Welcome

It has been another great year for the Department of Geography, Geology, and the Environment. We welcomed back Dr. Julia Chandler as a temporary faculty member in geography, as well as two new temporary colleagues, Dr. David Oakley in geology and Dr. Joshua Gilliland in geography. Our fall field trip explored south-central Pennsylvania with the first-year students, and many of our upper level students got to present their research at national conferences. Dr. Jialing Wang and I will be taking five students to Yunnan Province in China this coming summer, to study forest fires.

Curriculum changes at SRU have kept us on our toes. Dr. Patti Campbell taught a successful pilot section of the new SCI 102: Understanding the Physical World course with Dr. Athula Herat from Physics and Engineering. This will be a required course for all non-science majors in the new Rock Studies program, to help them understand how scientists see the world. We’re also developing several other courses for the revised program, including a "thematic thread" on the topic of Sustainability.

*Dr. Stentor Danielson, Chair*

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

Send Communications to:

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**Help us send students to field camp!**

The GGE Department has decided to create a scholarship for Geology majors who are in need of funding to attend field camp. Geology field camp can be a costly component of finishing your geology degree. If you are interested in donating to our new Geology Field Camp Scholarship, please follow this link: [https://raise.sru.edu/project/2923](https://raise.sru.edu/project/2923). We greatly appreciate any donations that help the students in the Geography, Geology, and the Environment Department.
FEATURE

First-years get a historical perspective

Our newest students explored some of Pennsylvania’s nationally significant historical sites during the 2018 Fall Field Trip. Twenty students joined four faculty members as we traveled to the Johnstown Flood National Memorial, the Flight 93 National Memorial, and the Horseshoe Curve National Historic Landmark. The Fall Fieldtrip is designed to introduce the students to traveling and camping in the field, and to learn about some of the tools used by scientists. On this trip they participated in a demonstration of geophone technology and were introduced to one of the department’s new drone aircraft. For some of the students it was the first time they had been camping.
Field Investigations course goes west

The Field Investigations in the Geosciences course spent two weeks traveling from SRU to Yellowstone National Park and back during the summer of 2018, led by Dr. Patrick Burkhart. Students got to explore the geomorphology of the Badlands and Black Hills, hydrothermal features and hot spot volcanism, and the history of the Lakota people.

photos by Maraina Miles
IN THE NEWS

Alumnus Dani Cessna: GGE's Lara Croft

In November the online news site RealClearLife published an article highlighting the exploits of 2010 GGE graduate Dani Cessna. The article was titled Meet a Real-Life Lara Croft: Dani Cessna, Park Ranger, Bear Guru and Outdoors Guide, and focused on Dani’s career with the National Park Service. Dani is the South District Interpreter at Cape Cod National Seashore. “Her words ring with passion, commitment and effervescence,” RCL adventure correspondent Kinga Philipps wrote of Dani. “She’s the readily conscious interpretation ranger who keeps our wild places wild and the delicate humans who have become unfamiliar with true wilderness safe from their own transgressions.”

She earned her BS in Environmental Studies in 2010 and then earned her MS in Parks and Resource Management at SRU in 2012 while working for the Park Service. “She is essentially the buffer between the two-legged and the four-legged creatures that wish to luxuriate in the same commanding undomesticated spaces offered to us by the park systems,” Philipps wrote.

To access the article go to https://tinyurl.com/y2q6j5sr

Alumnus Hunter Williams goes for gold

Hunter, a 2015 graduate, was highlighted in the Summer 2018 edition of SRU’s magazine The Rock. Titled “Williams Gunning for Spot on Team USA,” the article describes the GGE graduate and track athlete’s efforts to win a spot on the U.S. Olympic Professional Development team competing in the sport of skeleton. For Hunter, this means hurling himself head first down a sheet of ice at 65 miles per hour at the Lake Placid Sliding Center. “When I put that USA uniform on for the first time, there’s never been another moment in my life that felt that way,” Hunter was quoted for the article. “It’s indescribable.”

