Hause**.

Medical Imaging: **Holly Fortuna**, **Elizabeth Dinich**, **Kourtney Saba**, **Breanne Connors**.



Pre-professional Committee News

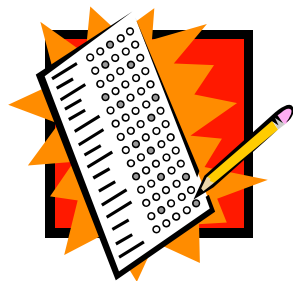
OPPORTUNITIES: Primary Care Scholars Program

Interested in medical school in general and primary care in particular? Consider attending the 2009 Primary Care Scholars' Program sponsored by the Penn State College of Medicine at Hershey. This program provides students with the opportunity to discuss topics such as medical care, primary care, medical school admissions, financing, and the medical school's curriculum with physicians and students. Come and learn about the philosophy and practice of primary care within the disciplines of family medicine, internal medicine, and pediatrics.

The two-week program will run from May 18 - May 29, 2009. During the program's first week, students will engage in large and small didactic groups and attend seminar presentations focused on primary care. The second week will be spent in the office of a family physician, general pediatrician, or general internist. If the student chooses, this could be a location near his/her college or hometown. To be eligible, you must have completed sophomore or junior year of college, or are in post-graduate study. If you are interested in applying, please see **Dr. Ardizzi**. Application materials will be due to BU's pre-professional committee in early February.

TJU Open House

Jefferson Medical College of Thomas Jefferson University is holding an open house for advisors and minority students on Friday December 12, 2008 from 10 a.m. to 4 p.m. The open house is designed to feature education programs, admissions processes, and support services for minority students interested in medicine or the health professions. There will be the opportunity to talk with minority faculty, administrators, and students. Breakfast and lunch will be provided. Registration must be sent by December 3, 2008. Forms may be picked up at **Dr. Ardizzi's** office. The agenda is posted on the bulletin board outside 106 HSC.



Learn more about the MCAT

MCAT is the standardized test required for admission to most medical schools. The 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 MCAT is administered over 20 times per year with your choice of a morning or afternoon testing session. Dates for 2009 are: January 30, 31; March 28; April 4, 18, and 24; May 1, 2, 22, 28; June 18; July 2, 17; August 5, 6, 14, 21, 25; Sept 3, 4, 10, 12. "MCAT Essentials" is a guide to the test that is required reading for all examinees. It can be found at the MCAT website at www.aamc.org/macat. Here are six pointers included in the guide:

1. Don't wait until the last minute to register for the test. It is recommended that you register 60 days in advance to get the best chance of getting your preferred test date and location. Also, you may wish to consider testing earlier in the year so that you can take the test more than once in the year.
2. Enter your name in the registration system EXACTLY the same as it appears on the ID that you will use on test day.
3. Bring the same ID to the test center that you used when registering for the test. Your ID should match exactly with the name under which you registered. Avoid partial names, nicknames, and misspellings. If your ID and registered name do not match, you will not be admitted to the testing room.
4. Arrive 30 minutes before the scheduled start of the exam. It takes time to check ID, take fingerprints, and get settled at a computer workstation.
5. Sign into the Testing History Score Reporting System one month after your test date to get your scores.. This system can also be used to release your scores to institution that do not participate in the American Medical College Application Service (AMCAS).
6. If you are applying to schools through AMCAS, your scores will be automatically sent to the institutions you selected.

Check out the Pre-Pro/Pre-Grad Community

Dr. Bell, chemistry department, has set up an online community on Blackboard to assist students interested in attending professional or graduate school. The site contains exam study aids, helpful links, a discussion board, announcements, and a "word of the week" to build that ever important vocabulary for standardized tests. For more information, see Dr. Bell.



See **Dr. Ardizzi** to register with the pre-professional committee. If you have any questions, please feel free to contact any member of the Pre-professional Committee. The co-chairs of the committee are **Drs. Ardizzi** and **Melnychuk** (BAHS). Other committee members include **Drs. Surmacz** (BAHS), **Morgan**, and **Bell** (Chemistry).

