This issue of SciTech features a sampling of research completed by faculty and students in Bloomsburg University’s College of Science and Technology during the last year. For faculty research university-wide, see www.bloomu.edu/research_scholars.

Chemistry/Biochemistry

Society of Toxicology Meeting
Michael Borland presented a first author poster at the 2012 Society of Toxicology (SOT) international meeting in San Francisco. The poster was entitled “Ligand- and receptor-dependent effects of PPARβ/δ and PPARδ on cell proliferation in the A431 carcinoma cell line.”

Borland also attended the American Society of Biochemistry and Molecular Biology (ASBMB)-Undergraduate Affiliate Network (UAN) Leaders Biochemistry Concept Workshop at Moravian College along with Toni Trumbo Bell, also from chemistry/biochemistry.

Chemical Society Meeting
Bloomsburg University students and faculty who made presentations at the 2012 American Chemical Society National Spring Meeting in San Diego are:

Poster Presentations

Platform Presentations
- Mark A. Tapsak, “Detailed thermal characterization of decacylene containing polysilalkynesiloxanes.”
- Philip L. Osburn, “Polyisobutylene-supported bidentate triazole-NHC-palladium complex as a recyclable catalyst for the Heck reaction.”

Super Saturday
Chemistry faculty and members of the Chemistry Club performed the following experiments during Super Saturday: bottle rockets, liquid nitrogen fountain, glowsticks, rainbow of fire, M&M flare, elephant toothpaste, non-burning money, indecisive thirsty chemist, disappearing Styrofoam, and temperature extreme explosion.

Participants were faculty member Eric Hawrelak; BU Chemistry Club members Hannah Cronk, Owen O’Sullivan, Matt Miele and Josie Legere; and Super Saturday helper Luke Stauffer.
Geography/Geosciences

Geological Society Meeting

Stephen Whisner, Jennifer Whisner and Cynthia Venn from geography and geosciences and Christopher Hallen from the chemistry and biochemistry attended the Northeastern Section of the Geological Society of America meeting in Hartford, Conn. These students accompanied the faculty members: Katrina Taylor, Derek Weicht, Kendi Waltemyer, Samantha Pfister, Stephanie McGiloway, Robert Kresch, Victoria McLaughlin, Samantha Schafer, Alexandra Hoffman, Al Broody, Matthew Pisanchyn, Theodore Grimm, Elizabeth Chamuris, Eliza Reed and Felipe Alarcon.

Weicht and Reed presented posters on their summer 2011 water chemistry research with Venn and Hallen and McGiloway and Chamuris presented posters of their senior research projects on Fishing Creek sediment transport history. Venn and Hallen presented student research posters by Janelle Evans, Caitlin Heller and Jaclyn Yamrich, who were unable to attend the conference.

Titles for NEGSA 2012

• Reed, Eliza R., Venn, Cynthia and Hallen, Christopher. 2012. Attempt #2: Quest for Point Sources of Metals and Sulfate into the Susquehanna River near Byer’s Island, Shamokin Dam (Northumberland County), Pa. GSA Abstracts with Programs, NE Section, Vol. 44, No. 2, p. 110.

John Bodenman


Michael Shepard

Michael Shepard was lead author on two papers published in Icarus, the International Journal of Solar System Research:
• Radar observations of Asteroids 64 Angelina and 69 Hesperia
• Laboratory study of the bidirectional reflectance from particulate samples.
He was co-author of four other papers published in Icarus:
• An experimental study of Hapke’s modeling of natural granular surface samples
• Testing the Hapke photometric model: Improved inversion and the porosity correction
• Radar and optical observations and physical modeling of triple near-Earth Asteroid (136617) 1994 CC
• Asteroid 21 Lutetia at 3 micrometers: Observations with IRTF SpeX.
Exercise Science

Timothy McConnell authored or coauthored the following recent publications.