Nat Truini wins conference scholarship

Environmental Geoscience major Natalie Truini was accepted as a student moderator to attend the International Erosion Control Association (IECA) 2019 annual conference in Denver, CO. Natalie has been working with SRU Sustainability Director Paul Scanlon. She will present a poster entitled “Innovative Storm Water Management and Soil Erosion Abatement Strategies at Slippery Rock University.” Both her travel costs and conference registration will be sponsored by the Mid-Atlantic Chapter of the IECA.
**FACULTY UPDATES**

**Dr. Patrick Burkhart**

Greetings alumni! I hope you have enjoyed a fine year. Mine has been great, too. I skied 45 days last winter, mostly cross-country. I am hoping for another snowy winter. In May I led our Field Investigations in the Geosciences Course to Yellowstone and back with 17 students. We visited Blue Mounds, Pipestone, Badlands, Wounded Knee, Mt. Rushmore, Devil’s Tower, the Little Bighorn, Lamar Valley, Madison Canyon landslide, Hebgen Lake, climbed Mt. Washburn, Grand Teton, Gros Ventre landslide, Absarokas, Agate Fossil Beds, and Toadstool Geological Park. Everyone had a blast! Then I returned to the Badlands for a couple weeks of research examining the effects of climate change on dune fields, with undergraduates Henry Kramer and Colt Byers. We continue to discover interesting caveats about geomorphic forcings. Speaking of landscapes, Maraina Miles finished her degree, coupled to a great literature review of paleoclimate proxies in the Great Plains, which helped her gain admission to the University of Maine to complete graduate study in Antarctica. We know she will see cool vistas! In June, I sailed in a five-day regatta on Lake Erie, and honestly, I was scared on one leg beating into an intense sea. We took first place that day, and three others, and won our fleet. I am thankful to my old friend, Dr Ben Shaevitz (physics), for teaching me how to sail. Nine years into a new skill set, I am starting to feel the finesse in handling a boat. This weekend, I will guide the Hydrology class to New York to study the Kinzua, Mt. Morris, and Caneadea dams. The foliage is now bright and the apples are crisp. Next weekend, I will support our FYRST year student field trip to the Johnstown flood, Allegheny Front, Horseshoe Bend, and Flight 93 Memorial. Then, off to GSA in Indianapolis. So, my life remains full with keen efforts to recruit scientists, teach scientific literacy, and to encourage science-based-decision-making, all the while enjoying time with family and friends. Come visit. Skol!

**Dr. Patricia Campbell**

Greetings Alumni!

Michael Stapleton and I have been doing well. We are both continuing with our research. I continue to work on structures at the base of the Morgantown Sandstone in western PA and Michael continues his work on acid mine drainage. We are also both teaching new classes this semester, which is keeping us busy. I am teaching a new Liberal Studies class titled, “Understanding the Physical World” with Dr. Herat from Physics. We are focusing on Plate Tectonics, Earthquakes and Volcanoes. The small class size allows for a lot of interactive exercises, which hopefully makes the class more engaging.
We took a trip to Iceland this summer and saw volcanoes, glaciers, hiked over lava fields and among hot springs, got to stand on the Mid-Atlantic Ridge and eat some awesome seafood. The country is beautiful and despite the fog and rain we had a great time. Our dogs, Moose, Wolfgang and Rohan are fine although Moose has arthritis in his front leg but is still chasing balls. Stop in to see us if you make it back to Slippery Rock.

Dr. Julia Chandler

This has been a fantastic, fun and full year! Coming back to teach part-time at SRU in GGE has been an added bonus as I continue my research with a team of scientists on the Burning Questions project. Our project involves a novel approach to landscape-level forest management where we first identified current key information needs of forest practitioners through a formal interview process. We then located and catalogued all available plot-scale forest research datasets that pertain to fire and forest ecology in British Columbia, Canada, created a master dataset and performed meta-analyses to address the those specific “burning questions.” The research reports outlining our findings and the data sets included will soon be available on the website I am building - db2020.net. I am also really enjoying preparing for GES-362 Applications of Sustainability and look forward to working with a new group of earth-dedicated students this Spring. And oh, so much joy found in butterflies!

