

**Department of Environmental, Geographical,
and Geological Sciences (EGGS)
at Bloomsburg University of Pennsylvania
Annual Report 2016**



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[College of Science and Technology](#)

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A Note from the Chair

This year, we welcomed two new faculty to the department: **Dr. Danqing (Dana) Xiao** is a specialist in mapping, cartography, and Geographic Information Systems (GIS); and **Dr. Adrian Van Rythoven** is a geologist with an expertise in rare element minerals. We have big plans for both.

Dr. Xiao will be helping us develop new courses for our very popular GIS minor. With her, **Drs. Jeff Brunskill** and **Tina Delahunty**, we now have sufficient expertise to begin developing a new major track in GIScience which will include elements of programming and databases.

Dr. Van Rythoven has extensive experience in the rare element mining industry and is tasked with revamping our course in *Economic Geology*. This will help round-out the training each Professional Geology major receives and better prepare them for the PA State Professional Geology Licensing Exam (ASBOG). A year ago, we had a dozen seniors take the exam and boast a respectable 50% pass rate on the first try!

Our introductory *Field Geology* course is extremely popular. Last year, **Drs. Matt Ricker, Jen Whisner,** and **Chris Whisner** led 14 students to the upper Michigan peninsula. There they examined beaches along the Great Lakes, new soil types, and copper mines. This summer, **Drs. Cindy Venn, Jen Whisner,** and **Brett McLaurin** will be leading students through southern California to see a variety of landscapes from the Pacific coast to the Mojave Desert. We are grateful to an anonymous donor who subsidizes the transportation costs for our students.

Drs. Ben Franek and **Laura Mock** have spent the past year designing a brand new course called *Regional Geography Abroad*. The model is similar to the *Field Geology* course: two faculty lead a dozen students to a particular region of the world to study both its physical and cultural geography. This summer's inaugural trip is to Norway, where students will see fjords and glaciers, visit the Arctic Circle, and experience the culture of the Norse.

This year, **Dr. Ricker** led our two-year-old Soil Judging Team to the Regional Championship in State College, PA, where they won, beating out perennial powerhouses Penn State and University of Maryland. This April, they head to the National Championships at Northern Illinois University. Wish them luck!

Our department sponsored or co-sponsored two speakers this past year. **Mr. Jeff Moyer**, from the **Rodale Institute**, was brought in by **Dr. John Hintz** as part of his course on *Sustainable Food Systems*. And with the Andrus Library, we co-sponsored a visit and talk by **Mr. Robert Kanigel**, author of *Eyes on the Street: The Life of Jane Jacobs*, the biography of an urban planning pioneer who grew up in Scranton, PA.

Dozens of students conducted faculty-led research and presented their results at the BU Research Day, the Northeast Geological Society of America meeting in Pittsburgh, the Susquehanna River Symposium, and other venues. Several won outstanding awards for their work. Additionally, two dozen students successfully completed full-time internships around the state this past summer, working for local and regional government agencies and companies.

We continue to develop our curriculum so that students come away with the best possible education, training, and experiences in our field. Drop by if you're in the area and say hello, or keep up with us on our homepage (www.bloomu.edu/eggs), Facebook (www.facebook.com/BUEGGSalumni), or our new Foundation page (itspersonal.bloomu.edu/eggs).





Dr. Patricia J. Beyer

Associate Professor of EGGS

Special Assistant to the Provost for Student Success

Scholarly Interests

Fluvial Geomorphology, Surface Hydrology, Student Success and Retention

Education

Arizona State University, Tempe, AZ, Ph.D., Geography 1997

University of Illinois, Urbana-Champaign, IL, M.S., Geography 1992

Valparaiso University, Valparaiso, IN, B.A., Geography/English 1990

2016 Presentations

Whisner, J. K., Franek, B., and Beyer, P., 2016, Structured encounters with real data: sneaking up on doing science, *Geological Society of America Abstracts with Programs*, v. 48, no. 7. doi: 10.1130/abs/2016AM-284741, **invited presentation** at the *Annual Meeting of the Geological Society of America*, Sept. 25-28, in Denver, CO.

2016 Teaching

Reassigned to the Provost's Office for 2016, working under VP Tom Fletcher in Strategic Enrollment Management.

2016 Service Activities

Team Leader, SSC Advising Fellows pilot program

Steering Committee and Subcommittee co-chair, Strategic Enrollment Planning

Subcommittee co-chair, Middle States Review committee

SPARC member (President's Strategic Planning committee)



Dr. John E. Bodenman

Professor

Scholarly Interests

Research interests include spatial dynamics of the producer services sector with a focus on financial services, processes of economic change at the sub-national level, and regional economic development programs and policies with a focus on rural forest-based economic development in Pennsylvania. Particularly rewarding of late has been my work with student majors working on a wide variety of projects in the Geography and Planning Seminar (EGGS 498) that students take in conjunction with their summer internships (see photo below).

Education

Ph.D. (1995) Geography. The Pennsylvania State University at University Park.
M.S. (1991) Resource Economics. The Pennsylvania State University at University Park.
B.A. (1985) Economics. Willamette University in Salem, Oregon.

2016 Presentations

Bodenman, John E., and Ashton Mook. *The Spatial Dynamics of the Institutional Investment Advisory Industry in the United States: The Case of San Francisco, 2003-2013*. American Association of Geographers Annual Meeting, San Francisco, CA. March 30, 2016.

Nomie, Darion, and **John E. Bodenman**. *An Economic Opportunity Analysis of Downtown Bloomsburg*. Middle States Division of the American Association of Geographers Annual Meeting, Altoona, PA. November 4, 2016.



