



DEPARTMENT OF

GEOGRAPHY, GEOLOGY, AND THE ENVIRONMENT

Illinois State University

Glacial Deposits



Greetings from the Department

A Message from the Chair



Greetings from Geography and Geology Redbirds! I hope this message finds you in good health and spirit. The year 2017 was another big one for us. This spring, we became the Department of Geography, Geology, and the Environment to recognize officially our collective commitment to the exploration, study, and teaching of the natural environment and its interactions with humans and society. We concluded the 2016-2017 academic year with a celebration in honor of our Geology Field Camp program that received the 2017 Geological Society of America/ExxonMobil Camp Excellence Award for its technical and safety abilities and diversity of participants and instructors. We welcomed Dr. Wondy Seyoum as our new Hydrogeology faculty member. Drs. Rex Rowley and Matthew Himley were tenured and promoted to Associate Professor, and Dr. David Malone was named the 2017 College of Arts and Sciences Lecturer.

The Department continued its mission to provide individualized student attention through faculty-led research, offer a multitude of field excursions and field courses, and award student scholarships to enhance their academic experience and make learning more affordable and accessible. Dr. Banik taught her volcanology class for the first time and took her students to Nevada on a weeklong excursion. During spring break, a group of geology students traveled to New Mexico with Dr. Malone and geography students studied urban landscapes in Chicago with Dr. Kostelnick. Several geography students joined Dr. Rowley on a three-week study abroad trip to Japan this past summer. In the fall, over a dozen geology students presented their research at the annual Geological Society of America conference in Seattle. In spring and summer, we awarded 16 undergraduate students academic scholarships for the current academic year.

These opportunities were made possible in large part through the generous support and gifts that we continue to receive from our donors and friends. I invite you to browse through this year's volume of *Glacial Deposits* that features stories, many written by students, reflecting on some of these experiences and other recent happenings in and out of Felmley Hall. The transformational power that our donors' generosity has on the health of our programs and lives of our students is reflected in these writings. I hope you will be inspired to help us leverage this strong foundation and carve out the next chapter of our success in the years to come by supporting *Redbirds Rising: The Campaign for Illinois State*.

Dagmar Budikova

Dagmar Budikova, Chair

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In This Issue

Redbirds Rising pg. 7
**Geology Field Camp
Receives Excellence
Award pg. 11**

- 2** Returning to the Department
Current Faculty
- 3** Graduate Student Spotlight
Current Staff
- 4** Geography Club has a Busy Year
- 5** Students Explore Chicago During
Spring Break Field Trip
Welcome to the Department
- 6** Faculty Spotlight
Exploring Japan: What the
Students Have to Say
- 7** Ways to State Your Destination
and Help us Map our Road to New
Heights of Excellence
- 8** A Year in Pictures
- 9** A Year in Pictures
- 10** Alumni Day Speaker: Andy Maas
Student Presentations
Congratulations, Graduates
- 11** Geology Field Camp Receives
Excellence Award
Scholarships and Awards
- 12** Student Presentations Continued
- 13** From Joey to Joseph J. III: A Brief
on Mr. Fluder
- 14** McGillivray (Geology '17) Wins
Poster Award
New Course: Volcanic Processes
2016-17 Donors
- 15** Mr. J. L. Wroan III
Research is Knowledge of How we
Experience the World

Returning to the Department

By: Paul Meister



Paul, his wife, Heather, and their two dogs.

If someone would have told me when I became an Earth and Space Science Education major at Illinois State University back in 2005 that I would eventually take over for the legendary Bill Shields, I would have told them they were crazy. Yet, a little over a decade later, I find myself back at the same place it all began. After receiving my bachelor's in ESSE, I went on to teach science at a rural high school in central Illinois. Geology and Illinois State remained a passion of mine so I returned to get my masters' in Hydrogeology, which I completed in 2016. As luck, determination, and a whole lot of mentoring would have it, the Coordinator of Academic Services in Geology position became available that same year. One year ago, on July 1st, I was honored to become a co-worker of so many of the people I considered to be mentors. While many of the duties that the previous position entailed have changed, some have remained. I am responsible for the direct instruction of one section of our Principles of Geology (POG) course, where incidentally it all began for me, as well as overseeing all 20 sections of lab for POG. While I enjoy all aspects of my job, teaching POG is one of the most enjoyable. Teaching the introductory course allows me to interact with hundreds of students, many of whom are not science majors. Although daunting, I thoroughly enjoy introducing so many students to Geology! My current duties also allow me to support our faculty in conducting field courses as well as field trips, including our capstone six-week Field Camp in Geology which is conducted in Wyoming and South Dakota. Although I have assisted in Field Camp instruction for the past several

years, 2017 was the first year since 2007 (the year that I attended), that I was present for all six weeks. To all the alums of Field Camp, I can assure you that the instructing side of camp is no less stressful! While I am currently not actively conducting research, I plan on eventually continuing research on glacial till provenance using isotope geochemistry, the topic about which my thesis was written.