Dr. Stentor Danielson

This has been an extremely busy year for me. The university is in the process of revising the Liberal Studies program into the new Rock Studies Program. Rock Studies is an exciting new approach to general education, but it has taken a lot of work to get it put together. I have been serving on two important university committees in addition to managing the GGE department’s integration into the new program. I also taught one section of the new University Seminar course. I got the opportunity to spend the fall semester going into depth about forest fires with 24 incoming first-year students.

I've been working on a number of research projects this year. I've continued my work on wildfires, and Dr. Wang and I received a grant from ASIANetwork to take five students to China to study wildfires in Yunnan Province. I've also continued my research on geocaching (as shown in my picture). And I decided to do a little research on the use of maps in *The Lord of the Rings* (my inspiration for getting into geography in the first place!). You can see a video of a talk I did on this topic here: https://www.youtube.com/watch?v=UHFxQd2EL_c.
**Dr. Heike Hartmann**

In the last academic year, I compared different precipitation datasets in the Tarim River basin, China. The datasets included two global station-based gridded precipitation datasets, a Chinese station-based gridded precipitation dataset, a satellite precipitation product, and station data. I presented some of my results at the Annual Meeting of the Middle States Division of the American Association of Geographers in Geneseo, NY, and at the Annual Meeting of the American Association of Geographers in New Orleans, LA. During the Winter Break, I taught a class on Global Environmental Change at Eberhard Karls University in Tuebingen, Germany. In my function as SRU’s Da Vinci Faculty Fellow of Undergraduate Research, I had the opportunity to attend two conferences of the Council of Undergraduate Research (CUR); one was at Lincoln University in Lincoln, PA, and the other at the University of Central Florida in Orlando, FL.

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**Dr. Tamra Schiappa**

Greetings and hope everyone has been having a good year. It is hard to believe that it is already November and that the start of the New Year is just around the corner. This year I have been committing much of my time outside the classroom to service and enhancing my leadership skills. I am currently the secretary of the SRU APSCUF (faculty union) and President of the Pittsburgh Geological Society. Both of these positions keep me from having too much down time and out of trouble. Despite my heavy service load, I still have time to lead all-important field trips. I co-led the freshman field trip this year where we visited Johnstown and Flight 93 memorial. We had a great group of students that never complained about the cold rain and snow. I hope to travel back to San Salvador over spring break in March to lead a study abroad trip as long as I get the numbers. By March, I will be ready for the warm temperatures! I will co-teach a Field Investigation class this summer with Dr. Smith. This year we are planning on traveling into the Northeast, stopping in the Adirondacks, White Mountains of New Hampshire, Acadia National Park in Maine and north to the Bay of Fundy, New Brunswick and Nova Scotia, Canada. I continue to conduct stratigraphic and paleontologic research with students. I have been working as a Research Associate at the Carnegie Museum of Natural History on several projects in the Invertebrate Paleontology section. In my spare time, I remain active doing yoga every day. I obtained a yoga-teaching certificate a few years ago and am currently teaching at Broad Street Yoga in Grove City.
Dr. Langdon Smith

I returned to the GGE Department during the Spring 2018 semester after taking a one-semester sabbatical to research Bears Ears National Monument in southern Utah. With the support of an SRU faculty/student grant, I traveled to Bears Ears with undergraduate students Jessica Schottanes and Rachel Fedosick. We presented our findings at the American Association of Geographers annual meeting in New Orleans in April. I also traveled quite a bit over the last year, driving from Slippery Rock to the Olympic Peninsula in Washington and exploring many amazing areas along the way.

