Welcome

It’s an exciting time for Geography, Geology, and the Environment at SRU. We have recently seen a surge in enrollment, with the number of GGE majors doubling over the past five years. To capitalize on wider interest in our faculty’s expertise, we have added two exciting new programs to the department, a Letter of Completion in Geographic Information Sciences, and a minor in Geophysics. With these programs, we are hoping to expand our impact across the university by giving more students in other the departments the ability to add specialized skill sets to their degree programs.

I hope you will enjoy reading about the ongoing activities in the department in the pages of this newsletter. We look forward to hearing back from you.

Dr. Michael Zieg, Chair
Department of Geography, Geology, and the Environment

The GGE Department will be publishing an annual Newsletter in November of every year. We would love to hear from any alumni with news.

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Cover: Hiking through Nicaragua. Above: Posing with the SRU flag during the fall field trip to Erie.
Dr. Hathaway: Old guy on a new blue bike

Hi everyone. I retired in May 2014. I miss the students and my colleagues but I now have time to pursue some personal goals, one of which was a cross-country bicycle trip. This past summer I did a solo bicycle trip of just over 2,500 miles across 12 states.

I began by having REI in Pittsburgh ship my bike to the REI in Spokane, WA. I chose Spokane because my youngest brother and his family live there. My route continued to Minneapolis where I visited family and friends, and finished at my home in Mercer, PA. My journey was sort of like a departmental field trip—I enjoyed a diverse array of natural and cultural landscapes and learned a lot from local people. I didn’t camp though; instead I stayed in motels and with acquaintances.

I cycled for 31 days, and took another 13 days for rest and visiting, including 5 days in Minneapolis. I averaged about 78 miles a day, and the longest day was 126 miles, from Hettinger, ND to Mobridge, SD. The trip was remarkably problem-free. I had no mechanical problems, not even a flat tire. On the two days with rain showers in southwestern North Dakota and Chicago I found shelter; and on other days I avoided afternoon rains by getting up early. Twice I woke before 5:00 AM, something that is highly unusual for me, but I was then rewarded with views of the sunrise from the road. I did have some tough days; one example being the 105-mile slog from Mobridge to Aberdeen, SD with relentless headwinds and crosswinds. I had several white knuckle riding experiences in suburban and urban traffic. A few times vehicles at high speeds came close to me, say within four feet, but almost all of the time vehicles gave me wide berth, or there were no vehicles at all, sometimes for miles on end.

Highlights included a 15-mile downhill in Montana with views of the St Regis River rushing through Ponderosa-clad steep mountains; numerous occasions flying along with a tail wind; and seeing the world’s largest hairball in Webster, SD; seeing the world’s largest ball of twine in Darwin, MN; and seeing the world’s largest drumsticks in Warren, OH. I blogged about the trip at “Old guy on a new blue bike: from Spokane, WA to Mercer, PA" http://oldguyonabluebike.blogspot.com/

Happy Trails, Jim Hathaway
Dr. Patrick Burkhart

My summer has been busy planning the Annual Meeting of the Geological Society of America in Baltimore, 1-4 November. As Technical Program Chair, I had a very interesting Tuesday afternoon in August. First, I received a phone call from the White House – yes, 1600 Pennsylvania Avenue. They wanted to submit an abstract. Afterward I wondered how did they get my cell phone number? Then I remembered, White House, duh! A few hours later I was parked in the cell phone lot of Denver International Airport waiting for the Vice Chair to arrive. I had the seat reclined back and was watching a lightning storm. Soon I had to close the windows, as large raindrops pelted the car. Then I saw flying debris, while the air was rotating. I turned on the car to make the air bags operational, put on my shoulder strap, and leaned over placing my head by the passenger’s foot space in case of flying glass. The funnel passed in 30 seconds, as I watched swirling debris in the rearview window. Thus, I encountered my first tornado! My current task is to write a book entitled Darwin’s Advice to Students: Conjectures upon the Likely. Having time to write on my sabbatical is awesome. Watch for this book next year!! Best, Dr B.