My wife, Heather*, and I currently reside in the small town of Lexington with three fur babies, two dogs and, yes, a cat. Although Geology takes much of my time, I enjoy competing in barbecue competitions and honing my cooking skills but alas still have not made it on any Cooking Channel shows!

*Editor's Note: Sadly, Heather passed away on October 24th after a long, courageous battle with breast cancer.

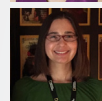


Paul and his two dogs.

Current Faculty



Dr. Tenley Banik
Assistant Professor of Geology;
Petrology, Volcanology, Geochemistry



Dr. Amy Bloom
Instructional Assistant Professor of
Geography;
IGA Co-Coordinator



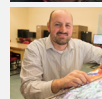
Dr. Dagmar Budikova
Professor of Geography & Chair,
Climatology, GIS



Dr. James Day
Professor of Geology;
Paleontology, Paleocology,
Paleogeography



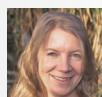
Dr. Matt Himley
Associate Professor of Geography;
Nature-Society, Political Ecology,
Latin America



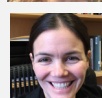
Dr. John Kostelnick
Associate Professor of Geology;
GIScience, Cartography, GEOMAP
Director, IGA Coordinator



Dr. David Malone
University Professor of Geology;
Structure, Stratigraphy, 3-D
Mapping



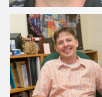
Dr. Catherine O'Reilly
Associate Professor of Geology;
Biogeochemistry, Water Quality,
Hydrogeology



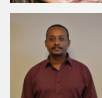
Dr. Reecia Orzeck
Assistant Professor of Geography;
Political Economy, Historical and
Social Geography, Middle East



Dr. Eric Peterson
Professor of Geology;
Hydrogeology, Karst Hydrology



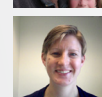
Dr. RJ Rowley
Associate Professor of Geography;
Sense of Place, Cultural Geography,
Internship Coordinator



Dr. Wondwosen Seyoum
Assistant Professor of Geology;
Hydrogeology, Remote Sensing,
Hydrologic Modeling



Dr. Jonathan Thayn
Associate Professor of Geography;
Landscape Ecosystem Function
Modeling, Remote Sensing, Latin
America



Dr. Lisa Tranel
Assistant Professor of Geology;
Geomorphology, GIS Applications



Dr. Henry Zintambila
Assistant Professor of Geography;
Precipitation Geochemistry,
Climatology, Africa

Current Staff



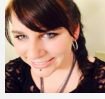
Karen Dunton
Administrative Clerk



Barbara Fiest
Civil Service Extra Help



Victoria Heath
Research Coordinator



Megan Maher
Assistant Director of GEOMAP,
Public Outreach Coordinator, GIS
Technician



Paul Meister
Coordinator of Academic Services in
Geology, GEO 102 Instructor



Jill Thomas
Geography Advisor, Teacher
Education Specialist, Geography
Lecturer



Image taken at the end of field work March 2016 outside of Ship-on-the-Desert.

Graduate Student Spotlight By: Audrey Happel

As a Hydrogeology master's candidate at Illinois State University, you are offered many valuable opportunities. One of the most rewarding opportunities is completing a thesis on a topic of your choice. The process of writing a proposal, completing field work, analyzing data, and writing the actual thesis is a daunting task. However, the curriculum, professors of the Hydrogeology program, and the entire Department provide students with the tools needed to succeed. Throughout the process of completing my master's thesis at ISU, I gained valuable skills in time management, team work, project management, organization, and technical writing, in addition to the knowledge gained on my research topic in tectonic geomorphology. I had the pleasure to work with Dr. Lisa Tranel, studying the geomorphic evolution of the Rim Escarpment in the Guadalupe Mountains of west Texas and New Mexico. Even though my thesis is not a traditional Hydrogeology topic, the classes offered and the professors' vast knowledge in the multiple fields of geology benefited my research in more ways than one.