McConnell, Rawson and Fradkin

Three BU exercise science faculty were coauthors of:


Noah Wasielewski

The following by Noah Wasielewski was published in the Journal of Athletic Training:

- Evaluation of Electromyographic Biofeedback for the Quadriceps Femoris: A Systematic Review; Authors: Wasielewski, Noah J.1; Parker, Tonya M.2; Kotsko, Kevin M.3; Source: Journal of Athletic Training, Volume 46, Number 5, September 2011, pp. 543-554(12).

Andrea Fradkin

Andrea Fradkin presented research individually and with students as follows:

Presentations


Instructional Technology

Karl Kapp

Faculty member Karl Kapp has published his fifth book, “The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education.”

Academy of Science Meeting

Students Andrew Ackerman, Brandon Gray, Lauren Lowenberger, Diana Pierce, Heather Ressler and Cassaundra Thompson and faculty Angela Hess, Clay Corbin, Naz Afarin Fallahian and Cynthia Sormacz attended the Pennsylvania Academy of Science meeting. The following talks and posters were presented:

• In vitro effects of low-dose ionizing radiation on primary skin cells. Ackerman, Andrew, Kelly N. Barko, Naz Afarin Fallahian and Angela R. Hess.

• Eph receptor and ephrin ligand expression in human keratinocytes, melanocytes and melanoma cell lines. Pierce, Diana H. and Angela R. Hess.

• Morphology, Bite-Force, and Bill Closing Velocity in North American Birds. Lowenberger, Lauren K., Brandon L. Gray and Clay E. Corbin.

• Protease Inhibitors Reduce Degradation of the Cellular Stress Marker HSP70 in Lumbriculus variegates. Thompson, Cassaundra, Heather Ressler, Cynthia Sormacz and John M. Hranitz.

Tri-Beta Convention

Meghan Duell, a senior biology major won the Frank G. Brooks Award, the first-place prize in the oral presentation category at the Northeast District 2 Tri-Beta Convention. Duell won a travel grant to compete at the national Tri-Beta Convention held in Puerto Rico in May. Her presentation was titled “Honeybee Stress: Behavioral and Physiological Implications of Flumethrin Treatment.” John Hranitz is her mentor.

Brandon Dunbar, a senior biology major, received second prize in the poster category. He presented “Effect of Composted Materials on the Incidence of Pythium splendans induced-root rot disease.” His mentors are Barry Nolt and Judith Kipe-Nolt.

Spring Honors Symposium

College of Science and Technology top honors graduates Carrie E. Mensch, Mathematics, Computer Science and Statistics; Jenna Mordan, Mathematics, Computer Science and Statistics; and Chelsea J. Zoltowski, Audiology and Speech Pathology, were honored during the Spring Honors Symposium. Other COST students and faculty recognized at the symposium are:

Faculty

• Outstanding Teaching Award: Patricia Beyer, Geography and Geosciences; Annette Gunderman, Nursing; and John Riley, Mathematics, Computer Science and Statistics.

• Outstanding Service Award: Jorge Gonzalez, Audiology and Speech Pathology; Joan Miller, Nursing; and Cynthia Sormacz, Biological and Allied Health Sciences.

• Outstanding Scholarship Award: Shaheen Awan, Audiology and Speech Pathology; Noreen Chikotas, Nursing; John Hranitz, Biological and Allied Health Sciences; and Mehdi Razzaghi, Mathematics, Computer Science and Statistic.

Students

Audiology and Speech Pathology


• Magna Cum Laude: Holly Bachman, Lindsey Marie Bieryla, Katherine Elizabeth Burgess, Ashlee A. King, Vanessa R. Martin, Kaitlyn McShay, Cassandra Lynn Remaley, Michelle Selinsky, Jill D. Wiscount and Kathryn Bridget Young.


• Student Scholarships and Awards: Jacqueline Crowe, James Bryden Scholarship; Chelsea Zoltowski, Outstanding Senior; Kaitlyn A. Smith, Frances Fay DeRose Memorial Award; Jordyn Koveleski, Husky Audiology Award; and Nicole Leonzi, Cynthia Schloss Graduate Award.