Dr. Patricia Campbell

It has been another very busy year, with the increase in Geology majors, I have been teaching Structure every year and have taken over Earth Materials with +50 students/yr. In the fall 2014, I attended a course on Introduction to Petroleum Structural Geology taught by ExxonMobil and a workshop on fracture analyses in black shale by AAPG this summer. My current research is focused on structures at the base of a Pennsylvanian age sandstone in western PA. Out of the Southern California desert for now! But not out of the desert for good! Dr. Stapleton and I were in Death Valley last spring break. We camped in Furnace Creek Campground in the park. Great trip, lots of cool Geology. We did not take any students; field station was recovering from a fire. But we are planning to offer another field trip to Death Valley soon. Hope all is well with you.

Dr. Xianfeng Chen

My interest areas include remote sensing, geomorphology, and GIS. My recent researches focuses on wetland delineation with high spatial resolution multispectral and Synthetic Aperture Radar (SAR) satellite data in western Pennsylvania, and an international collaborative research on desert vegetation coverage using remote sensing model in Xinjiang, China.
**Dr. Stentor Danielson**

My main areas of interest are natural hazards management and how culture affects how people interact with the environment. At SRU, I teach Cultural Geography, Environmental Justice, World Environmental Thought, General Methods of Fieldwork, and Australia, among other classes. My research has examined public views of wildfire management in Australia and the USA. When I’m not at SRU, I spend my time finding geocaches and raising kittens.

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**Dr. Heike Hartmann**

I joined Slippery Rock University in fall 2009. Prior to this, I carried out postdoctoral research for which I was awarded a scholarship from Justus Liebig University Giessen in Germany, where I also received my Ph.D.. I am a physical geographer with research interests in hydroclimatology and Asia. I analyze time series of hydroclimatological variables and generate seasonal forecasts of precipitation on the local to regional scale. By the end of September, I will present some of my research results on seasonal precipitation forecasts in the Tarim River basin at a conference in Urumqi, China. I am currently teaching Egeo 121: Meteorology and two sections of Egeo 360: Introduction to Hydrology.

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**Dr. Jack Livingston**

I have been spending my time continuing my research with Dr. Snow on airshed delineation and beginning a research collaboration with Dr. Chen in Xinjiang, China. I have also been working on developing course content for the new North Hall lecture environment. I continue to work on GIS projects and am working to develop curriculum to teach IDRISI and ArcGIS in Advanced GIS. I continue to work on my art and spent the summer building collaborations with the Art Department at Slippery Rock.
Dr. Brian Miller
My research is currently focused on two areas; abandoned mine detection and Lake Erie bluff erosion. Using surface wave methods we are attempting to detect shallow coal mines that have long since been abandoned. We have had some initial success detecting known abandoned mines on the SRU campus. I am looking to further test these methods by working with local government and applying the method at other locations within Western, PA.

The Lake Erie bluff project is just getting underway. Both surface wave and reflected seismic wave techniques will be employed in an attempt to characterize the near-surface geology of the Lake Erie bluff region. It is hopeful that the geophysical investigation will provide further understanding of the glacial and lacustrine deposits and how they contribute to erosion along the bluffs.

Dr. Tamra Schiappa
Greetings and hope everyone has been having a healthy and happy year. As you can tell by my picture I am still taking spring break trips with students to San Salvador, Bahamas. I have also co-taught several field investigations classes to the Yellowstone National Park and the most recent one to the Pacific NW. This coming summer (2016) Dr. Smith and I will be co-teaching another course to the southwest, learning about the geology and geography of Arches National Park, Bryce Canyon and surrounding areas. I continue to conduct stratigraphic and paleontologic research with students here in western PA. One of my students will be presenting her research at the National GSA meeting in Baltimore in November. I remain active with my international colleagues researching Upper Paleozoic conodonts and ammonoids of northern Pangaea and to more precisely define the Permian time scale.

