One of the many strengths of Bloomsburg University’s College of Science and Technology – our College – is our excellent faculty. In this issue of SciTech, we introduce or reintroduce you to representatives of the outstanding faculty who teach, advise and mentor our students every day.

From the dean

You also may read about the accomplishments of faculty from all four BU Colleges, including presentations, publications, research findings and grants and awards, at www.bloomu.edu/research_scholars/faculty. Dr. Jeff Brunskill in geography and geosciences compiles information from throughout our College for this newsletter, the online faculty scholarship recognition (listed above) and other media outlets.

Student research and career planning will be the focus of three College-wide events later this semester. Details will be forthcoming on Career Day, Friday, March 2; Spring Honors Symposium, Monday, April 30; and Spring Research Day, Saturday, May 5. The theme of the 21st annual Health Science Symposium and Wellness Fair on Thursday and Friday, April 26 and 27, is Brain Enhancement: Personal and Societal Implications, with the keynote address by Dr. Martha Farah, director of the Center for Neuroscience and Society at the University of Pennsylvania.

The spring semester promises to be filled with abundant opportunities for our students, in the classroom, the lab and at on-campus presentations and programs. We can all be proud of our students’ achievements guided, as always, by our superb faculty.

— Robert Marande, Dean

Noreen Chikotas has been a faculty member in BU’s nursing department for the past 15 years, teaching at both the undergraduate and graduate levels and serving as the director of the nurse practitioner program. She currently advises approximately 75 graduate nurse practitioner students, manages all aspects of the curriculum for the adult and family nurse practitioner programs and teaches graduate-level courses for nurse practitioner students.

She and colleague Nicole Defenbaugh, assistant professor of communication studies, recently received grants from the Teaching and Learning Enhancement Center (TALE) and the Bloomsburg University Interdisciplinary Research and Scholarship program. The grants support two projects: implementation of standardized patient experiences into an advanced health assessment course for nurse practitioner students and research on the student experience and outcomes related to use of standardized patients.

Chikotas’ research centers on instructional strategies for educating advanced-practice nurses and evidence-based research in clinical practice. She presented the results of a research study she conducted with the Bloomsburg University Health Center staff, College-Age Women and Urinary Tract Infections, at national conferences. She also presented research completed during a recent sabbatical, Lecture-Based Learning and the Education of the Nurse Practitioner, at national conferences.

A certified registered nurse practitioner, she maintains national certification as a family nurse practitioner and was recertified for a five-year period on Nov. 1, 2010. She is a member and treasurer of the Greater Susquehanna Nurse Practitioner group.
Greg Zimmerman has been back one year from his year-long sabbatical as a Fulbright Research Scholar at the University of Guelph in Ontario, Canada. In collaboration with Canadian researchers, Zimmerman continues to study corrosion reactions in water under high temperature and pressure, which is central to the design and maintenance of steam-generating electric power plants. His most recent publication, “Deuterium Isotope Effects on the Ionization Constant of Acetic Acid in H₂O and D₂O by AC Conductance from 373 K to 548 K at 20 MPa” in The Journal of Physical Chemistry B, addresses maintenance concerns in heavy water nuclear power plants operating in Canada today.

Zimmerman says, “In fossil fuel and nuclear power plants, a fluid is heated and converted to steam which is then circulated to spin a turbine, generating the electricity. Maintaining this fluid to the proper acidity (pH) is a critical factor in corrosion prevention, as well as ensuring insoluble solids will not deposit within the pipes. This is done using additives, either acids or bases, to adjust the acidity. Many Canadian nuclear power plants circulate heavy water (deuterium oxide) instead of light water, and the differences in the chemistry of these additives in light and heavy water are not well known at high temperatures.

“Our work on acetic acid in heavy water is only the second study of its kind at temperatures and pressures that exist in the water circulation loops of nuclear reactors. The long-term goal of this research is to develop a predictive model that can be used by engineers to more accurately control the acidity of the circulating fluid. This will in turn enable the lifetime of these heavy water nuclear reactors to be safely extended.”

Cardiac rehab program underway

This winter, BU’s department of exercise science began its cardiac rehabilitation and adult fitness program. Under the direction of Tim McConnell, professor of exercise science, graduate and undergraduate students will work together to help those at risk of cardiovascular and weight problems get moving. Participants will also learn more about conditions and risks related to heart and weight problems and how to prevent them from worsening.