BAHS Student and Faculty Updates



Five 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 five BAHS students were among those honored by the Society. Receiving the award at a November ceremony were current BAHS sophomores: **Kristin Gross**, **Jillian Kida**, and **Rose Novinger** (Medical Imaging); **Michelle Stipanovic** (Biology, pre-medicine), and **Debon Berger** (Clinical Lab Science). We are proud of you!

Grant Received to Sponsor Seminar Speakers

Drs. Rier, Hranitz, and Corbin have received a \$1,500 College of Science and Technology Research and Scholarship grant to bring in seminar speakers during the spring 2009 semester. These speakers will give 50 minute presentations on a variety of biological topics and will be open to all students and faculty. Look for announcements next semester.



Research Grants

Dr. Corbin received a grant from the College of Science and Technology Research and Scholarship Fund to study nesting insectivores, avian community diversity, and acid mine drainage along tributaries of the Susquehanna River. Dr. Corbin will continue his research on the effects of Acid Mine Drainage (AMD) on local bird communities. Any students who are interested in helping with this study in the spring and part of the summer should contact Dr. Corbin.

Dr. Corbin also received a grant from BU's Research and Disciplinary Projects Competition to travel to field sites in Puerto Rico and Isla Vieques during summer 2009 to study foraging in resident bird communities. The project is entitled "Caribbean flycatcher ecological morphology: intermediate space occupancy by migrants." Dr. Corbin is seeking a biology or statistics student next year to assist with the data analysis.

Recognized for Service

Ms. Beishline, BAHS department secretary and faculty members, **Drs. Till**, and **Surmacz** were recently recognized by BU for their years of service to the university. Ms. Beishline, Dr. Surmacz, and Dr. Till have served BU for 30 years, 25 years, and 20 years, respectively. Thanks for all your hard work over many years!

Calling all Secondary Education Biology majors

Check out BioEd Online at www.BioEdOnline.org. This is a free web-based site containing some great and FREE resources especially for teachers. The site contains streaming video presentations, slide sets that can be incorporated into PowerPoint programs, science news from *Nature*, and on-line professional development workshops. Bio-Ed online is hosted by Baylor College of Medicine and Texas A & M University and funded by the National Institutes of Health, Howard Hughes Medical Institute, National Space Biomedical Research Institute, U.S. Department of Education, National Center for Research Resources, and Houston Endowment. The content is developed by an editorial board of scientists and science educators.



Spring Semester Electives for Biology Majors

What biology electives have you scheduled for spring 2009?
Here is a snapshot of some of the cool stuff you'll be learning!



Invertebrate Zoology (50.211)

Dr. Klinger

Prerequisites: Concepts in Biology II (50.115)

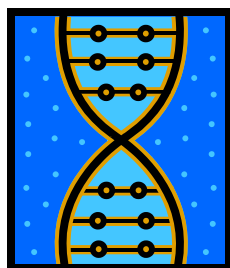
Studies the principal phyla of invertebrate animals in relation to their anatomy, classification, and behaviors in the ecosystems in which they participate. Three hours lecture/2 hours laboratory per week. Does not count for a biology minor.

Freshwater Biology (50.253)

Dr. Rier

Prerequisites: Concepts in Biology II (50.115)

Introduction to identification, life histories, and ecology of organisms inhabiting lakes, ponds, streams and wetlands. Emphasis will be placed on the role environmental factors play in determining the abundance and distribution of these organisms. Includes laboratory and field investigations. Two hours lecture/discussion, three hours of lab per week. Does not count for a biology minor.



Molecular Biology (50.333)

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 of lab per week.

Global Change Biology (50.420 and 520)

Dr. Rier

Prerequisites: Biology major with junior status or permission of instructor

Explores the biological consequences of current environment change including rising levels of atmospheric carbon dioxide, increased temperature, altered precipitation patterns, increased UV radiation, nitrogen deposition, the spread of exotic species, loss of biodiversity, eutrophication, and land-use changes. The course format will combine short lectures with student oral presentations and class discussions. Readings will be drawn primarily from the current scientific literature. Three hours of lecture/seminar per week.



Introduction to Pharmacology (50.445)

Dr. Till

Prerequisites: Cell Biology (50.271) AND Anatomy & Physiology II (50.174) OR Vertebrate Systems 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. In Introduction to Pharmacology (50.445).

