

Chemistry Connections

Fall 2006

A newsletter from the Chemistry Department
at Bloomsburg University of Pennsylvania

Chemistry Students Conduct Summer Research

Miscellaneous

☞ Bloomsburg University Open House: Saturday, October 21. Visit the chemistry department from 1:00 - 3:00 pm. For more information, go to: http://www.bloomu.edu/prospective/open_house.php

☞ If you're unable to attend an open house program, you're welcome to visit Monday through Friday. You can meet an admissions counselor, get a tour of campus, meet with various support services and arrange an appointment with an academic department representative. Call (570) 389-4316 to make arrangements.

☞ You can contact the chemistry department at Bloomsburg University several ways:

<http://department.bloomu.edu/chem/Default.htm>

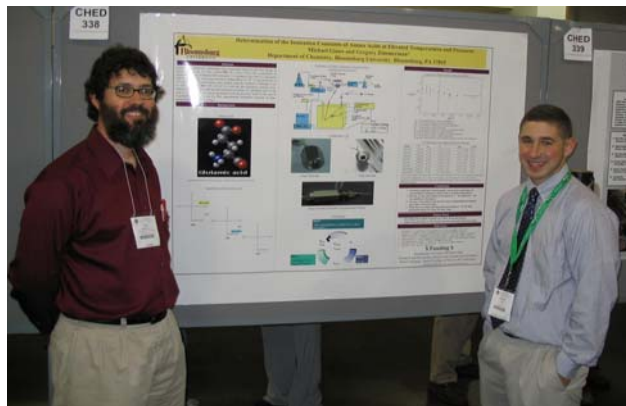
570-389-4895 (main number)

Dr. Michael Pugh, Dept. Chair:
570-389-4144;
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Ten dedicated BU chemistry majors expanded their educational experiences this summer by working in laboratories in Pennsylvania, Virginia and Texas. These industrious students gained valuable experience that they are able to use in the classroom and laboratory, and which will be a great benefit to them when they apply for jobs or to graduate school. Following is a list of the students, where they were this summer, high school attended, and their research topic:



Dr. Gregory Zimmerman and student Michael Giano with a poster presentation of Mike's research project.

- Texas A&M: **Mike Giano** (*Hunterdon Central, NJ*): Application of microfluidic device as biosensors. **Nick Fox** (*W. Tennent*): Nanoscopic intermetallic compounds using the polyol process at low temperatures.
 - Marshall University in Huntington, WV: **Jamie Houseknecht** (*Columbia-Montour Vo-Tech*). Fabrication of microfluidic devices without common micro-processing instrumentation.
 - Drexel University: **Brian Holsey** (*JR Masterman*). Use magnetophoresis to position a magnetic carbon nanotube at the tip of a micropipette for biological probing and single cell manipulation.
- At Bloomsburg University this summer:
- **Evan Thursby** (*Benton*). The water window on various implantable pacing leads using a home-built computer-controlled potentiostat.
 - **Jonathan Shrimp** (*Meadowbrook Christian*) and **Chris Endress** (*Bloomsburg*). Accelerating chemical reactions by using highly reactive organic compounds known as N-heterocyclic carbenes.

Cont'd on back page

High school attended

J&J Donates NMR

Current and incoming chemistry students at Bloomsburg University now have access to a newly-donated 400 MHz Nuclear Magnetic Resonance Spectrometer (NMR). BU chemistry faculty member, Dr. Mark Tapsak, recently arranged for this very generous donation from Johnson & Johnson pharmaceutical company. An NMR provides structural information of a molecule and is one of the most commonly used instruments in chemical research. At B.U., the NMR is used in both research and in organic, inorganic, instrumental, and physical chemistry classroom experiments. Most importantly, it provides invaluable hands-on experience to our students with instrumentation they will encounter in industrial or graduate school positions.

Award Winners Recognized

A number of chemistry majors were recognized recently at a College of Science & Technology awards banquet for scholarly achievements.

- Outstanding Freshman Achievement Award: Shanna Quinn & Katherine Lyle
- Outstanding Junior Chemistry Achievement Award: Brian Holsey
- ACS Achievement in Organic Chemistry: Evan Thursby
- AIChE Outstanding Senior Award: Chris DeVore
- David Murphy Memorial Scholarship: Rachel Harris

High School Junior Gets Research Experience

Emily Murphy, a senior at Central Columbia High school, spent several days a week this summer involved in a research project at BU with Dr. Mark Tapsak. She helped develop an analytical technique on a research grade gas chromatograph (GC) instrument. The project fits within Dr. Tapsak's general interest in investigating common biomaterials for drug delivery. Emily worked with monobutyryn, a simple lipid found in fat tissue that reportedly promotes blood vessel growth and the healing process. Her tasks involved making stock solutions of monobutyryn in phosphate buffered saline, then running the samples on the department's highly automated GC. She then compiled the GC data in order to determine optimum conditions, like time and temperature, for the technique.



Faculty Profile



Dr. Eric J. Hawrelak joined the BU Chemistry Department in the fall of 2004. He earned a BA in Chemistry from Hamilton College, an MS in Chemistry from the University of Kentucky and a PhD in Chemistry from Virginia Tech. He completed his post-doctoral work at Cornell University. An Inorganic chemist, Eric teaches Physiological Chemistry, Inorganic and Advanced Inorganic Chemistry courses, as well as general courses for chemistry & science majors. In addition to supervising research projects for students, he also oversees the student Chemistry Club. He was recently awarded a \$46,500 Cottrell College Science Award which has funded the purchase of a solvent purification system for the university.

Eric grew up in Auburn, NY. He and his wife, Kara, make their home in Bloomsburg, with their 10 month old son, Baden.

Summer Research - cont'd from front

- **Heather Pursel** (*Southern Columbia*). Design of potential anti-cancer pharmaceuticals based on synthetic, non-natural amino acids.
- **Sarah Leshinski** (*Southern Columbia*) and **Rachel Harris** (*N. Schuylkill*). Using cobalt-containing molecules to use in the production of biologically active molecules.

ALUMNI NEWS

Michael Bradshaw graduated from Bloomsburg University with an American Chemical Society certified Bachelor of Science degree in May of 1997. While at Bloomsburg, he worked as a laboratory assistant and also was vice president of the Chemistry Club. He received the Junior Chemistry Achievement Award and the ACS Outstanding Senior Chemistry Award.

Mike worked for five years as a Chemist/Senior Chemist at Chemsultants International, Inc., in Ohio. He currently is a Research and Development Level II Chemist at The Sherwin-Williams Company in Ohio, where he resides with his wife and daughter.

Mike was a graduate of Central Columbia High School and says that Mr. Brett Criswell's chemistry class was the foundation for his decision to major in chemistry. Having worked now in industry for nine years, Mike feels that the breadth and depth of the chemistry course material offered at BU more than prepared him for the challenges he now faces. He believes the individual attention given to him by the faculty during class and his research project at BU was a major asset to learning and developing the necessary skill sets.