Mrs. Cynthia Schnur
I am celebrating 10 years at Slippery Rock University this April and am still working at Schnur's Greenhouse.

She is still holding down the fort and taking care of all the GGE students. Thanks Cindy!
Dr. Michael Stapleton

It has been another positive year as we continue to increase Department numbers. The Department is good; we keep Dr. Zieg (Dept Chair) on his toes. Dr. Livingston and I recently requested the purchase of a drone at a Department meeting. Dr. Zieg’s initial assessment of the utility was not the same as ours, but he is coming around. I am still working on AMD in the Slippery Rock area with Dr. DeNicola. We have a student working with us on a research project that has been funded with a College grant. It has turned out to be more chemistry than biology to this point but he is about to move from the lab studies to the field in the next few weeks. Dr. Campbell and I have been traveling and spent time in the Yukon and British Columbia this summer. We had an extended backcountry sea kayak trip on Atlin Lake in BC to the Llewellyn Glacier, the source of the Yukon River. Round trip took nine days and 100 miles on the water. Hint, you can carry a lot more provisions in a 17.5 ft sea kayak compared to a backpack! Why eat freeze dried food when you can have strip steaks cooked on an open fire, drinking freshly melted glacial water with the sun setting at 11 pm. You gotta love 60°N. The problem is the sun was up by 5 am and it was too light to see the Northern Lights that were occurring. Hope all is well with you.

Dr. Langdon Smith

My recent research has focused on sustainability in national parks and an ongoing book project on Canada. In August of 2015 my article “Greening U.S. National Parks: Expanding Traditional Roles to Address Climate Change,” was published in The Professional Geographer. My co-authors for the article were former students Laura Karosic and Elizabeth Smith, who traveled with me to Denali National Park in Alaska to research the park’s sustainability initiatives. I have also participated in some enriching field experiences with students. I helped lead a student trip to Nicaragua during the winter of 2013, and to Oregon and Washington during the summer of 2014.

Dr. Julie Snow

Over the last several years my research has focused on regional mercury transport from coal-fired power plants in the Ohio River Valley. I’m working with Dr. Livingston to evaluate long-term changes in transport patterns and identify major sources of mercury in this region. I also published my first book, "The Rhode Island Family Hiking Guide and Journal" which contains 42 hikes for families throughout Rhode Island. I worked on this project as a cartographer, making all 43 maps for the book.
Dr. Jialing Wang

In the last couple years, I have become interested in topics related to urban open green space, urban growth, and sustainable development in China. I presented part of my research outcomes at the 9th International Association for China Planning Conference in June of 2015. My participation of this conference was supported by SRU President’s International Professional Development Grant and the departmental funding as well.

IN THE NEWS

First Year students take camping trip

The GGE Department welcomed a new cohort of students this year with the annual First Year Student Camping Trip. This year we went to Evangola State Park where we learned about Dr. Miller’s research project on the Erie Bluffs and plastic contamination in Lake Erie and hunted for fossils at the Penn Dixie Quarry.

Above: Students Blake Wallrich ’17, Matt Scott ’18, and Frankie DeRose ’17 plant seismic sensors for a seismic demonstration. Left: Logan Jacobs ’17 shows off examples of plastic waste found on the beach.
Awards

Dr. Tamra Schiappa won the 2014-2015 Red Apple Teaching Award. Red Apple Award, honors educators who exemplify outstanding dedication to students and a commitment to the wider community. An award is presented to one pre-K educator, and a K-12 educator teaching in each of the seven Butler County School Districts along with one instructor or professor from Butler County Vo-Tech, Butler County Community College and Slippery Rock University.

Publications


The response to the article was very positive. The *Daily Climate* ran an article about Smith’s research on June 9, 2015, and the National Park Service made the article available on its employee Facebook page. In August Smith was interviewed about his research by KCBS-AM radio in San Francisco, and in September he was interviewed by the Yale Center for Environmental Communication for the Climate Connections radio program distributed to more than 200 stations.