Biological and Allied Health Sciences

• Summa Cum Laude: Jessica M. Albright, Rebecca Isabelle Conrad, Brandon Dunbar and Amber Marie Kolk.

• Magna Cum Laude: Megan Elizabeth Duell, Alaina Lee Egger, MaryKate Gallagher, Jason D. Kneller, Heather Nicole Love, Sarah Angela Monaco, Amanda R. Pulsifer and Lauren M. Sosnoski.

• Cum Laude: Marisa A. Cipolla, Tammy Mistishin Franks, Karmyn Yvonne Gill, Larissa R. Johnson, David W. Kolk, Lindsay M. Kupferschmidt, Robert P. Medon, Michael J. Molesевич, Jenelle L Romig, Sara E. Taylor and Maura Elizabeth Williams.

• Student Scholarships and Awards: Heather Ressler, James E. Parsons Scholarship; Chelsea Zoltowski, Outstanding Senior; Kaitlyn A. Smith, Frances Fay DeRose Memorial Award; Jordyn Koveleski, Husky Audiology Award; and Nicole Leonzi, Cynthia Schloss Graduate Award.

Chemistry and Biochemistry

• Summa Cum Laude: Adam D. Miller and David Joel Yovic.

• Magna Cum Laude: Brandon Marshall West.

• Cum Laude: Jarid Matthew Metz and Jordan Nathan Metz.

• Student Scholarships and Awards: Adam Miller, ACS Undergraduate Award in Inorganic Chemistry and ACS Outstanding Senior Award; Jarid Metz, American Institute of Chemist Foundation, Outstanding Senior Award; Jordan Metz, American Institute of Chemist Foundation, Outstanding Senior Award; Chris Houser, Junior Chemistry Achievement Award; Gene Tunney, POLYED Undergraduate Award for Achievement in Organic Chemistry; and
continued from page 4.

Ariana Winder, David Murphy Memorial Scholarship.

Exercise Science

- Magna Cum Laude: Elliot Beadle, Meghan Elane Boyer and Elizabeth S. Lukiewski.
- Cum Laude: Andrew Evans, Joshua James Fleming, Jennifer Lynn Hetrick, Steven Taylor Jeffreys and Alaina Kay Snyder.
- Student Scholarships and Awards: Meghan Boyer, The Bill Sproule Award; and Christina Rasnake, Graduate Honor Award in Exercise Science.

Geography and Geosciences

- Cum Laude: Katie Daud, Katharine Keeney and John Alexander Lenches.
- Student Scholarships and Awards: Kendi Walmerteyr, Daniel J. Tearpock Field Camp Scholarship; Lynnette Eichenlaub, Braun Geology Field Camp Scholarship; Thomas Kerstetter, Outstanding Achievement Award in Geography/Planning; and Brian Culp, Outstanding Student in Geoscience.

Instructional Technology

- Outstanding Students in Instructional Technology: Chris Cutno, Gina Fanelli and Daniel White.

Mathematics, Computer Science and Statistics

- Summa Cum Laude: Carrie E. Mensch, Jenna L. Mordan and Zachary L. Rothweiler.
- Magna Cum Laude: Bingchen Yan.
- Cum Laude: Daniel Paul Hranj, Scott R. Keeble, John Lenhart, Marissa

Nursing

Noreen Chikotas/Kimberly Owelski

Noreen Chikotas, associate professor and program director of BU’s nurse practitioner programs; Kimberly Owelski, nursing instructor; and Carol I. Parks, registered nurse with PPL Corp. of Berwick, had two manuscripts accepted for publication in the peer-reviewed journal, American Association of Occupational Health Nurses. The manuscripts are “Comprehensive Review of the Healthy People 2020 Occupational Safety” and “Health Objectives: Tools for the Occupational Health Nurse in Goal Attainment: Part I and Part II.” These manuscripts provide the tools to implement the objectives of Healthy People 2020 in occupational and environmental health.