Dr. Jialing Wang

This year I continued my research interests in the application of GIS and remote sensing, urbanization, cartography, and China. I have worked with a professor and her doctoral student from a different university to map the global distribution of wellbeing. I also became a consultant of a technical analysis and service company in Pittsburgh that provides services regarding stormwater management and flash flood control. Using GIS mapping techniques, I helped the company create 3D maps and animations demonstrating the impact of flash floods in Pittsburgh.

Dr. Michael Zieg

I had a relaxing and productive time on sabbatical last year. I was able to collect some valuable data on textures and mineralogy in the Black Sturgeon sill, which will be published in an upcoming paper in Journal of Petrology. In May, I attended the Institute on Lake Superior Geology annual meeting in Iron Mountain, MI, along with two Geology students, Sam Hone and Jeremiah Farrell (pictured at left). We stopped along our drive at Pictured Rocks National Lakeshore and at Jasper Knob, a hill composed entirely of banded iron formation near Ishpeming, MI. At the conference, Sam won the Best Undergraduate Poster award for his presentation: “Olivine Crystal Size Distribution in the Black Sturgeon Sill, Nipigon, Ontario.”
Eva Chase (2016)

I graduated in 2016, and since then my SRU education has opened amazing doors for me. I moved to Texas for a little over two years where I worked for the City of Abilene in stormwater regulation compliance and then the Texas Commission on Environmental Quality in multimedia small business and local government compliance. Also while living in Texas, I began my M.S. in environmental management at Hardin-Simmons University which I’ll be completing this semester. In June I took a field investigations course studying water management techniques of the southwest U.S., mostly along the Colorado River, which is where the attached picture is from (still wearing my SRU environmental science hat, of course!).

In July I moved to South Dakota where I accepted a position as the Sustainability Coordinator for Black Hills State University in Spearfish, S.D. It’s an awesome little university that reminds me so much of Slippery Rock, which is probably why I love it so much! BHSU recently started a M.S. in sustainability program online, and I’d love to talk to any students who might be interested.

Michael Chojnacki (2017)

I am a second-year M.S. in Geoscience student at the University of Connecticut, Center for Integrative Geoscience. I work with Dr. Tim Byrne investigating the mechanical and kinematic development of the Taiwan mountain belt. My research interests are in active tectonics and convergent margin geology. I enjoy working with a variety of datasets including microscopic to mesoscopic orientation data, geodesy, earthquake focal mechanisms, and high-resolution LiDAR. My project is in-part funded by a joint NSF-RUI grant between the University of Connecticut and Indiana University of Pennsylvania. This will provide international research experience to up to a dozen undergraduates. My anticipated graduation will be Spring 2019.

Belinda Dow (2013)

Belinda Betancourt Dow graduated in 2013 with a Bachelor’s in Science in Geographical Information Technology with a minor in Geographical Information Systems. She also holds an Associates in Engineering Technology. She presently is Principal and an FAA sUAS pilot at Dow GeoSpatial located in Austin, Texas. She provides mapping solutions that consist of aerial capture (UAS) integrating data into other software platforms, presentation visuals of captured data and archival storage for historical data. Drone Data is processed and analyzed as orthophotos, topography, and digital elevation models. She also provides 3D modeling, and volume analysis for client deliverables. Belinda works with sUAS pilots and offers mapping services and assistance in growing their companies with her as a GIS/AutoCAD consult.
She works with clients in the architectural, engineering, and construction industry. Projects include mapping for land development, construction, and engineering.

AAPG Interview: https://tinyurl.com/y6qondvm and Women and Drones Interview: https://tinyurl.com/yyf9ew73

Her book *Thinking about getting into Mapping?* was for drone pilots and individuals that were thinking about getting into mapping and assisting them on what to think about and what is possible to achieve with drone mapping.