Summer 2016 - EGGS 498: Geography and Planning Seminar

2016 Teaching

Spring: Environmental Issues and Choices (EGGS 105)
Recreation, Tourism, and Sport (EGGS 315)
Fall: Environmental Issues and Choices (EGGS 105)
Honors Environmental Issues and Choices (HONORS 105)
Economic Geography (EGGS 221)
EGGS University Seminar (INTSTUDY 100)

2016 Service Activities

Executive Board Vice President, BU Protestant Campus Ministries
Advisor, Gamma Theta Upsilon (GTU) Geography Honor Society
BU Honors Program Advisory Committee (HAC)



Duane D Braun
Emeritus Professor

Scholarly Interests

Pleistocene Geology
Geomorphology
Hydrogeology
Environmental Geology

Education

The Johns Hopkins University, Baltimore, MD, PhD, Geomorphology, 1976
The Johns Hopkins University, Baltimore, MD, MS, Geomorphology, 1971
SUNY, Fredonia NY, BS Geology 1970

2016 Publications

Duane and Ruth Braun, Guide to the Geology of Mount Desert Island and Acadia National Park, 2016, North Atlantic Books, Berkeley, CA, 201pp.

Braun, Duane D., [Surficial geology of the northern portion of the Baker Island quadrangle, Maine \(PDF 1.3MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-13, map, scale 1:24,000.

Braun, Duane D., [Surficial geology of the southwestern portion of the Bar Harbor quadrangle, Maine \(PDF 3.7MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-19, map, scale 1:24,000.

Braun, Duane D., [Surficial geology of the eastern portion of the Bartlett Island quadrangle, Maine \(PDF 3.8MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-16, map, scale 1:24,000.

Braun, Duane D., [Surficial geology of the northern portion of the Bass Harbor quadrangle, Maine \(PDF 2.6MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-14, map, scale 1:24,000.

Braun, Duane D. and Weddle, Thomas K., [Surficial geology of the Newbury Neck quadrangle, Maine \(PDF 4.8MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-17, map, scale 1:24,000.

Braun, Duane D. and Weddle, Thomas K., [Surficial geology of the Salsbury Cove quadrangle, Maine \(PDF 5.8MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-18, map, scale 1:24,000.

Braun, Duane D., [Surficial geology of the Seal Harbor quadrangle, Maine \(PDF 6.0MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-20, map, scale 1:24,000.

Braun, Duane D., Lowell, Thomas V. and Foley, Michael E., [Surficial geology of the Southwest Harbor quadrangle, Maine \(PDF 7.0MB\)](#): 2016, Maine Geological Survey, Open-File Map 16-21, map, scale 1:24,000.

Braun, Duane D., Surficial geology of the northeastern portion of the Swans Island quadrangle, Maine (PDF 4.6MB): 2016, Maine Geological Survey, Open-File Map 16-15, map, scale 1:24,000.



Dr. Jeff Brunskill

Associate Professor

Scholarly Interests

My research interests focus on the public dissemination of meteorological information, spatial cognition, applications of geographic information system (GIS) technologies and geographic education. Over the last year, I collaborated with students and faculty in the computer science department at Bloomsburg University to develop the Bloomsburg Weather Viewer (<http://organizations.bloomu.edu/weather/viewer/index.htm>) and the Bloomsburg Solar Kiosk. The weather viewer is an educational program designed to enhance the educational value of the weather data and webcam imagery collected by K-12 schools and colleges for earth science courses. The solar kiosk is designed to introduce students the benefits and limitations of solar power production and explore associated meteorological concepts. This fall I also initiated a GIS investigation with students and faculty in the EGGs department to develop an enhanced GIS dataset that will facilitate decision making when routing natural gas pipelines across streams.

Education

University at Buffalo, Buffalo NY, Ph.D., Geography, 2005

University at Buffalo, Buffalo NY, M.A., Geography, 2001

North Carolina State University, Raleigh NC, B.S., Meteorology, 1999

2016 Publications

Greene, N.R. and Brunskill, J.C. Design of a solar tracking interactive kiosk. *Physics Education*. December 2016, Volume 52 (1), pp. 1-7.

2016 Teaching

Spring: Map Use and Analysis (EGGS 242)
Principles of GIS II (EGGS 361)

Fall: Meteorology (EGG 255)
Principles of GIS II (EGGS 361)

Summer: Meteorology (EGGS 255)
Internship in Planning (EGGS 497)

Advisees: 12 majors; 24 minors

2016 Service Activities

- Re-Developed EGGs 160 (Geography and Information Systems) as a General Education course for the EGGs department
- Developed a new GIS and Spatial Analysis minor for the EGGs Department
- Led a one-day Introductory GIS seminar for Regional Conservation Districts
- Collaborated with students in Curt Jones' senior seminar on the BU Solar Kiosk
- Developed GIS maps for the Larry J. and Marilyn M. Moyer Micro-hydro Project Proposal
- Committees: EGGs Search Committee; EGGs Promotion Committee; EGGs Geography Curriculum Committee; Gamma Theta Upsilon (GTU) Geography Honors Society; University-wide Tenure Committee



Dr. Tina Delahunty
Assistant Professor

Scholarly Interests

Biogeography, Land Use Land Cover Change, Recreation Planning, GIS, Remote Sensing

Education

Ph.D., University of Florida, Geography

2016 Publications

Liu, Ying, **Delahunty, Tina**, Zhao, Naixhou, and Cao, Guofeng. “These lit areas are undeveloped: Delimiting China’s urban extents from thresholded nighttime light imagery” *International Journal of Applied Earth Observation and Geoinformation*. 50 (2016): 39-50.

2016 Presentations

Southeast Division of the Association of American Geographers (SEDAAG) Conference. Paper presentation: “Utility of a Land Use Land Cover Dataset for Habitat Location.” November.

The Bog Learning Network, Winter Meeting, UNC - Asheville. Paper presentation: “Use and Misuse of the National Land Cover Data Set for Wetland Monitoring.” January.