Noreen Chikotas

Noreen Chikotas presented a poster, “Urinary Tract Infections and the Relation to Health Behaviors: A Research Study,” at the peer-reviewed American College of Nurse Practitioner 2011 Clinical Conference in Denver, Colo. The poster disseminated information from a quantitative research study which explored the relationship between health behaviors (risk factors) and the occurrence of urinary tract infections (UTIs) in college-aged women. The study was conducted in 2009 at the Bloomsburg University Student Health Center. The conference reaches approximately 3,000 nurse practitioners in clinical practice nationally, specifically the Western part of the U.S., and added to the evidence-based UTI research and health behaviors of college-age women.

Joan Miller

Joan Miller addressed the influence of burnout on good work in nursing, work that is at once excellent, ethical and engaging or personally meaningful, in “Burnout and Its Impact on Good Work in Nursing,” Journal of Radiology Nursing, 30, 146-149. Issues such as inadequate staffing and moral distress influence the ability of the nurse to achieve and maintain a commitment to work that is of the highest standard in terms of technical excellence and social and moral responsibility. Given the critical shortage of nurses in the United States and globally, interventions are needed that will allow nurses to reflect on the values that inform and sustain their commitment to quality care.

Deb Sanders

Deb Sanders, assistant professor, co-authored an article, “STD Prevalence Demands Clinical Awareness,” in Aging Well, a publication for professionals in geriatric medicine. Sanders co-authored the publication with Tresa Imparato, a registered nurse at Geisinger Medical Center who recently graduated from BU. Sanders mentored Imparato in developing the topic which was generated from her senior-level scholarly paper.
Spring Research Day

The student presentations listed below were featured during Spring Research Day, Saturday, May 5. The faculty mentor and department is listed after the title.

Talk Sessions

- Kelsey Matthews, Investigation of Signal Transduction Pathways Involved in Fluconazole Resistance in Candida glabrata, Karl Henry, Biological and Allied Health Sciences.
- Erica Winter, Partial Cloning of the Nr2 gene from Megachile rotundata, Kristen Brubaker, Biological and Allied Health Sciences.
- Megan Kope, Characterization of Heat Shock Factor-1 in the Thermotolerant Species Megachile rotundata, Kristen Brubaker, Biological and Allied Health Sciences.
- Hassan Alh Mashal, Daniel Byler, Chris Cutno, Mike Seibert, Phebe Strzempek, Training for PPL Employees, Timothy Phillips, Instructional Technology.
- Kyle J. Higgins, An Improved Method for Calibrating the Gantry Angles of Linear Accelerators, Naz Afarin Fallahian, Physics and Engineering Technology.
- Kayla Binger and Jamie O’Neill, Uncertainty in illness among Diabetics: Rural and Suburban Communities, Joan Miller, Nursing.
- Brandon West, Synthetic Efforts Toward the Construction of a “Blocked” Hemilabile Pincer Ligand, Phil Osburn, Chemistry and Biochemistry.
- Keith Kinek, Storm runoff and polyphosphate storage in periphyton communities inhabiting autotrophic and heterotrophic streams, Steven Rier, Biological and Allied Health Sciences.
- Jared Metz, Construction of Base-tunable Hemilabile Pincer Palladium Complexes, Phil Osburn, Chemistry and Biochemistry.
- Phil Anzelmo, From field to classroom and back to the field: Increasing engagement in Mineralogy and Petrology courses by use of student research projects, Jennifer Whisner, Geography and Geosciences.
- John Lenchus, Petrographic analysis of thin sections of igneous and metamorphic rocks collected during Bloomsburg Geosciences field trips, Stephen Whisner, Geography and Geosciences.