The first step to completing my research was field work, which took place over two weeks in March of 2016. Dr. Tranel guided myself and four undergraduate field helpers, Jeremy Neundorff, Kacey Garber, Kirsten Schaefer, and Chad Cremer, throughout the western portion of the Guadalupe Mountains to remote locations for access to the Rim Escarpment. Bedrock samples were collected from the top and bottom of different escarpments that make up the Rim. While staying in Guadalupe Mountains National Park, we had the opportunity to stay at Ship-on-the-Desert, former home to Wallace Pratt, chief geologist at Humble Oil and Refining Company (later to become Exxon). The building resembles an oil tanker and is nestled outside of McKittrick Canyon overlooking the Delaware Basin. The use of a hot shower, access to a warm meal, and a cozy bed made the hard days in the sun and interaction with thorny vegetation while collecting samples more enjoyable.

Following field work, bedrock samples were processed for cosmogenic analysis, which determines the exposure age of samples. Exposure age dating is made possible by measuring rare isotopes that accumulate

in geologic material through the reaction of cosmic radiation at the surface. Collected samples were crushed, sieved, and washed to sand size grains at ISU. The prepared samples were sent to Purdue University's PRIME lab where the chemical isolation and measurement of rare isotopes continued. I had the opportunity to spend 2.5 weeks at the PRIME lab processing my samples through different chemical treatments before measurement of isotopes with Accelerated Mass Spectrometry (AMS). Results from AMS provided the concentration of cosmogenic isotopes, that were calculated into exposure ages and erosion rates for individual bedrock samples. No cosmogenic analysis had been conducted in the Guadalupe Mountains prior to my study, and the results provide insight into the geomorphic history of the range.

Throughout the entire process of completing my thesis, whenever I needed help, or had a question, there was always a professor I could ask. The open-door policy that professors provide shows how dedicated our department is to the success of students and achieving goals. After completing my thesis, the skills and knowledge I acquired are undeniable, and I am forever a better person after completing my master's at ISU.

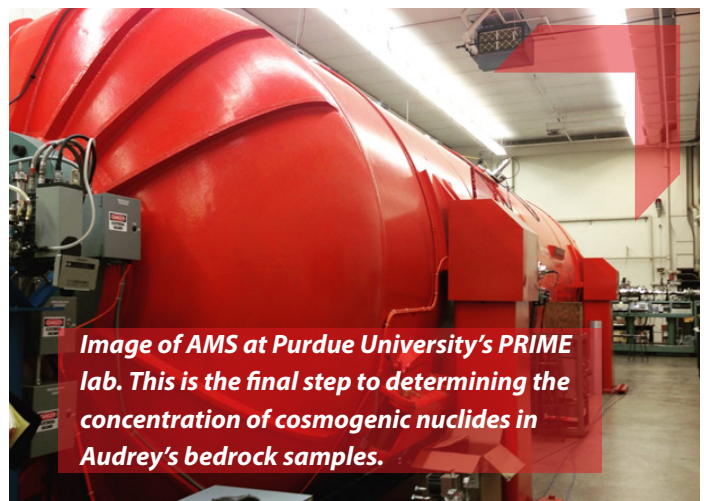


Image of AMS at Purdue University's PRIME lab. This is the final step to determining the concentration of cosmogenic nuclides in Audrey's bedrock samples.



Geography Club has a Busy Year

By: Brooke Schumacher

Our Geography Club at Illinois State accomplished much more than we set out to back in August of 2016. From distributing “pizza cards” to competing in two Geography Games, the club was hard at work not only coming up with new ideas (and playing a lot of GeoGuessr), but also recruiting new members to the club and to the major!

What are pizza cards? I’m glad you asked. A couple of years ago my predecessor, Kyle McHale, helped us partner with Papa John’s pizza in the area. Papa John’s allows ISU clubs to get a hot deal. Every pizza sold online using our code (which happens to be ISU116) gets the customer 40 percent off their bill while giving the Geography Club 15 percent of that total back. I guess you could say we got a nice slice of the pie! Club members came up with an idea of printing this code on one side of card stock while stating why one should become a Geography major here at ISU on the other side. In turn, the last check I picked up from Papa John’s totaled over \$100!

The Geography Games tournament is an idea we came up with in the fall semester. Our first Geography Games took place on December 2nd of 2016

I’m still pulling for the students. Remember there is always next year! Our trip to Shawnee National Forest took place the last weekend in April. We left on Friday and took nine students, Megan Maher, Professor Thayn, and his daughter Lucy. Our “pizza cards” helped pay for this trip, along with a generous donation, and help from the Department; Thank you Dr. Budikova! We rented a beautiful home on Lake Egypt in Marion, Illinois, and spent time hiking when it wasn’t raining and playing Mario Kart and board games when it was.