2016 Submitted Research Proposals

National Science Foundation. Sedimentary Geology and Paleobiology Program 16-536
“Holocene vegetation variability of southern Central Appalachia” \$236,268

2016 Teaching

Spring: Physical Geography (EGGS 101)
Intro. to Geographic Information Systems (EGGS 360)
Fall: Map Use and Analysis (EGGS 242)
Remote Sensing (EGGS 320)
Intro. to Geographic Information Systems (EGGS 360)



Dr. Benjamin Franek
Assistant Professor

Scholarly Interests

I have several scholarly interests. One regards watershed management – I have refined and developed practices that watershed organization members can use to assess the integrity of stream systems via efficient visual techniques. This work has led to identification of degraded local stream reaches and, ultimately, to work toward their naturalization and restoration. Another interest concerns eliciting study behaviors of students, which lead to success in the classroom. This work has led to development of techniques that instructors can use to help students recognize potential troubles before they happen. One more interest I have involves research at the eco-hydrological interface. I am currently working on a project aimed at establishing reptile usage of transformed/aged infrastructure near fluvial settings. With my scholarly interests, students have and will continue to be integral to success.

Education

University of Connecticut, Storrs, CT, Ph.D., Geography, 2013.

Dissertation Research: “On Stream Assessment: Human Perception and Spatiotemporal Delineation of Geomorphic Units.”

California University of Pennsylvania, California, PA, M.A., Geography and Regional Planning, 2004.

Thesis: “The incorporation of renewable energy resources at the local and regional levels: A case study of Washington County, Pennsylvania municipalities.”

Pennsylvania State University, University Park, PA, B.S., Physical & Environmental Geography, 2001.

Pennsylvania State University, Dubois, PA, A.S., Wildlife Technology, 1998.

2016 Presentations

*indicates student presenter

Whisner, J. K., **Franek, B.**, and Beyer, P., Structured encounters with real data: sneaking up on doing science, Geological Society of America Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-284741, *invited presentation at the Annual Meeting of the Geological Society of America, Sept. 25-28, in Denver, CO.*

Haney, J.J. and **B. Franek.** Ways to Incorporate Reflective Learning Into Your Courses. Teaching and Learning Enhancement (TALE) Center Seminar, Bloomsburg University.

*Ciecierski, D., *Shapiro, N , Whisner, J., and **Franek, B.**, In search of data - Fishing Creek Hydro Watch summer 2016, Program with Abstracts, 11th Annual Susquehanna River Symposium, p. 48

*Ciecierski, D., Whisner, J., and **Franek, B.**, Fishing Creek Hydro Watch – A Better Flood Prediction System, Bloomsburg University College of Science and Technology Undergraduate Research Day.

*Ciecierski, D., **Franek, B.**, Tracking Down the Legacy of Brewington Dam, Bloomsburg University College of Science and Technology Undergraduate Research Day.

*Stephens, A., **Franek, B.**, Investigating Hydrologic Regime Change: Modeling Stream Hydrodynamics on West Branch Run. Bloomsburg University College of Sciences and Technology Undergraduate Research Day.

Franek, B., & Stephens, A., Investigating Hydrologic Regime Change: Modeling Stream Hydrodynamics on West Branch Run. Hemlock Acres Property Owners Association.

2016 Funding

Degenstein Foundation through the Susquehanna Heartland Coalition for Environmental Studies

Collecting and analyzing GIS and stream discharge data in support of developing a flood-forecasting model for the Fishing Creek watershed.

Co-PI with. J. Whisner

Funding Timeframe: Summer 2016 – Summer 2017

Amount: \$4,254

Department of Environmental, Geographical, and Geological Sciences

Development of new course, EGGS 211: Regional Geography Abroad

Co-Developer with L. Mock

Funding Timeframe: Summer 2016

Amount: \$500

College of Science and Technology, Dean's Office Faculty Startup Support

Development of new course, EGGS 211: Regional Geography Abroad

Co-Developer with L. Mock

Funding Timeframe: Summer 2016

Amount: \$1,000

2016 Teaching

Spring: Natural Disasters (EGGS 107)

Surface Hydrology (EGGS 370)

Fall: Natural Disasters (EGGS 107)

Water Resources Management (EGGS 301)

Environmental Conservation (EGGS 358)

2016 Service Activities

2016-2017 Bloomsburg University, College of Science and Technology: Faculty Recognition Awards Committee (**Chair**)

Briar Creek Association for Watershed Solutions (**President**)

2015-2016 Bloomsburg University Assistant Provost for Academic Programs, Policies and Collaborations and Dean of Undergraduate Education position (**Search committee member**)

2015-2016 EGGS Department five-year review committee (**Co-chair**)

2015-2016 EGGS Department Cartography & GIS tenure-track position (**Search committee member**)

Bloomsburg University: Science Iditarod for regional high schools (**Quiz Master**), Bloomsburg University

Columbia County Water Education Day (**Set-up team**)



Dr. Alan D. Gishlick

Instructor

Curatorial Affiliate, Yale Peabody Museum of Natural History

Scholarly Interests

My interests surround the evolution of biological form, function and behavior as elucidated by the fossil record of life. This has involved research on both vertebrate and invertebrate organisms in both the paleontological and neontological. I am also interested in the evolution of fossil ecosystems in the Triassic Chinle formation, southwestern United States.

Education

2002 Ph.D., Geology and Geophysics (Paleontology), Yale University, New Haven, CT
1995 B.A., Geology, Augustana College, Rock Island, IL

2016 Teaching

Spring: Dinosaurs (EGGS 103)
Historical Geology (EGGS 130)
Introduction to Paleontology (EGGS 365)
Fall: Dinosaurs (EGGS 103)
Natural Disasters (EGGS 107)
Historical Geology (EGGS 130)

2016 Service Activities

Continued to organize and manage the paleontological collections, directed a student worker on the curation and cataloging of the specimens in the collection.
Led the Yale Peabody Museum of Natural History annual field program in the Petrified Forest National Park. This is year we again included a Bloomsburg undergraduate in our field crew.
Directed a student research project using landmark morphometrics to test sexual dimorphism in trilobites.