**Maraina Miles (2018)**

After graduating from Slippery Rock University in the summer of 2018, I began working on a master’s degree under the supervision of Dr. Brenda Hall at the University of Maine, in Orono, Maine. We are studying the behaviors of the Antarctic ice sheet since the last glacial maximum. This December four of us will be heading to Antarctica to collect samples for surface exposure dating from moraines of Koettlitz, Walcott, and Howchin glaciers. We’ll be camping out in Scott tents for about five weeks. I’ll also be mapping the deposits around Walcott and Howchin glaciers.

When I’m not sitting at a desk or crushing rocks to date, my fiancé and I spend most of the time exploring Maine. We’re on an “Acadia National Park every other weekend” schedule, as it’s about the same distance as Moraine State Park was from our home in Pittsburgh. I love everything about Maine, and hope to see some of you in Portland, Maine for the Northeast GSA meeting in the spring!

**Kristina Motley (2012)**

Currently I’m working for Maryland Environmental Service as an Environmental Specialist at one of the dredge material restoration projects they oversee, the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island. I usually spend my day conducting tours of the island teaching the general public, school groups, and special interest groups about how the U.S. Army Corps of Engineers and Maryland Department of Transportation Maryland Port Administration are beneficially using dredge material from the Maryland shipping channels to restore the remote island habitat of Poplar Island. When I’m not conducting tours I help out with a variety of other projects on the island including invasive plant control, bird tagging, and the terrapin headstart program. It’s great to take a boat into work everyday and see an island that had almost disappeared into history come back as great habitat within the Chesapeake Bay.
Jessica Schottanes (2018)

I'm currently a first semester master's student in the Geoscience Department at the University of Massachusetts Amherst. In September, I began to conduct research with Dr. Eve Vogel on the relicensing process for the Holyoke Hydroelectric Project and Dam, located between Holyoke and South Hadley, MA between 1996-2001. My research partner and I will be presenting a poster presentation at the 2019 Annual American Association of Geographers Conference this upcoming April in Washington, DC. I'm also finalizing my thesis topic, and considering the opportunity of becoming a dual Master's student in both regional planning and geography. During my free time, I recently explored the Shenandoah Mountains and trekked Mt. Washington. I'm excited for the 2019 snowboard season to begin and for the many adventures that will soon come my way!

Maddie Stanisch (2018)

I have been working at the McKean County Conservation District as a Resource Specialist since this May. A typical day on the job entails GIS mapping invasive plant infestations, educating students around the area about conservation, grant writing, and assisting the Watershed Specialist. I get to do a little bit of everything! I attached a photo of myself collecting water samples for the Allegheny National Forest water quality snapshot day.

AWARDS & HONORS

2017 Scholarships

*Alumni Scholarship in Geology* - Sarah Thomas  
*Flash Yager Scholarship* - Josh Paluh  
*Kate Anderson Scholarship* - Kaitlin Karaffa and Caleb Cox  
*Michael A. Starker Scholarship (Bartramian Audobon Society)* - Anna Burtch  
*Paul A. Rizza Scholarship* - Phillip Abegg and Ashton Allison  
*Robert Davis Scholarship* - Haley Hartenstein  
*Environmental Geoscience Scholarship* - Clare Clark  
*Gene & Joanne Wilhelm Scholarship* - Autumn Mohler and Marlee Theil  
*Timothy Trautman Scholarship* - Sam Hone  
*Matthew Veltri Scholarship* - C.J. Moore  
*Pearl K. Stoner Scholarship* - Clare Clark, Josh Paluh, and Ariel Dasilva

Outstanding Service Award

Maraina Miles and Rachel Fedosick

Outstanding EGEO Student Awards

Freshman - Emilee Lucas  
Sophomore - Kaitlin Karaffa  
Junior - Sam Hone and Megan Stephenson

Outstanding GES Student Awards

Freshman - Corrina Yobp  
Sophomore - Josh Paluh  
Junior - Ellie Schiappa  
Senior - Robert Parquette