Our club’s greatest accomplishment this year was keeping a dialogue open with students who were interested in our Geography program. Some of our members went to classes to talk about what being a Geography major meant to them; they talked about the classes and the professors, and of course, the job outlook for recent graduates (which tends to be much greater than most college majors). We also had students who wrote letters to prospective high school and transfer students telling them about our program. On top of that our trip to Shawnee and an invite to our Map Give Mapping Party, which is a humanitarian act to help map underdeveloped countries, brought

“I was really proud to have led the Geography Club program as president - not because it looks good on a resume or because I thought it would help me advance my career, which it might, but because I truly enjoyed Geography.”



and consisted of Geography students competing against their professors. We had a GeoGuessr competition, a scavenger hunt throughout the building of Felmley, a game of guess the Geography facts, and a bowling match to top it off. The Games were themed like that of the Hunger Games - except the only thing that was killed were the students’ egos when they lost to scholars much mightier than them. Our Geography Games 2.0.17, held April 21st of 2017, was a time for redemption. It consisted of a revamped Compass Hunt spanning the entire ISU campus, complete with an ArcGIS map, a places-pictionary game, another GeoGuessr competition, and Tropical Trivia. Unfortunately, for us students, the professors reigned supreme again and even got to take home a trophy. Even after graduation,

in students from all different majors and allowed them a glance into why Geography is the best on campus, at least in our eyes!

In all, I was really proud to have led the Geography Club program as president, not because it looks good on a resume or because I thought it would help me advance my career, which it might, but because I truly enjoyed Geography, the students I worked with, and all of those in the department that made my educational experience one I’ll not soon forget. I’m proud to be an alum of Illinois State University’s Geography program, and being president of the Geography Club, for me, has been just as legendary.

Students Explore Chicago During Spring Break Field Trip

By: Dr. John Kostelnick

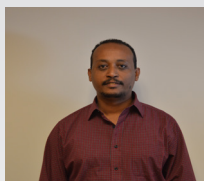


Geography of Chicago students (from left to right) Tamera Fields, Taliyah Herron, Bryce Conrad, Madison Myers, Joel Schmidt, Brad Brewer, Alex Suo, Yael Uziel, John Sinclair, Kyle Sullivan, Andrés Arrez, and Emily Eichholzer. Not pictured: Joe Hill and Nathaline Pheteau.

Fourteen geography students spent their spring break exploring Chicago with Dr. John Kostelnick as part of the Geography of Chicago course field trip. During the field trip, students visited several neighborhoods in the city and met with many experts who shared their knowledge about the cultural, historical, and environmental geographies of Chicago, as well as current challenges facing the city. Dr. Norm Moline, Professor Emeritus of Geography at Augustana College, joined the field trip as a guide for a day. Highlights of the trip included visits to Chinatown, Humboldt Park, Oak Park, the Chicago Museum of History, Fire Engine 16 in Bronzeville, the Chicago Lock, and the Chicago

Lights Urban Farm. Students also conducted field work during the trip for a research project that explored the geography of green spaces in the city, including parks, community gardens, and rooftop gardens. Students presented research from the project at the annual conference of the Illinois Geographical Society held in April in Champaign. The Geography of Chicago course has been offered three times since its inception in 2013. The Chicago field trip was made possible through generous support from the Patterson Fund.

Welcome to the Department!



Dr. Wondwosen Seyoum

I joined the Department in August 2016 after finishing my Ph.D. from the University of Georgia. My first year at ISU was a whirlwind of activity. I was busy establishing a research lab, teaching and preparing for new classes, writing papers, and starting new research projects. I'm glad things seem to be going smoothly with the help of colleagues and students in the Department. Last fall, I taught the Water and Environmental Law class. We explored the science and art of different water and environmental regulations currently used in the United States with a slight coverage of international laws including climate change. In the spring, I led a seminar class, Aquifer Systems,

and taught the Groundwater Modeling class. In the Aquifer System class, we talked about major U.S. and global aquifer systems, whereas in the modeling class students learned the basics and techniques in modeling. The students especially enjoyed setting up and running a hydrogeological model simulation to solve real world problems. I'm teaching Engineering Geology this fall, where students learn how to apply their geological background in civil and environmental works. My research explores the interaction among water, climate, and humans, characterizing human and climate impacts on water and hydrogeologic processes, and the feedbacks of changing water on climate. For example, I recently embarked on investigating how changing groundwater levels feed back to land surface and the impact on climate processes, a topic that has big implications for understanding the role of groundwater in climate and improving climate models where existing models often omit this crucial component of the hydrologic cycle. I was excited to see my first grad student, Joe Honings, develop and propose his M.S. thesis in the spring. Both of us submitted an abstract for the AGU meeting. I'm looking forward to welcoming additional M.S. students to my group and would like to work with undergrads, too. I like living in Bloomington-Normal more and more every day, as I learn more about the surroundings. This past beautiful summer it was fun to ride a bike around the towns with my wife, Helen.