Dr. Jennifer J. Haney

Assistant Professor

Scholarly Interests

Environmental Hazards and Vulnerability
Societal Responses to Environmental Hazards
Hazard perception
Spatial Patterns of Terrorism
Geographies and Drivers of Terrorism

Education

Ph.D. (2010) Geography (Hazard Vulnerability).
University of South Carolina, Columbia, SC.
M.A. (2006) Geography (Hazard Vulnerability).
Binghamton University, Binghamton, NY.
B.A. (2003) Geography with Environmental Planning Option.
Bloomsburg University, Bloomsburg, PA.

2016 Publications

Haney, J.J. 2016. Transnational Terrascapes: A Geographic Approach for Teaching about Terrorism. *Manuscript submitted for publication.*

2016 Presentations

Haney, J.J. and B. Franek. Ways to Incorporate Reflective Learning Into Your Courses. Teaching and Learning Enhancement (TALE) Center Seminar, Bloomsburg University, Bloomsburg, PA.

Haney, J.J., E. Lotstein, and D. Wenner. Making Our Courses a “Spatial” Experience: Best Practices in Teaching Geography. Middle States Division of the Association of American Geographers (MSAAG) Meeting, Blair County Convention Center, Altoona, PA. November 5, 2016.

2016 Teaching

Spring: Environmental Issues and Choices (EGGS 105)
Special Topics: Geography of Terrorism (EGGS 390)
Summer: World Cultural Geography (EGGS 102)
World Regional Geography (EGGS 104)
Fall: World Regional Geography (EGGS 104)
Environmental Issues and Choices (EGGS 105)

2016 Service Activities

Faculty advisor, Colleges Against Cancer - Bloomsburg University Chapter



Spring 2016 - EGGS 390 Field Trip to 9/11 Memorial and Museum



Dr. John G. Hintz

Professor



Scholarly Interests

My research interest center broadly on sustainable management of land resources. My two foci are publicly owned (especially federally owned and managed) lands and the politics and ideologies that guide their management. I am particularly interested in debates over the presence and role of vertebrate predators, including reestablishing their presence and roles in place where predators have been eradicated (i.e., rewilding). A second, related, research thread centers on sustainable agriculture, specifically land use methods by those farmers that self-identify as sustainable food producers. Ideally, I would like to bridge these two research foci, assessing the potential for planned integration of publicly owned and sustainably farmed lands into ecologically sustainable and trophically rich integrated landscapes.

Education

- 2005** University of Kentucky, Ph.D., Geography
- 1998** University of Idaho, M.S., Geography
- 1988** Florida State University, B.S., Geography

2016 Teaching

- Spring: World Regional Geography (EGGS 104)
Land Resources Management (EGGS 302)
- Fall: World Regional Geography (EGGS 104)
Sustainable Food Systems (EGGS 351)

2016 Service Activities

University-Wide Committee Work: Faculty Professional Development Committee, Co-Chairperson (with Beth Rogowsky in Spring 2016 and Brandon Lang in Fall of 2016)
EGGS Departmental Committee Work: Budget Committee (Chairperson); Sabbatical Committee;
Temporary Pool Search Committee; Curriculum/Assessment Committee, Observation and Evaluation Committee; Promotion Committee (Fall 2016 only)
Other Committee Work: BU Green Campus Initiative



Dr. Sandra Kehoe-Forutan

Professor of Geography and Planning

Scholarly Interests

Necrogeography of St. Helena Island, South Carolina

Education

The University of Queensland, Australia. Ph.D. 1991

The Ohio State University, Columbus OH. MCRP 1982

Queens University, Kingston, Ontario Canada. Hons. B.A. 1980

2016 Teaching

Spring: World Cultural Geography (EGGS 102)

Advanced Planning (EGGS 350)

Fall: World Cultural Geography (EGGS 102)

Geography of Australia (EGGS 203)

Elements of Planning (EGGS 250)

2016 Service Activities

Chairperson, Space & Facilities

Advisor, MPERS Student Organization



Dr. Brett T. McLaurin
Associate Professor

Scholarly Interests

I am a classically trained stratigrapher-sedimentologist who has worked in a variety of geologic settings in the United States and Mexico. Much of my research and geologic mapping has focused on fluvial successions in the Devonian – Pennsylvanian of Pennsylvania, the Cretaceous of Utah, Miocene-Pliocene fluvio-lacustrine deposits in Nevada, and fluvial systems in the Cretaceous of Sonora, Mexico. My industry background is largely in the aggregate mining industry (construction materials) and oil and gas exploration. Other research interests include geoarchaeology in northern Arizona and Mexico and medical geology studies in the Mojave Desert of southern Nevada. I utilize an integrative approach to research and lean heavily on GIS and remote sensing technology.

Education

- 2000 Ph.D., Geology (Stratigraphy and Sedimentology), University of Wyoming
Dissertation: Alluvial and Sequential Architecture of the Castlegate Formation, East-Central Utah. Advisor: Dr. Ronald J. Steel
- 1995 M.S., Geology (Stratigraphy and Sedimentology), UNC-Wilmington
Thesis: Stratigraphic and Sedimentologic Analysis of the Paleocene Beaufort Group, Lenoir and Craven Counties, North Carolina. Advisor: Dr. William B. Harris
- 1993 B.S., Geology, UNC-Wilmington.