The program is designed for adults aged 18 and over in accordance with recommendations from the American College of Sports Medicine. In order to take part in the program, individuals must have weight management problems, known stable heart disease or risk factors for heart disease. Participants with known heart disease must have their condition medically managed and stable for at least three months.

This program will be held both during the academic year and summer sessions. An initial, one-time fee of $30 will be used for the participant’s orientation and health screening. The cost for the fall and spring semesters is $120 per semester for approximately 30 classes; summer sessions of about 24 classes will cost $100. Currently, classes are held between 6:30 a.m. to 7:30 a.m. and from 5 to 6 p.m., but other times may become available.

If you are interested in or have questions about the cardiac rehabilitation and adult fitness program, contact Carol Kliamovich in the exercise science department at (570) 389-4361.

With his Kenyon experience in mind, Kahn believes strongly that a person’s education should not resemble a completed jigsaw puzzle of mutually exclusive subjects sitting next to one another. His personal mathematics biography, or mathography, includes countless hours of writing, reading and rewriting papers, making presentations at a chalk or white board and directing group projects, in addition to a professor’s typical hours spent with pencil, paper and coffee.

At Bloomsburg, Kahn guides math majors and others as they develop their own mathographies by incorporating varying degrees of experiences into the calculus sequence, abstract algebra and math thinking. He is particularly excited when a Math Thinking student grows from a passive mathematician who only hopes to pass an exam to an active mathematician who learns by discussing ideas with the class and defending the logic of an argument. Kahn hopes many of his Bloomsburg students will develop similarly broad mathographies over the course of their interaction with him.

Originally from Hingham, Mass., Eric Kahn came to Bloomsburg University from Lexington, Ky., in fall 2009 with his wife, Emily, and their dog, Bexley. He received his doctoral degree in mathematics at the University of Kentucky the previous May, completing a dissertation under the guidance of Marian Anton on the algebraic connection between two topological concepts. Although his research is rooted in Kentucky, Kahn’s path to academia began in Gambier, Ohio, where he attended Kenyon College and was encouraged to pursue his interest in mathematics within a broader framework of a liberal arts education.

With his Kenyon experience in mind, Kahn believes strongly that a person’s education should not resemble a completed jigsaw puzzle of mutually exclusive subjects sitting next to one another. His personal mathematics biography, or mathography, includes countless hours of writing, reading and rewriting papers, making presentations at a chalk or white board and directing group projects, in addition to a professor’s typical hours spent with pencil, paper and coffee.

At Bloomsburg, Kahn guides math majors and others as they develop their own mathographies by incorporating varying degrees of experiences into the calculus sequence, abstract algebra and math thinking. He is particularly excited when a Math Thinking student grows from a passive mathematician who only hopes to pass an exam to an active mathematician who learns by discussing ideas with the class and defending the logic of an argument. Kahn hopes many of his Bloomsburg students will develop similarly broad mathographies over the course of their interaction with him.

This winter, BU’s department of exercise science began its cardiac rehabilitation and adult fitness program. Under the direction of Tim McConnell, professor of exercise science, graduate and undergraduate students will work together to help those at risk of cardiovascular and weight problems get moving. Participants will also learn more about conditions and risks related to heart and weight problems and how to prevent them from worsening.

The program is designed for adults aged 18 and over in accordance with recommendations from the American College of Sports Medicine. In order to take part in the program, individuals must have weight management problems, known stable heart disease or risk factors for heart disease. Participants with known heart disease must have their condition medically managed and stable for at least three months.

This program will be held both during the academic year and summer sessions. An initial, one-time fee of $30 will be used for the participant’s orientation and health screening. The cost for the fall and spring semesters is $120 per semester for approximately 30 classes; summer sessions of about 24 classes will cost $100. Currently, classes are held between 6:30 a.m. to 7:30 a.m. and from 5 to 6 p.m., but other times may become available.

If you are interested in or have questions about the cardiac rehabilitation and adult fitness program, contact Carol Kliamovich in the exercise science department at (570) 389-4361.

With his Kenyon experience in mind, Kahn believes strongly that a person’s education should not resemble a completed jigsaw puzzle of mutually exclusive subjects sitting next to one another. His personal mathematics biography, or mathography, includes countless hours of writing, reading and rewriting papers, making presentations at a chalk or white board and directing group projects, in addition to a professor’s typical hours spent with pencil, paper and coffee.