- Alan Shaffer, Synthesis of novel N,N’-(2-alkyl) 2-imidazol-2-ium halide salts, precursors of N-heterocyclic carbene, John P. Morgan, Chemistry and Biochemistry.
- Sabrina Wagner, Functional Analysis of a Putative Iron/Phytosiderophore Transporter From Oats, Avena Sativa, George Davis, Biological and Allied Health Sciences.
- Tom Blass, The Cloning and Characterization of an anti-FRO2 Antibody Genes, George Davis, Biological and Allied Health Sciences.
- Shane Levengood, A GUI-Based Program for Viewasting Areal Shape Models, Michael Shepard, Geography and Geosciences.
- Taryn Holland, Health Needs Assessment of Bloomsburg University Students, Michelle Fica, Nursing.
- Nicole Cicero, Maureen Miller and Grace Ordonez, Quality Improvements: Working on Student Interdisciplinary Teams, Mary Ann Cegielsky, Nursing, and Dr. Adele Spegman, Geisinger Medical Center.
- Tom Dimaria, Improving Sexuality in Patients with Spinal Cord Injuries, Pat Loiaza, Nursing.
- Jerome D. Roscioli, Predicting Transport Properties at High Temperature and Pressures, Greg Zimmerman, Chemistry and Biochemistry.
- Hannah Cronk and Reid Lennon, Rotational State-Specific Collisional Relaxation Dynamics of Acetylene Using Optical-Optical Double Resonance, Ju Xin, Physics and Engineering Technology.

Poster Presentations

- Hannah Cronk and Reid Lennon, Rotational State-Specific Collisional Relaxation Dynamics of Acetylene Using Optical-Optical Double Resonance, Ju Xin, Physics and Engineering Technology.
- Cassandra Thompson and Heather Thompson, Protease Inhibitors Reduce Degradation of the Cellular Stress Marker HSP70 in Lumbriculus variegatus, John Hranitz and Cynthia Surmacz, Biological and Allied Health Sciences.
- Derek Weight, Influence of the Oneida #3 Mine Tunnel Drainage on Little Tomhicken Creek Before and After the Repair of an AMD Passive Treatment System, Chris Hallen, Chemistry and Biochemistry, and Cynthia Venn, Geography and Geosciences.
- Sarah Monaco, Effects of Exogenous Carbohydrates on Basidiospore Germination, and Bark Texture Preferences of Bark-Inhabiting Fungi, George Chamuris, Biological and Allied Health Sciences.
- Sean M. Jeffreys, Grazing and Clipping Induced Changes in Leaf Silicon Contents of the grass Agrostis gigantean, Kevin Williams, Biological and Allied Health Sciences.
- John Pettine, Ground Penetrating Radar Survey of the Millffinville Cemetery, Columbia County, Pa., Michael Shepard, Geography and Geosciences.
- Jordan Metz, Studies of N-Heterocyclic Carbene Catalyzed Biodiesel, John P. Morgan, Chemistry and Biochemistry.
- Larissa Johnson, Characterizing Individual Variation in HSP70 concentrations in Blackworms (Lumbriculus variegatus) following Heat Shock, John Hranitz and Cynthia Surmacz, Biological and Allied Health Sciences.
- Charmiane Henderson, Evaluating the Cytotoxic Effects of Novel Compounds as Potential Spermicides, Jennifer Venditti, Biological and Allied Health Sciences.
- Victoria McLauchlin, Samantha Schafer, Fracture measurements and geologic mapping along the transition between the Valley and Ridge and Plateau, Physiographic provinces of Pennsylvania, Stephen Whisner, Geography and Geosciences.
- Elisa Busada, Avifauna diversity of old field and disturbed forest habitats of Bloomsburg University of Pennsylvania, Clay Corbin, Biological and Allied Health Sciences.
- Lauren Lowenberger, Health Needs Assessment of Bloomsburg University Students, Michelle Fica, Nursing.
- Elisa Busada, Avifauna diversity of old field and disturbed forest habitats of Bloomsburg University of Pennsylvania, Clay Corbin, Biological and Allied Health Sciences.