2016 Publications

- David Larson, Amy Powers, Jean-Paul Ambrosi, Mika Tanji, Andrea Napolitano, Erin G. Flores, Francine Baumann, Laura Pellegrini, Cormac J. Jennings, Brenda J. Buck, **Brett T. McLaurin**, Doug Merkler, Cleo Robinson, Paul Morris, Meral Dogan, A. Umran Dogan, Harvey I. Pass, Sandra Pastorino, Michele Carbone & Haining Yang, 2016, Investigating palygorskite's role in the development of mesothelioma in southern Nevada: Insights into fiber-induced carcinogenicity, *Journal of Toxicology and Environmental Health, Part B*, 19:5-6, 213-230, DOI: 10.1080/10937404.2016.1195321.
- Keil, D.E., Buck, B., Goossens, D., Teng, Y., Pollard, J., **McLaurin, B.**, Gerads, R., and DeWitt, J., 2016, Health effects from exposure to atmospheric mineral dust near Las Vegas, NV, USA: Toxicology Reports, <http://dx.doi.org/10.1016/j.toxrep.2016.09.009>
- Buck, B.J., Londono, S.C., **McLaurin, B.T.**, Metcalf, R., Mouri, H., Selinus, O., and Shelembe, R., 2016, The emerging field of medical geology in brief: some examples: *Environmental Earth Sciences*, v. 75, DOI 10.1007/s12665-016-5362-6
- Leetham, M., DeWitt, J., Buck, B., Goossens, D., Teng, Y., Pollard, J., **McLaurin, B.**, Gerads, R., and Keil, D., 2016, Oxidative stress and lung pathology following geogenic dust exposure: *Journal of Applied Toxicology*, DOI 10.1002/jat.3297

Keil, D., Buck, B., Goossens, D., Teng, Y., Leetham, M., Murphy, L., Pollard, J., Eggers, M., **McLaurin, B.**, Gerads, R. and DeWitt, J., 2016, Immunotoxicological and neurotoxicological profile of health effects following subacute exposure to geogenic dust from sand dunes at the Nellis Dunes Recreation Area, Las Vegas, NV, Toxicology and Applied Pharmacology, Volume 291, p. 1-12, ISSN 0041-008X, <http://dx.doi.org/10.1016/j.taap.2015.11.020>.

2016 Teaching

Spring: Sabbatical Research - Geochemical characterization of ochre in northern Sonora using pXRF technology at the La Playa archaeological site.

Fall: Physical Geology (EGGS 120)
Stratigraphy and Sedimentology (EGGS 368)

2016 Service Activities

- Bloomsburg University Curriculum Committee
- National Science Foundation (NSF) Tectonics proposal reviewer
- Petroleum Research Fund proposal reviewer
- Contributor to a documentary on anthracite coal mining



Dr. Matthew C. Ricker

Assistant Professor

<http://mcricker.weebly.com/>



2016 Bloomsburg Soil Judging Team

Scholarly Interests

1. **Environmental Functions of Floodplain Soils:** My students and I are researching the impacts of land use on forested floodplain landscapes of the Susquehanna River basin, the largest tributary to the Chesapeake Bay system. Our goal is to quantify major water quality improvement functions provided by alluvial soils, including trace metal storage, annual sediment trapping, and soil phosphorus dynamics.
2. **Soil Mapping (Geoarchaeology), Proyecto Arqueológico Waka', Guatemala:** I am mapping soil properties in El Perú Waka', a Maya archeological site in the Petén region of Guatemala. The goal of this research is to link soil morphological characteristics with surface hydrology models to understand how the Maya managed surface water resources.
3. **Organic Carbon Storage in River Corridors of the United States Working Group:** This is a multi-state interdisciplinary project looking to synthesize and model the major landscape factors responsible for storage of atmospheric carbon in terrestrial river systems, floodplains, and reservoirs at a continental scale. Includes co-contributors from Colorado State University, Los Alamos National Laboratory, and the United State Geological Survey.

Education

Ph.D. (2014) Forestry (Biogeochemistry Concentration). Auburn University, Auburn, AL.

M.S. (2010) Environmental Sciences (Soil Concentration). University of Rhode Island, Kingston, RI.

B.S. (2006) Geology. University of Mary Washington, Fredericksburg, VA.

2016 Publications

Lockaby, B.G., N. Noori, W. Morse, W. Zipperer, L. Kalin, R.M. Governo, R. Sawant, and **M.C. Ricker**. 2016. Climatic, ecological, and socioeconomic factors associated with West Nile virus incidence in Atlanta, Georgia, U.S.A. *Journal of Vector Ecology* 41:232-243.

Odhambo, B.K., **M.C. Ricker**, L.M. Le Blanc, and K.A. Moxey. 2016. Effects of forested floodplain soil properties on phosphorous concentrations in two Chesapeake Bay sub-watersheds, Virginia, USA. *Environmental Science and Pollution Research* 23:16056-16066.

Ricker, M.C., B.G. Lockaby, G.D. Blosser, and W.H. Conner. 2016. Rapid wood decay and nutrient mineralization in an old-growth bottomland forest. *Biogeochemistry* 127:323-338.

2016 Presentations (*) denotes undergraduate researcher, (†) denotes presentation award

Ricker, M.C. (San Francisco, CA – December, 2016) - Major biotic and abiotic factors that influence soil carbon dynamics in forested floodplains of the eastern United States. American Geophysical Union Fall Meeting. Invited presentation.