More Spring Biology Elective Offerings

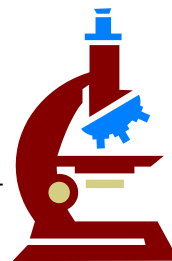
Medical Parasitology (50.470 and 570)

Dr. Henry

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

Join us as we examine the host-parasite relationships of a diverse group of human and animal parasites. Included will be detailed discussions into the evolutionary adaptations and molecular mechanisms of pathogenesis in several medically important pathogens. Laboratory focuses on the morphology and life cycles of parasitic protozoa, helminths, and their vectors.

Two hours of lecture / three hours of laboratory per week.



Special Topics: Biological Clocks and Calendars

(50.489 and 589)

Dr. Wassmer

We will explore a wide range of topics related to biological timing mechanisms. The topics will include the basic properties of biological clocks, the molecular mechanisms underlying these rhythms, ecological implications, and medical importance of our understanding of biological clocks. The class format will include lectures and student presentations of research papers.

PHYSIOLOGY OFFERINGS

Either of these courses satisfies the physiology core requirement of the B.A. and B.S. biology degrees when combined with Integrated Physiology Lab.



Plant Physiology (50.477)

Dr. Williams

Prerequisites: Cell Biology (50.271) AND Organic Chemistry I (52.231), OR Fundamentals of Organic Chemistry (52.230)

How do plants convert radiant energy into chemical energy? How do plants move water hundreds of feet in the air without a pump? Why and how do plants make nifty drugs like aspirin and cardiac glycosides? Why don't plants have kidneys? How do plants "know" when to drop their leaves, and why do those leaves turn those strange colors?

Animal Cell Physiology (50.472)

Dr. Hess

Prerequisites: Cell Biology (50.271), Organic Chemistry I (52.231) or Fundamentals of Organic Chemistry (52.230)

Multi-cellular organisms depend upon the homeostasis of cells to maintain their existence.

Since cells are the fundamental units of life, a basic knowledge of cell physiology is essential for understanding how organisms work. This course will emphasize topics such as cell-cell and cell-matrix interactions, membrane transport and trafficking, cell signaling, and cell cycle. In addition, processes needed for cell functions such as metabolism and DNA replication will be examined.



Other BAHS Offerings

During spring 2009, BAHS will offer Human Sexuality (50.230) a course that meets the Values, Ethics, and Responsible Decision Making requirement. Writing in Biology (50.290) will also be offered by **Dr. Ardizzi**.



BAHS Students & Faculty Present Research

The BAHS research labs have been busy this semester! Check out the following presentations by BAHS students and faculty at COST Research Day on Friday, December 5, 2008. The schedule and location of BAHS presentations is listed below:

Time	HSC Room	Student/Faculty	Title of Talk (T)
1:55	83	Dean Marande	Welcome!
2:00	83	Richard Carter Mariena Hurley Biology Dr. John Hranitz	Honey bee HSC70 concentrations after pre-experiment handling and ingestion of ethanol
2:15	83	Maggie Yesalavage Dr. Sandra Hill-Felberg Biology Dr. Cynthia Surmacz	Analysis and Characterization of Macrophage Distribution in Brain Tumors Using a Rat Glioma Model
2:30	83	Shannon Carper Biology Dr. Angela Hess	Investigating EphA2 as a Target for Melanoma
2:45	83	Debra Walter Biology Dr. Angela Hess	Proliferation in both Highly and Poorly Aggressive Human Cutaneous Melanoma: A Role for EphA2
3:00	83	Nicholas Serra Biology Dr. John Hranitz	A microsatellite diversity estimate of effective population of collared lizards
3:15	83	Cassandra Lex Jeremy Vilcheck Biology Dr. John Hranitz Dr. Cynthia Surmacz	Detection of Heat Shock Proteins in Aquatic Worms: Examination of Stress Responses in <i>Lumbriculus variegatus</i> Part 1
3:30	83	Jeremy Vilcheck Cassandra Lex Biology Dr. John Hranitz Dr. Cynthia Surmacz	Detection of Heat Shock Proteins in Aquatic Worms: Examination of Stress Responses in <i>Lumbriculus variegatus</i> Part 2
3:45	83	Katie Raymis Katie O'Blosser Biology Dr. Angela Hess	Investigating the Levels of Ephrin-A1 Expression in Melanoma
4:00—4:30	83	Di Zhou Benjamin Evancho, Leah Mangan, Emily Pendse, Aaron Raski, Jonathan Snaveley, Sumeet Sandhu Biology Dr. John Hranitz	Small effective population size estimates and implications for a population of collared lizards
4:15	79	Jared May Biology Dr. Karl Henry	Antagonism of Fluconazole Activity by the HAT Inhibitor Garcinol in the Fungal Pathogen <i>C. glabrata</i>



Opportunities Save the date...