DeNicola, Dean and Michael Stapleton. Benthic diatoms as indicators of long-term changes in a watershed receiving passive treatment for acid mine drainage. *Hydrobiology* 732:1 (2014) DOI: 10.1007/s10750-014-1842-4


**Conferences**


Yeager, Victoria, Ashley Beal, Julie Snow, Jack Livingston, Examination of airsheds in the Great Lakes Region as they relate to mercury concentration, CUR Posters on the Hill Competition, April 2015.

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**AWARDS & HONORS**

### 2015 Scholarships

- Alumni Scholarship in Geology- Blake Wallrich
- Flash Yager Scholarship- Nicole Stephan
- William Anderson Scholarship- Shelby Schettler
- Michael A. Starker Scholarship (Bartramian Audobon Society)- Olivia Danylko
- Paul A. Rizza Scholarship- Laura Faessel
- Robert Davis Scholarship- Brionna Kiser
- Environmental Geoscience Scholarship- Jena Lexie and James Douglas
- Gene & Joanne Wilhelm Scholarship- Caleb Sykora-Bodie
- Timothy Trautman Scholarship- Bayle Kushner

### Outstanding Egeo Student Awards

- Freshman- Nicole Stephan
- Sophomore- Blake Wallrich
- Junior- Curtis Kerns
- Senior- Nick Buckley

### Outstanding GES Student Awards

- Freshman- Robert Parquette
- Sophomore- Victoria Yeager
- Junior- Laura Faessel
- Senior- Elizabeth Dreimiller

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**Outstanding Service Awards**

Laura Faessel and Colton McDeavitt
Marie Maher (2005)

After receiving my B.S. in Environmental Science from SRU in 2005, I went on to receive my M.S. in Geology from Baylor University in Texas. The undergraduate research opportunities I had in the Bahamas and the Bad Lands helped me land a Teaching Assistantship at Baylor. During my last year at Baylor, I had an internship with the Environmental Protection Agency (EPA) in Dallas, Texas in which I focused on spatial analysis evaluations, GIS, of polluted waters in the EPA Region 6 area. I graduated from Baylor in 2007 and moved to Chattanooga, Tennessee to work as an Environmental Scientist with a local Geotechnical Engineering Firm, Gallet & Associates, LLC. In 2008, the firm I was with was acquired by one of the largest geotechnical engineering firms in the U.S., Terracon Consultants, Inc. of which I am still a part of now. I passed the National ASBOG exam and receive my Professional Geologist (PG) license and worked as a field geologist from about 2008 until early 2015. As a field geologist, my work consisted of logging soil and rock for various geotechnical and environmental projects in the southeast, conducting Phase I Environmental Site Assessments (ESAs), and running various geophysical systems (i.e. seismic refraction, refraction microtremor for shear-wave analysis, and ground penetrating radar). In 2010, I presented a publication titled, “Empirical Correlation of Dynamic Cone Penetration and Refraction Microtremor Technique to Obtain Shear-Wave Velocity Profiles” at the Geological Society of America (GSA) conference in Denver, CO. In early 2015 I was appointed the Regional Exploration Manager for the Gulf Coast Division of Terracon. In this role, I currently manage the drilling and geophysical operations for our 14 offices located in Tennessee, Alabama, Georgia, Mississippi, and Louisiana. In my spare time, I travel as much as I can.

Daniel Harris (2005)

I’m currently finishing my third year of teaching as Assistant Professor at California University of PA. After finishing my B.A. in Environmental Geoscience in 2005 at SRU I completed a Master’s degree in Geochemistry and Doctoral degree in Structural Geology and Tectonics at West Virginia University. My research interests currently involve collaboration with students on projects regarding the tectonic evolution of Arctic Basins and geochronology.
David Fuji and Kelly Blake (2007)

We've been married for a year. We met at SRU in the GGE department, in Dr. Schiappa’s Paleontology class.