- *Prezkop, J.T., *S.M. Savidge, and **M.C. Ricker**. (Lewisburg, PA – November, 2016) – Analysis of soil geochemistry in tributary alluvial deltas of the Susquehanna River. 11th Annual Susquehanna River Symposium. †*Most outstanding undergraduate poster presentation*.
- Ricker, M.C.**, *D.J. Steinhauser, *J.T. Prezkop, *S.M. Savidge, and *B.M. Diehl. (Phoenix, AZ – November, 2016) – Environmental functions of alluvial soils in coal mining regions of eastern Pennsylvania. Soil Science Society of America International Annual Meeting.
- *Steinhauser, D.J. and **M.C. Ricker**. (Bloomsburg, PA – July, 2016) – Quantification of the spatial extent and water quality improvement functions of alluvial river islands in the North Branch Susquehanna River basin. 6th Annual Susquehanna Valley Undergraduate Research Symposium. †*Most outstanding poster presentation in Natural Sciences and Engineering*.
- Marken, D.B., **M.C. Ricker**, A. Rivas, and *E. Maxson. (Guatemala City, Guatemala – July, 2016) – El Urbanismo de Baja Densidad en las Tierras Bajas Mayas: El Caso de El Perú-Waka', Petén, Guatemala. XXX Simposio de Investigaciones Arqueológicas en Guatemala.
- *Steinhauser, D.J. and **M.C. Ricker**. (Bloomsburg, PA – April, 2016) – Waterborne contaminant removal and storage by alluvial river islands of the Susquehanna River: A case study in Bloomsburg, Pennsylvania. Bloomsburg University College of Science and Technology Undergraduate Research Day.

2016 Funding

- Water quality and soil geochemistry in alluvial deltaic deposits of the Susquehanna River. Degenstein Foundation: \$5,746 to **M.C. Ricker**, J. Whisner, M. Shepard.
- Spatial extent and water quality improvement functions of alluvial river islands. Undergraduate Research, Scholarship, and Creative Activity (URSCA) Award. Student Mentee: Daniel J. Steinhauser. \$6,000.

2016 Teaching

Spring: Intro. Environmental Science (EGGS 100)

Wetlands Ecology w/Lab (MARSCI 250)

Geomorphology w/Lab (EGGS 265)

Summer: Field Experiences in Geology, Great Lakes (EGGS 330)

Fall: Intro. Environmental Science (EGGS 100)

Soil Resources Management w/Labs (EGGS 303)

Independent Study - Trace metals in floodplain soils (EGGS 475)

Soil Judging Coach, MPERS Club activity (1st place overall team, 4 students in top 10 of 84 participants)

2016 Service Activities

University Service:

- Member of the Bloomsburg University Teaching and Learning Enhancement (TALE) Committee
- Department representative on the Chemical Safety and Technology Committees
- EGGS Department Search Committee Member, Tenure-Track Economic Geologist

Ad-hoc Proposal Review:

- *National Geographic Society*

Manuscript Peer Review for the Following International Journals:

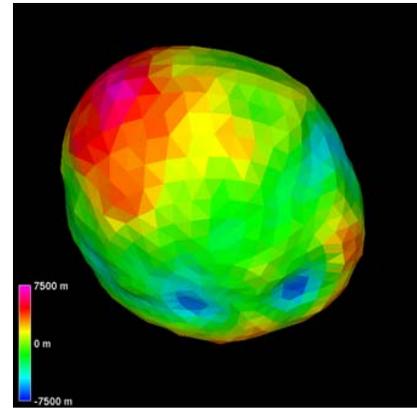
- *Biogeochemistry, Forests, Journal of Hydrologic Engineering, Soil Science Society of America Journal, Wetlands*

Other Service Activities:

- 11/12/2016: Invited K-12 education workshop, “Soils 101: New Technologies and Engaging Activities.” Penn State New and Beginning Agricultural Education Teacher Workshop hosted by Central Columbia High School, Bloomsburg, PA.
- 2016: Judge for graduate student competition in Biogeosciences, American Geophysical Union fall meeting
- 2016: Judge for graduate student competition in Urban and Anthropogenic Soils, Soil Science Society of America meeting



Dr. Michael Shepard
Professor & Chair



**Color-Coded Topographic
Shape Model of 16 Psyche**

Scholarly Interests

I have two major interests. The first is the field of planetary photometry, the study of the way light interacts with realistic geological (planetary) surfaces and what we can learn from this. The second is planetary science, and specifically the study of asteroids using radar (Arecibo) and other telescopic tools. This year, I focused on a study of the largest metallic asteroid in the solar system, 16 Psyche. It's an exciting target and was recently selected as a mission target for NASA, with a launch date in 2023. In March, I presented the results of my work to the mission team at the Jet Propulsion Laboratory.

Education

Ph.D. (1994) Earth and Planetary Sciences. Washington University in St. Louis.
B.S. (1984) Physics. Vanderbilt University, Nashville, TN.

2016 Publications

Shepard, M.K. et al. Radar Observations and Shape Model of Asteroid 16 Psyche. *Icarus*, 281 388-403.
Takir, D., Reddy, V., Sanchez, J., **Shepard, M.K.**, Emery, J. Detection of Water and/or Hydroxyl on Asteroid (16) Psyche. *Astronomical Journal*, eprint arXiv:1610.00802.

2016 Presentations

Shepard, M.K. et al. Asteroid 16 Psyche: Radar Observations and Shape Model. American Astronomical Society, DPS meeting #48, id.510.02
Takir, D., Reddy, V., Sanchez, J., **Shepard, M.K.** 3- μ m Spectroscopy of Asteroid 16 Psyche. American Astronomical Society, DPS meeting #48, id.510.01
Sanchez, J., Reddy, V., **Shepard, M.K.**, Thomas, C., Cloutis, E. Compositional characterization of asteroid (16) Psyche. American Astronomical Society, DPS meeting #48, id.325.20
Brozovic, M. et al. Population trends of binary near-Earth asteroids based on radar and lightcurves observations. American Astronomical Society, DPS meeting #48, id.325.04
Taylor, P. et al. Radar Observations of Near-Earth Asteroids from Arecibo and Goldstone. 47th Lunar and Planetary Science Conference, held March 21-25, 2016 at The Woodlands, Texas. LPI Contribution No. 1903, p. 2772.