The annual meeting of the Pennsylvania Academy of Science (PAS) is in Camp Hill, PA (near Harrisburg) on March 27 to 29, 2009. The meeting features a keynote address and research posters and presentations on a wide variety of topics. Deadline for abstracts is February 1, 2009. For more information see <http://pennsci.org/index.htm>. This is a good meeting for students to present the results of their research.

The 2009 Health Sciences Symposium will be held on campus on Thursday, April 2 and Friday, April 3, 2009. This year's theme is "Improving Health Through Mental Well Being." Featured will be keynote speaker, Terry Wise, J.D., author of "Waking Up: Climbing Through the Darkness." This year's symposium will be sponsored by the Central Susquehanna Community Foundation, the Provost's Lecture Series, the Suicide Prevention program, and the Science and Health Science Living Learning Community.

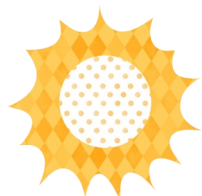


UNCF-Merck Offers Undergraduate Science Research Scholarships

Applications are now available for the 2009 UNCF-Merck Undergraduate Science Research Scholarship. This scholarship program is sponsored by The Merck Company Foundation and is administered by The United Negro College Fund. The goal of the program is to encourage African American students to pursue careers in biomedical science and related scientific fields. The award provides tuition support of up to \$25,000 and offers opportunities for paid summer internships at a Merck research facility in New Jersey, Pennsylvania, or Massachusetts. To be eligible, students must be African American, enrolled in a life science or physical science program at a four year college, a junior, and have a 3.3 GPA. The deadline is December 15, 2008. The scholarship program web site is www.uncf.org/merck

Opportunities in Ecology and Environmental Biology

If you are interested in receiving e-mails regarding internships, summer jobs, graduate school, and career opportunities in the fields of Ecology and Environmental Biology, send **Dr. Rier** an e-mail (srier@bloomu.edu) and he will put you on the list.



Summer Research Fellowships

The Wistar Institute is offering a 10-week summer internship program for undergraduates to conduct research in biomedical sciences in areas related to immunology, gene expression and regulation, and molecular and cellular oncogenesis. Wistar Institute is an independent, non-profit research center located on the campus of the University of Pennsylvania in Philadelphia, PA. During the program, students will have the opportunity to conduct research in the labs of Wistar scientists. Students will receive a \$4,000 stipend and free campus housing. Applications must include a transcript, resume, cover letter stating interests and career goals, and two letters of recommendation. The program runs from June 1 to August 7, 2009. For more information, visit www.wistar.org or call Cheryl McFadden at 215-898-3718.

Tri-Beta Initiates New Members



New and current members of Beta Beta Beta Biological Honor Society pose for a picture following their induction ceremony in November at the Schweiker Room, Andruss Library. 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 induction ceremony was led by current officers: President, **Christopher Ort**; Vice-President, **Kyle Bartol**; Secretary, **Danielle Yoder**; Historian, **Kelsey Grabert**; and Treasurer, **Stephanie Solomon**. **Dr. Henry** was the featured speaker and addressed "Combating drug resistance in the opportunistic fungal pathogen *Candida glabrata*." Congratulatory remarks were offered by **Dr. George Chamuris**, BAHS chairperson, and Dr. Marande, Dean of the College of Science and Technology. In addition to the initiates and their families, the following BAHS faculty attended: **Dr. Hess**, **Dr. Kipe-Nolt**, **Dr. Chamuris**, **Mrs. Mehlbaum**, **Dr. Wood**, **Dr. Williams**, **Dr. Nolt**, **Dr. Ardizzi**, **Dr. Henry**, and **Dr. Surmacz**.