Victoria Heath

I graduated from the University of Wisconsin Stevens Point in 2013 with a Bachelor of Science, with a major in Watershed Management and minor in Soil Science. I started working for the Department in November 2014. I assist undergraduate and graduate students in their field-based and analytical hydrogeological research.

Faculty Spotlight

In this section, we would like to shine a spotlight on the accomplishments, research, and publications of a few of the Department's faculty members. This year's spotlight is on ...



Dr. RJ Rowley

Dr. RJ Rowley's research seeks to understand better the formation and character of place-based identity. He continues to expand on themes from his book, *Everyday Las Vegas: Local Life in a Tourist Town* using that unique city as a case to understand the interactions between people and place. His most recent work on the topic was published in the *Journal of Cultural Geography* and explores Las Vegas

as a paradigmatic example of voluntary regions, a regional construct that Wilbur Zelinsky introduced more than forty years ago, but that has been largely ignored by geographers. He also has worked with students Brooke Schumacher and Cory Fruge ('17 graduates) to gather data about media portrayals of Las Vegas by news organizations throughout the country. In doing so, RJ hopes to compare and contrast the portrayal of place from the perspective of outsiders with that of Las Vegas residents and leaders. Beyond Sin City, RJ has also written about the shifting sense of place for coastal residents following the tsunami that devastated northeast Japan in 2011. His work profiling one fishing community's (Kesennuma) landscapes of recovery will be published in 2018 in a compilation about place attachment. Kesennuma is an important stop on his study abroad trip to Japan every other summer, where he continues to monitor changes there while students also see, firsthand, the long and difficult work of recovery after a major disaster.



A battered building waits for demolition amid vacant lots that were once a part of a bustling fishing community in Kesennuma, Japan. In the background (left) is a raised foundation for future construction above potential inundation from a future tsunami.

Exploring Japan By: Kasey Mitzit

Japan Explorations is a faculty-led study-abroad course that gives students an opportunity to gain firsthand understanding of the geography of Japan. This course revolves around a north-to-south survey of the country over the course of three weeks, allowing students to observe diverse local and regional cultures there. Using the dense network of trains and a wide-ranging availability of hostel accommodations, we travel to a number of sites where students seek to recognize regional variety in the cultural and agricultural landscapes while also focusing on core geographic principles and how they are manifest on the ground, in one particular country.



Wanderlust is described as the intense yearning and desire to travel. Although this term was originally coined nearly 150 years ago, it still seems to hold a strong presence over us, myself especially. This feeling, combined with all the opportunities available to me in the Geography Department, inevitably led me to going on Dr. Rowley's study abroad trip to Japan this summer (2017). Despite having done a lot of research preparing myself for this trip, I was still completely blown away by how much I learned. Being immersed in an unfamiliar culture is an experience you can't replicate in a classroom or supplement by reading.

In addition, traveling abroad was made even better by the group I was in. Having Dr. Rowley and Megan Maher around to facilitate our learning and pose geographic questions helped us internalize our observations. They also helped in many other ways, such as removing the language barriers, explaining new concepts, and taking advantage of our time in Japan. Furthermore, since my peers on this trip were also Geography majors, we were able to hold complex and informed conversations about the geography of Japan. Together we were able to gain each other's perspectives and marvel at Japan's picturesque beauty. We bonded over our shared experiences and by the end became close friends, despite having not known each other at all before the trip.

Overall, this study abroad trip was absolutely life changing. There were so many times when I would catch myself astonished by the number of places we were able to visit. As soon as I returned from Japan, I felt inspired and excited to learn, so I immediately signed up for the next trip offered by our department: the West Texas/New Mexico trip. Japan was the best three weeks of my life, and I look forward to the rest of my adventures in this Department.

The Japan Study Abroad Program was supported in part by the Geography Distinguished Lecturer Fund and the Patterson Fund.