David: Since 2011 I have been working as a GIS Analyst for Epsilon Systems Solutions in Ridgecrest, CA. Our department supports all of our Archaeology departments mapping needs. Anytime they do field work we provide maps for their surveys and develop field maps of their findings for their reports. Those reports are then given to the Navy to review for any upcoming missions. We also provide direct mapping support to the Navy for any projects or testing they are conducting on base.

Kelly: After graduating from SRU in 2007, I worked for Melick-Tully and Associates out of Monroe, NY as a geotechnical engineer. Went back to school to get a Master's of Science in Geology from Temple University and graduated in 2011. Since 2011, I have been working as a geologist for the Navy Geothermal Program Office, out of China Lake, CA. Our office's mission is to explore for geothermal resources on Department of Defense lands from utility grade geothermal to heat pumps. Exploration includes shallow temperature probe surveys to geophysics to drilling deep, large diameter geothermal test holes to characterize a potential resource.

Megan Andring Monteleone and Joshua Monteleone (2007)

After graduating from SRU, Megan and Josh moved to Texas, where Megan completed her MS in Geology from the University of Texas at Austin in 2010. During that time Josh worked as a GIS Analyst for a civil engineering firm. Megan also worked as a GIS Analyst after graduating with her MS. They moved back to PA in 2011 where Megan took a job as a geologist with an oil and gas exploration and production company. They were relocated to Dallas, TX in 2013. Megan continued working as a geologist and Josh worked as a geosteering analyst.

Megan and Josh were married in 2009 and welcomed the birth of their first child, Logan, in the summer of 2014. They currently reside in Cranberry Twp, PA, where Megan works as a geologist for an oil and gas production and exploration company and Josh works as a GIS Analyst for the Air Force.
Greetings friends at the SRU GGE department,

In the years since my graduation from SRU, I have had the pleasure of employment at Beran Environmental Services, Inc (11 months), a local environmental consulting firm and at Hanover Engineering Associates Inc (5 years), a small engineering company providing support for municipal, structural and energy clients, offering design, engineering, survey, inspection and environmental permitting for various sizes and scopes of projects. My Environmental Studies degree track at SRU provided me the building blocks to work as a Geographic Information Systems (GIS) Technician for each company and a foundation on which to continue my education in geospatial technology and environmental stewardship. After moving to northeastern Pennsylvania for the job with Hanover Engineering, I have had the honor of working with many gifted individuals including five of my former SRU classmates, thanks to the growth of the oil and gas industry and the need for qualified technicians in this field. Our daily tasks included using several different GIS suites to create plans for clients, land owners and permitting agencies, detailing the results of field reviews, while planning linear and facility projects in the northeastern Marcellus Shale Region. Our ever evolving role in this field has offered other opportunities and employers for many of my fellow alumni, but I have been anchored in scenic Bradford County, PA expanding my knowledge of pipeline route development, construction site planning, construction inspection, geotechnical drilling practice and environmental resource management ranging from pre-construction assessment and permitting to post-construction monitoring for the re-establishment of site to pre-existing conditions. My continued education exploits are currently focused on completing the requirements to gain certificates for a Geographic Information Systems Professional (GISP) and a Certified Professional in Erosional and Sedimentation Control (CPESC), by Spring 2016. Each of these stresses the importance of professionals in these fields making educated, ethical decisions to better the geospatial and environmental communities, respectively. When not working or learning, I spend time with my lovely wife Francine and the myriad of animals that we have collected over the past few years. This usually occupies my weekends, but I usually find time to exercise one of my bicycles in northeastern Pennsylvania’s Endless Mountains.