2016 Teaching

Spring & Fall: The Planets (EGGS 106)
Quantitative Methods (EGGS 150)

2016 Service Activities

Friends of the Bloomsburg Town Public Library, Secretary and President-elect.
Columnist for the Press Enterprise newspaper, "The Curious Professor."



Dr. Adrian Van Rythoven

Assistant Professor

Scholarly Interests

My research interests are mostly in the realm of economic geology and resource development. These interests encompass resources such as diamond/kimberlite, epithermal silver/base metals, carbonatites/rare earth metals, and industrial minerals.

Education

University of Toronto, Toronto, Doctor of Philosophy, Diamond Geology, 2012

University of Toronto, Toronto, Masters of Science, Geochemistry, 2006

University of Toronto, Toronto, Honours Bachelor's of Science, Geology, 2005

2016 Funding

Bloomsburg University, start-up funds, \$20,000

2016 Teaching

Fall: Earth Materials (EGGS 260)

Mineralogy (EGGS 261)

2016 Service Activities

Coordination of chemistry and geology faculty in pursuing funding for an x-ray diffractometer instrument to be used in faculty research and teaching higher-level practical courses.



Dr. Cynthia Venn

Professor

Scholarly Interests

My scholarly interests cover a range of topics. For many years I have been examining gooseneck barnacles from the tropical Pacific Ocean. My goals are both to understand their distribution in relation to environmental parameters as well as to determine growth rates under different conditions using environmental data recorded on the moorings on which they settled. A more recent area of interest is the small scale distribution of salt marsh plant species in the mid-Atlantic region with respect to small differences in elevation, with the goal of using high resolution remote sensing to monitor the effects of sea-level rise on salt marsh habitats.

Education

University of Pittsburgh, Pittsburgh, Pennsylvania, Ph.D. Geology, 1996
Texas A&M University, College Station, Texas, M.S. Oceanography, 1980
Vanderbilt University, Nashville, Tennessee, B.A. General Biology, 1974

2016 Teaching

Spring: Oceanography (EGGS 259)
Earth Materials (EGGS 260)
Research in Biology 1 (Biol 390)
Fall: Oceanography (EGGS 259)
Aqueous Geochemistry (EGGS 460)

2016 Service Activities

Member-at-Large, Northeast Section of the Geological Society of America
Bloomsburg University-wide Promotion Committee
COST Academic Grievance Board Pool
COST Research Day Committee, Chair
EGGS Search Committee for the Economic Geologist position for Spring 2016
EGGS Facilities Committee
EGGS Hyperwall Committee
EGGS Budget Committee
EGGS Observation and Evaluation Committee
Co-advisor of the Maps, Plans, Environment and Rocks Society (student club)
Guest Lecturer for Oceanography at Susquehanna University
Consultant on gooseneck barnacles for a reporter from Slate Magazine



Dr. Daryl Wenner

Instructor



Scholarly Interests

Renewable Energy
Society and Sports
Variations in Birth Options

Education

Ph.D. (2008) Geography (Cultural), University of Tennessee, Knoxville, TN.
M.S. (1999) Geography, South Dakota State University, Brookings, SD.
B.S. (1997) Geography (Environmental) and B.S. (1997) Earth Science, Pennsylvania State University, State College, PA.

2016 Presentations

Haney, J.J., E. Lotstein, and **D. Wenner**. Making Our Courses a “Spatial” Experience: Best Practices in Teaching Geography. Middle States Division of the Association of American Geographers (MSAAG) Meeting, Blair County Convention Center, Altoona, PA. November 5, 2016.

2016 Teaching

Spring: Introduction to Environmental Science (EGGS 100)
Introduction to Physical Geography (EGGS 101)

Summer: Introduction to Environmental Science (EGGS 100)

Fall: Introduction to Environmental Science (EGGS 100)
Introduction to Physical Geography (EGGS 101)

2016 Service Activities

Pennsylvania Geographic Bee – Judger/Moderator
Pennsylvania Alliance for Geographic Educator – Steering Committee



Dr. Jennifer Whisner

Associate Professor

Scholarly Interests

My research involves collecting, analyzing, and interpreting field-based data such as the orientation of layered rocks and water levels and water chemistry in streams and water wells. The results of my work can be used to explore for and exploit our natural resources, but also to identify and characterize the impacts of humans on our environment. My scholarly activities focus on three areas: 1) structural geology and the development of curvature in mountain chains, 2) the effects of human modifications on streams, specifically on sediment transport and channel changes, and 3) water (including groundwater) quality.

Education

- 2010 Ph.D., Geology, University of Tennessee, Knoxville
Dissertation: *Surface and subsurface structures of the western Valley and ridge in Tennessee and geometry and kinematics that permit reconstruction of the Tennessee Salient, southern Appalachians.*
Advisor: Robert D. Hatcher, Jr., Committee: Gregory Baker, Micah Jessup, John Wilkerson.
- 1994 M.S., Geology, Western Michigan University
Thesis: *Evaluation of four perfluorinated compounds as tracers in non-aqueous-phase liquids.*
Advisor: Duane Hampton, Committee: Alan Kehew, Michael McCarville.
- 1991 B.S., Chemistry, University of Michigan, Ann Arbor

2016 Presentations

*indicates student presenter

Whisner, J. K., Franek, B., and Beyer, P., 2016, Structured encounters with real data: sneaking up on doing science, Geological Society of America Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-284741, *invited presentation at the Annual Meeting of the Geological Society of America, Sept. 25-28, in Denver, CO.*

*Ciecierski, D., *Shapiro, N , **Whisner, J.**, and Franek, B, 2016, In search of data - Fishing Creek Hydro Watch summer 2016, Program with Abstracts, 11th Annual Susquehanna River Symposium, p. 48.

*Ciecierski, D., **Whisner, J.**, and Franek, B., 2016, Fishing Creek Hydro Watch – A Better Flood Prediction System, Bloomsburg University College of Science and Technology Undergraduate Research Day.