At Bloomsburg, Kahn guides math majors and others as they develop their own mathographies by incorporating varying degrees of experiences into the calculus sequence, abstract algebra and math thinking. He is particularly excited when a Math Thinking student grows from a passive mathematician who only hopes to pass an exam to an active mathematician who learns by discussing ideas with the class and defending the logic of an argument. Kahn hopes many of his Bloomsburg students will develop similarly broad mathographies over the course of their interaction with him.

This winter, BU’s department of exercise science began its cardiac rehabilitation and adult fitness program. Under the direction of Tim McConnell, professor of exercise science, graduate and undergraduate students will work together to help those at risk of cardiovascular and weight problems get moving. Participants will also learn more about conditions and risks related to heart and weight problems and how to prevent them from worsening.

The program is designed for adults aged 18 and over in accordance with recommendations from the American College of Sports Medicine. In order to take part in the program, individuals must have weight management problems, known stable heart disease or risk factors for heart disease. Participants with known heart disease must have their condition medically managed and stable for at least three months.

This program will be held both during the academic year and summer sessions. An initial, one-time fee of $30 will be used for the participant’s orientation and health screening. The cost for the fall and spring semesters is $120 per semester for approximately 30 classes; summer sessions of about 24 classes will cost $100. Currently, classes are held between 6:30 a.m. to 7:30 a.m. and from 5 to 6 p.m., but other times may become available.

If you are interested in or have questions about the cardiac rehabilitation and adult fitness program, contact Carol Kliamovich in the exercise science department at (570) 389-4361.
Profile
John Hintz
Associate Professor
Geography & Geosciences

John Hintz joined Bloomsburg University in fall 2005 after completing his doctorate in geography at the University of Kentucky. With a broad background in environmental geography and conservation, Hintz’s research focuses on the geography and politics of environmental land use issues, particularly related to wilderness conservation, resource extraction and human-animal relations. Hintz has published several articles since 2005 and, last year, co-authored a book, Environment and Society: A Critical Introduction, with two collaborators at the University of Arizona. The book presents an overview of the diverse conceptual tools and traditions for thinking about, explaining and addressing the environmental challenges faced in the contemporary world.

Over the last year, Hintz started to examine the social and political aspects of hydrofracture gas extraction in the Marcellus Shale region. This work focuses on contextualizing the current gas extraction debate according to central Pennsylvania’s history of land use and land use regulation. He is also conducting a critical examination of the pro-drilling rhetoric espoused by industry groups and pro-business groups, focusing on their attempts to fit Marcellus gas extraction into broader rhetoric of “clean energy transitions” and “energy independence.”

In addition to his research, Hintz teaches courses on environmental issues, land resource management and geographic information systems (GIS). He is co-chair for the Green Campus Initiative and plays an active role in addressing environmental issues on campus and in the Bloomsburg community.

Profile
Noah Wasielewski
Assistant Professor
Exercise Science

Noah Wasielewski arrived at BU in fall 2008 following five years at the College of Charleston, S.C. Over the past year, he has taught the undergraduate courses Team Sports, Decisions for Healthy Behavior, Care and Prevention of Athletic Injuries and Research Methods in Exercise Science. On the graduate level, he taught Introduction to Athletic Training, Therapeutic Modalities, Therapeutic Exercise, Advanced Sports Medicine and Pathophysiology/Pharmacology.

His research interests include gait adaptations to trauma and rehabilitation, anterior cruciate ligament injury and functional outcomes related to musculoskeletal interventions. His article, “Evaluation of Electromyographic Biofeedback for the Quadriceps Femoris: A Systematic Review,” was recently accepted for publication in the Journal of Athletic Training. He is collaborating with Tom Zalewski, Pam Smith and Jorge Gonzalez of BU’s department of audiology and speech pathology on research relating to concussions in athletics.

Wasielewski helped prepare for the self-study and subsequent site visit for the successful Commission on Accreditation of Athletic Training Education (CAATE) accreditation of BU’s entry-level graduate athletic training program. He spearheaded proficiency testing for athletic training graduate students, developed new courses for the graduate athletic training curriculum and served as a reviewer for the Journal of Athletic Training. A member of the Board of Certification’s Examination Development Committee, he wrote and reviewed questions for the national certification examination.