Kind Regards,
Chris Abbott
Dani Crawford (2010)

During my first semester at SRU, I was an English Ed major; I had always loved to write, so that seemed like the logical choice. During my first composition and rhetoric class, I caught myself longingly staring out the window, wishing I could be outside. Luckily, that same semester I was in Dr. Patrick Burkhart’s environmental geology class, where I found myself studying flood zones on Wolf Creek while breathing fresh air and meandering through the woods. This is when I realized there was an entire field of work that would allow me to make my living while immersing myself in nature. I switched my major to environmental studies, I helped pioneer the Green Fund initiative, and soon found myself happier in the GGE department than I ever could have imagined. The summer after my junior year, I interned as a wildlife technician with the National Park Service at the Great Smoky Mountains National Park. My office was outside with the bears and the elk. The next summer, I worked in Sequoia and Kings Canyon National Parks and a bear technician. After graduation, I went back to Sequoia and Kings as an interpretive ranger, and presented programs for visitors among the world’s largest trees. In 2011, while working on my Parks and Resource Management M.S. from SRU, I landed a permanent job with the NPS in the foothills district of Sequoia National Park. That led to four more years in Sequoia and Kings Canyon National Parks, which eventually led to where I am today. I supervise the south district interpretive operations for Cape Cod National Seashore. Daily I watch ospreys hunt for fish in the salt marshes, I watch humpback whales breach off shore, and I listen to the yappy camaraderie of coyotes in the woods. Thanks to SRU, I have the career of my dreams.

Seth Sykora-Bodie (2011)

Seth is currently a Ph.D. candidate pursuing a doctorate in Marine Science & Conservation at Duke University with a focus on protected areas and migratory species such as sea turtles and dolphins. Prior to this, he worked for the National Oceanographic and Atmospheric Agency (NOAA)’s National Marine Fisheries Service on cetacean and sea turtle conservation, for the World Wildlife Fund, where he managed a Caribbean sea turtle conservation project, and also for the U.S. Department of the Interior on climate change adaptation issues. Seth also holds Masters’ degrees in Public Policy (environmental policy and human security) and Conservation Biology (marine conservation) from the University of Maryland and bachelors’ degrees in geography (biogeography & human geography), political science (with a focus on international security and the Middle East), and French from Slippery Rock University of Pennsylvania. He has also spent significant time living in France, England, South Korea, and India, as well as traveling throughout the Middle East (Morocco, Egypt, Lebanon, etc.) and studying Arabic in North Africa (Tunisia) with the U.S. Department of State.
**Jenna Kessler (2013)**

I taught World Geography at Florida State University (FSU) while acquiring my Masters degree in Geography from FSU (Spring 2015). Currently, I received a TESOL certificate for teaching English abroad, and will be going to teach English in Korea within the next year. From this traveling and teaching experience, I hope to bring along my knowledge of and love for geography to spread to inquiring minds.

**Matt Boyer (2013)**

After graduating from Slippery Rock University in 2013, I took a job as an air quality research technician at the Bermuda Institute of Ocean Sciences. In addition to being an excellent place to live and work, the position in Bermuda built upon the foundation I developed as a student in the Environmental Science department at SRU and allowed me to refine my skills. The hands-on experience I developed led to an offer to continue my studies in graduate school at Dalhousie University in Halifax, Nova Scotia, where I currently reside. I spend most of my days collaborating with incredible scientists from a variety of different backgrounds on exciting research projects. It’s a truly great place to be, and it’s even better knowing that my career is only beginning.

**Brandon Bortzer (2015)**

After graduating this May, I joined the Hawaii Island Hawksbill Turtle Recovery Project as an intern. I spend my days monitoring beaches for nesting hawksbill sea turtles. Working in joint partnership with Hawaii Volcanoes National Park, I monitor beaches both in and outside the park on the southern coast of the island. Due to the remote location of these beaches, I can spend up to 9 days camping in the field looking for hawksbills. My responsibilities include collecting data about nests laid and protecting hatchlings from predation. This has been an outstanding season with the most Hawksbills observed over the past 20 years. We have released just over 10,000 hatchlings to the ocean in the past few months. We hope that our work through out the season will lead to a greater number of Hawksbills in the future. Outside of my time in the field, I have enjoyed exploring the island of Hawaii and submerging myself in the Hawaiian culture. This opportunity would not be possible without the support and mentorship I received as a student at Slippery Rock!