2016 Funding

Degenstein Foundation through the Susquehanna Heartland Coalition for Environmental Studies

Collecting and analyzing GIS and stream discharge data in support of developing a flood forecasting model for the Fishing Creek watershed. Co-PI with B. Franek

Dates: Summer 2016 – Summer 2017

Amount: \$4,254

Degenstein Foundation through the Susquehanna Heartland Coalition for Environmental Studies

Water quality and soil geochemistry in alluvial deltaic deposits from large tributaries of the Susquehanna River. PI: M. Ricker, co-participant with M. Shepard

Dates: Summer 2016 – Summer 2017

Amount: \$5,746

2016 Teaching

Summer: Special Topics in Field Geology (EGGS 330)

Spring: Introduction to Environmental Science (EGGS 100)

Groundwater Hydrology (EGGS 470)

Senior Seminar in Environmental, Geographical, and Geological Sciences (EGGS 495)

Fall: Introduction to Environmental Science (EGGS 100)

Geomorphology (EGGS 265)

Surface Hydrology (EGGS 370)

2016 Service Activities

APSCUF Nominations and Elections Committee

APSCUF Social Committee

URSCA Grant Review Committee & Planning and Review Committee

Green Campus Initiative member

Chair, Columbia Montour Coalition for Source Water Protection

Fishing Creek Watershed Association member

December Member of Source Water Protection Coalition delegation meeting with Secretary of PA DEP

November STEM Future Careers Expo, EGGS representative

October Short interview with WHLM radio on safe medication disposal and source water protection.

October ACT 101 Faculty Meet and Greet Workshop for undecided students

September Ran stream table activity as part of the Columbia County Water Education Day (activities for more than 500 Columbia County 8th graders)

May Bloomsburg Middle School Science Fair judge

May Columbia County Vo-Tech: four presentations on Wetlands and Flooding

February Ran Enviroscene activity as part of Columbia County Children's Fair at Columbia Mall.

Honors and Awards

April Columbia County Environmental Education Achievement Award



Dr. S. Christopher Whisner
Associate Professor

Scholarly Interests

I have a variety of interests. Foremost is the in the field of Structural Geology and Tectonics, I have worked in the Rockies and the Appalachians mainly in sedimentary foreland fold and thrust belts. I am currently interested in the changes in structural style at the boundary of the Pennsylvania Fold and Thrust belt and the Pennsylvania Plateau and how these changes manifest themselves in fracture patterns, changes in bedding orientation as well as change in microstructures. I have had a number of research students mapping in this area in the past and continued with a recent graduate, Jim Adams (Fall 2016) in the Spring of 2016. I am also interested in the use of thermal imagery for planetary analysis and terrestrial analogues of planetary features. My research interests also extend to past seismic activity (paleoseismology), especially in the comparatively seismically inactive Eastern United States.

Education

- 2005 Ph.D., Geology (Structural Geology and Tectonics), University of Tennessee
Dissertation: The Middle Ordovician Tellico-Sevier Syncline: A Stratigraphic, Structural, and Paleoseismic Investigation. Advisor: Dr. Robert D. Hatcher, Jr.
- 1998 M.S., Geology (Structural Geology), Western Michigan University
Thesis: Application of the Paleomagnetic Fold Test to Determine the Relative Timing of Sill Intrusion and Deformation in the Southwest Helena Salient, Montana. Advisor: Dr. Christopher J. Schmidt.
- 1994 B.S., Geology, Western Michigan University

2016 Teaching

- Spring: Physical Geology (EGGS 120)
Petrology (EGGS 262)
- Summer: Field Experiences in Geology (EGGS 330)
- Fall: Natural Disasters (EGGS 106)
Structural Geology (EGGS 369)

2016 Service Activities

- Chair, Successful EGGs Departmental search committee for tenure-track Economic Geologist
- National Science Foundation (NSF) Structure and Tectonics proposal reviewer
- Member COST Curriculum Committee
- COST Science Iditarod
- Teaching Volunteer for Columbia County Water Education Day



Dr. Danqing (Dana) Xiao

Assistant Professor

Scholarly Interests

My research focuses on the representation of spatial knowledge, and how spatial thinking can inspire the current research of Geographic Information Science (GIScience). Rather than developing analytical tools for GISystems, I am more interested in looking at geographic information from the very beginning: the production of geographic information by individuals, and how people spatially interact with the environment.

Education

- 2013 Ph.D. in Department of Geography, University of California Santa Barbara.
Received Ph.D. in Geography with an emphasis in Cognitive Science, with a Cumulative GPA of 3.92/4.00.
Dissertation: Individual and Cultural Differences in the Interpretation and Generation of Natural Language Descriptions of Spatial Layout, 2013. Advisor: Daniel Montello

- 2009 Master of Science in Department of Spatial Information Science and Engineering, The University of Maine.
Thesis: Modeling and Monitoring Non-Topological Spatial Changes of Continuous Phenomena in Geosensor Networks, 2010. Advisor: Silvia Nittel and Mike Worboys

- 2006 Bachelor of Science in School of Space and Earth Science, Peking University.
Honors thesis: Study of cultural impacts on location judgments in eastern China, 2006.

2016 Publications and Presentations

Xiao, Danqing, & Lan, Tu. Mapping Ideological Opinions in China using Online Survey (Accepted by *Annals of GIS* in December 2016)

Xiao, Danqing, Geosensors and Participatory GIS, UNM Geography Department Graduate Seminar, Ellison Hall Seminar Room, University of New Mexico, March 24, 2016.

2016 Teaching

Fall: EGGS 242: Map Use and Analysis
 EGGS 264: Applied Cartography

2016 Service Activities

EGGS Sabbatical Committee
EGGS 160 Redesign Team