Currently, he is formulating policies and procedures for the Center for Human Performance and Sports Medicine, set to open this fall to provide services to students and community members.

Profile
Timothy Phillips
Chair, Instructional Technology

Timothy L. Phillips’ expertise includes instructional design, project management, e-learning and instructional robotics. He has taught instructional technology at the university level for 23 years and presented papers and workshops at numerous state and national conferences. He presents and consults on providing and managing instructional technology solutions.

In his role with the Institute for Interactive Technologies, Phillips provides leadership for instructional technology projects for corporate, health care and state government clients resulting in more than $3 million in revenue. Clients include the Pennsylvania Department of Public Welfare, Kellogg’s, Black and Decker, Bristol Myers Squibb, Thermal Product Solutions, Rieter Automotive Carpet, Geisinger Medical Center and the Pennsylvania Coalition Against Rape.
Middle and high school children learned through hands-on activities and demonstrations at this year's summer experience programs on Bloomsburg University's campus. BU's Math and Science Resource Center organized the summer camps, where students attended sessions in computer forensics, global positioning, carbon dating and environmental issues, among other topics.

John Polhill, professor of mathematics, statistics and computer science at BU, took charge of the program last year after its previous director, Elizabeth Mauch, became interim dean of the College of Education. The week-long program is now in its sixth year, and seeks to spark students' excitement in a variety of subjects to foster a lifelong love of learning. Polhill led a cryptography session in past years and says his time as director has been satisfying.

"I never thought I would enjoy leading something like this, but it's been fun and rewarding to work with the kids," he says. "It's really evident that they've had a great time."

This year's middle school program, the Math and Science Summer Experience, was open to students entering sixth through eighth grades and featured three workshops each day where students learned about light, color and optics, explored environmentally friendly options, and tried their hands at computer programming with Alice, an innovative 3D programming tool developed at Carnegie Mellon University, allows children to drag and drop graphics to create stories, games or videos in Java, C++ and C#.

High school students entering grades nine through 11 participated in the Crime Scene Investigation Summer Experience. Sessions included computer forensics with Avinash Srinivasan, assistant professor of mathematics, computer science and statistics; forensic chemistry with Michael Pugh, chair of the chemistry department; global positioning with Robert Marande, dean of the College of Science and Technology, assisted by Charlotte Kemper, and mathematics of forensics with BU alumnus Greg Williams.

“I’m hoping to focus more on math and computer science next year, and to take the program in a more environmentally conscious direction in the future,” Polhill says. “Even kids who don’t go into science need to be aware of how to take care of the planet, and our green session this year was a success.”

The summer experience programs are a hit with both students and their parents, Polhill says, and many families related stories to him of their children “chatting their ears off” about what they had learned during the week.

Along with the BU professors, educators from Lycoming College and local middle and high schools volunteered to help with the program. Thomas Starmack, assistant professor of educational studies and secondary education, helped recruit students by talking to superintendents in Columbia, Montour, Union and Northumberland counties. BU students also pitched in, helping the kids while gaining experience themselves.

“Working with the summer camp was a wonderful experience,” says Jenna Mordan, a secondary education and mathematics major. “Being able to work with the kids to do fun math-related activities was really a blast, and it also made me think twice about what age group I really want to teach. I always thought I wanted to work with high school-aged students, but after spending the week with the sixth- through eighth-grade kids, I realize I might want to think again.”

Along with Mordan, students Korey Young, Carrie Mensch, Jacob Jacavage, Ashley Caliguire, and Nick Boccella helped with the summer program.

The hardest part, Polhill says, is recruiting students and securing funding to keep costs low for families. Fees ran at $175 for middle school students and $200 for high school students and covered tuition, daily lunch and snacks, a participant T-shirt, and all required materials. Scholarships were available and the program did not turn away any child due to financial need, Polhill says.

“We've been very fortunate to get some outside help on program costs from the Central Pennsylvania Workforce Development Corp., who were gracious enough to help us the past two years,” he says.

Polhill also encourages any faculty member interested in leading a session in next year's program to contact him, as he is always looking for more variety to keep the summer experiences fresh.

“The week itself is a blast,” he says. “I wish that all things in life could be this positive.”