2008 Initiates

Regular Membership

Emily Barkanic
Justin Blessing
Bridget Bond
Stacy Brussell
Alex Hilderbrandt
Michael Hollman
Justin Lavo
Laura McCourt
Erica Kocher
James Noll
Patricia Owen
John Pavese
John Redinski
Essie Reed
Britnie Spaunhorst
Brandi Stout

Associate Membership

Samantha Bussanich

Graduate Membership

Joseph Margotta
Aaron Raski
Debra Walter
Roseann Weinrich
Di Zhou

Faculty Membership

Dr. Karl Henry

Current Student Members

Kyle Bartol
Kelsey Grabert
Deborah Hunsberger
Joanna Kraynak
Christopher Krum
Christopher Ort
Stephanie Solomon
Margaret Yesalavage
Danielle Yoder





Current Graduate Student Members

Chelsea Barnes
Jonathan Snaveley

Tri-Beta Updates

Tri-Beta has had a busy semester! The group provided weekly tutoring sessions for students in introductory courses at ABE, the Academic Biology Learning Environment, at the Science and Health Science Living Learning Community at Columbia Hall. Thanks to all of the Tri-Beta members who donated their valuable time to helping their classmates. The group plans to continue this program in the spring semester. New Tri-Beta members are encouraged to participate. A major event during the fall semester was the initiation of 23 students and faculty followed by a reception for friends and family. The Society will also bring back its popular "Free Coffee and Donuts" during finals week for COST Faculty and Students during Finals Week on Monday and Tuesday, Dec 8 and 9, in 178 Hartline.

FREE COFFEE AND DO-NUTS
 for COST Students and Faculty
 Finals Week
 Monday, December 8 and
 Tuesday, December 9
 in the morning
 178 Hartline



BAHS Club

The BAHS club sponsored their annual Charity Tree event in Hartline in December to benefit the Ronald McDonald House. The club thanks everyone for participating. The club also has T-shirts for sale. Some of the exciting events planned for next semester include a hot chocolate stand (as a small fundraiser) at Quest's Winter Carnival, a bus trip to a Philadelphia Museum, a trip to Wallops Island, as well as a plant fundraiser, and upper campus clean-up!



Megan Dager, Laura McCourt, and Emily Barkanic raise funds for the Ronald McDonald House.

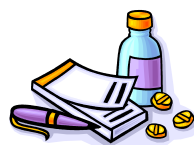
Where are they now?

Danielle Wargo

Danielle Wargo (maiden name: Wartko) graduated from Bloomsburg in May 2007 with a B.A. Biology degree. She conducted undergraduate research as a volunteer and for course credit (Research in Biology). Following graduation, she was employed as a laboratory technologist for a biotechnology company. Recently, she applied for jobs that provide more contact with the public and she is currently employed by Covance, Inc at their Periapproval Office in Conshohocken, PA. Covance is a worldwide Clinical Research Organization who contracts with pharmaceutical companies for their drug development and drug approval needs. The Periapproval office specializes in Phase III and Phase IV Clinical Trials. Danielle is a Clinical Research Assistant on a team of 15 members collecting data from doctors across the country to obtain FDA approval on a study drug. The skills she learned in laboratory courses and research experiences were important factors in being hired for both jobs.



Danielle Wargo (center) at the 2007 Society for Integrative and Comparative Biology meeting in Phoenix AZ. Also presenting at the meeting with Danielle were **Laura Halon** (left) and **Joel Gyimesi** (right).



Study Away!

Biology major **Alicia Crist**, studied abroad last semester at Auckland University of Technology in Auckland, New Zealand. Alicia studied Microbiology, Nutrition, Sociology, and Statistics. While not in class, Alicia explored New Zealand taking time to enjoy scuba, bungee jumping, a cruise, and even sky-diving. One of the highlights of her trip was swimming with wild dolphins. Check out the photos of Alicia repelling down a waterfall (top right), the giant kiwi (bottom right), and Whales Bay (below). Interested in studying abroad? Check out the International Education Office's website: <http://departments.bloomu.edu/inted/index.html>



What Lies at the End of the Silk Road in Modern Turkey?

By Dr. John Hranitz

The 2008 National Science Foundation- Research Experiences for Undergraduates (NSF-REU) research expedition supported seven students on research projects on Lesvos (Greece) and in Bursa Turkey. The students formed a diverse group from Columbia University, Oklahoma State University, Oregon University, University of Central Oklahoma, and the University of Puerto Rico. Pollination studies near Kalloni Bay on Lesvos compared bee communities of high nectar (high reward) and low nectar (low reward) plants. After a week of long days and nights in the field, students were tired but displayed a proud feeling of accomplishment with their first experiments completed. Arriving ahead of them in Bursa, Dr. Charles Abramson and I escorted a student (Daliris Ramirez) to repair a broken tooth, graciously provided by Dr. Cemil Kasapara--a wonderful dentist and humanitarian. Not wanting to waste time and working with Dr. Ibrahim Cakmak and his wife, our hosts at Uludag University, we initiated our experiments on honey bees. As time allowed, our hosts showed us the Koza Han (a bazaar erected in 1492) and other sites of Bursa. In ancient times, spices and silks carried on overland routes to Europe frequently passed through Bursa and nearby Izmir which are now industrial centers of trade.



NSF-REU Students after dinner at Omar's on our last night in Istanbul before traveling to study sites in Greece.



A visit to archeological site of Trojia (Troy) underscores the importance of reading classic literature and your general education curriculum at BU. The Trojans would have never fallen for the "Trojan Horse" ploy had they read *The Illiad*. The portals and stairs leading into the belly of the beast should have been important clues too.

Daliris Ramirez (Univ. Puerto Rico), who endured an infected tooth and a root canal to remain on the research team, places a honey bee in a harness.



Graduate Program Updates

M.S. BIOLOGY STUDENT NEWS

The following masters' students have begun their thesis research and are investigating the following topics:

Aaron Raski: Infection and co-infection rates of *Borrelia burgdorferi* and *Anaplasma phagocytophilum* in tick populations in Montour and Columbia County, Pennsylvania. Mentor: **Dr. Hansen**

Joseph Margotta: Characterization and analysis of heat shock protein cognate 70 and heat shock protein 90 of two species of leafcutting bees, *Megachile fidelis* and *Megachile apicalis*. Mentor: **Dr. Hranitz**

Deb Walter: Signaling pathways and proliferation in both highly and poorly aggressive human cutaneous melanoma: a role for EphA2. Mentor: **Dr. Hess**

Sumeet Sandhu: EphA2 promotes melanoma metastasis through the Rho family of GTPases. Mentor: **Dr. Hess**

Di Zhou: The role of the G protein gamma 11 subunit in endothelial cells. Mentor: **Dr. Hansen**

Master's Thesis Defense

Chelsea Barnes will defend her thesis entitled "Factors Influencing Salamander Community Structure in Riparian Zone Habitats of Northeast Pennsylvania" on Friday, December 12 at 3 p.m. in 86 Hartline. All are invited to attend!

RA PROGRAM STUDENT NEWS

Jacqueline Ritz will graduate from the Radiologist Assistant program during December commencement exercises. **Brianna Wilkins** passed her Radiologist Assistant certification examination from the American Registry of Radiologic Technologists. Congratulations Jackie and Brianna!

Graduate students in the Radiologic Assistant program conduct research as part of their degree requirements. The following research projects are underway by our RA students:

Ross Klausing: Radiation exposure of young trauma patients imaged using multiple CT exams.

Joshua Tussing: Determining anxiety levels of patients undergoing procedures in the modalities of nuclear medicine, computed tomography, interventional radiology, and general radiology and ways to reduce those anxieties.

Andre Pascal: Evaluation of CT scanogram as a method to reduce exposure to ionizing radiation in assessment of spinal scoliosis in children and young adults.

INTERNSHIP SCHOLARSHIPS AVAILABLE

Scholarships of \$250 - \$1,000 are available to encourage student internships by helping to defray expenses associated with internships. Funds may be used for travel expenses, the purchase of required insurance or clearances, immunizations, lab coats or safety devices, and necessary software or resources. For applications or information, contact Ms. Alison Stone-Briggs, Director of Community Outreach and Academic Internships, 140 Student Services Center, (389-4962) or astbriggs@bloomu.edu.