REDBIRDS RISING

THE CAMPAIGN FOR
ILLINOIS STATE

Ways to State Your Destination and Help us Map our Road to New Heights of Excellence

What does it take to prepare the next generation of geographers, geologists, and global citizens for success in the 21st century? What does it take to keep on our trajectory of excellence and distinction?

In the Department of Geography, Geology, and the Environment the journey starts with holistic and rigorous curricula grounded in the liberal arts and balanced by experiential learning. We continue our long-standing tradition of helping shape the new generation of social and earth/environmental scientists by training secondary education teachers in geography and earth and space science. Award-winning faculty, recognized for their excellence in their respective disciplines, teach our students. We proudly offer individualized attention and provide ample opportunity for students to participate in faculty-led research. We embrace the outside world as our classroom. We encourage students to participate in study abroad programs and continue to offer opportunities to learn outdoors through various field-based excursions. We place a strong emphasis on career and life-long learning through careful career mentorship. Our students have the opportunity to compete for several scholarships each year to minimize the financial burden of their studies.

To continue rising to new heights of excellence in the years to come we must rely on generous gifts from donors like you. Your support has the power to help ensure that the quality of our curricula continue to propel us upward and forward, as we educate tomorrow's leaders, scientists, educators, and globally aware and socially engaged citizens.

Join us on this exciting journey. Help us create and sustain world-class academic programs by providing support in one or more of the following areas.

Expanding student support through scholarships

Privately funded scholarships for students will help attract and retain high-performing and diverse pools of students. These funds will help cover the cost of their tuition, and enable them to engage in study abroad programs, internships, service-learning opportunities, and other career development activities.

Embracing creativity and innovation

Transformational research efforts in geography and geology require

sustained support for the acquisition, upgrade, and maintenance of infrastructure. Such funding ensures that our faculty and students have access to state-of-the-art instrumentation, technology, and spaces for learning that fosters collaboration and sparks innovation.

Growing support for experiential learning

Experiential learning lies at the heart of our Geography and Geology programs. The opportunity to learn away from the classroom and in the real world, be it a city or a mountain top, has no substitute. Students explore new environments, learn to work in teams, engage with various field tools and instruments, and become able field researchers and professional explorers. The skills that they acquire through these experiences prepare them for higher learning or the professional world after graduation. Funding is needed for our six-week Geology field camp, week-long spring break excursions in Geography and Geology, class field excursions, and student travel to professional conferences.

Elevating the level of scholarship and academic excellence

Gifts that support scholarly and research efforts led by faculty and students ensure continued academic excellence and maintain world-class academic programs. Your support is needed to help students engage in scholarly activities. Projects often require funds for travel (to field sites, data repositories, archives, and conferences), the purchase of instrumentation and research tools, and processing of samples at off-site laboratories.

The priorities described here represent a small sampling of funding opportunities. For more information about how you may support our Department through Redbirds Rising: The Campaign for Illinois State, visit Redbirds Rising at IllinoisState.edu or contact:

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College of Arts and Sciences
(309)438-7725
seselle@ilstu.edu

Dagmar Budikova, Chair
Department of Geography, Geology, and the Environment
(309) 438-2546
dbudiko@ilstu.edu



Thank you, you are a kind soul! -e.d.



Thank you! We are incredibly grateful! K.C.

Roaming Redbirds Rock!

Thank you for helping me push my limits!
You are lovely! -P.A.

Thank you for the generous donation! -E.D.

Trip Rocked!
-R.H.



You have changed the world for the better! -D.S.



Thank you!
Thank you!
Thank you!
-A.M.

Experience of a lifetime.
Thank you! -A.M.



iGRACIAS! -A.M.



Thank you so much for the life changing trip. -W.A.

Thank you so much! -H.G.



thank you so much for the opportunity to learn in the field! l.j.



Thank you for an amazing experience that I will never forget. -J.S.



Thank you for the wonderful Trip IV

Thank you for the amazing opportunity NA

STATE Your Destination



Andy Maas and his two daughters.

Alumni Day Speaker: Andy Maas

By: Dr. David Malone

The Department welcomed Andy Maas back as a 2016 Alumni Day speaker. Andy is 1996 graduate of Batavia High School in Batavia, Illinois. He began his education at Iowa State University where he majored in Chemical Engineering. He transferred to Illinois State as a Chemistry major as a sophomore. Andy decided to pursue a second major in Geology after taking Dr. Jim Kirchner's Mineralogy course as a junior. Andy's stated career goal at that time was to "work for an oil company in Texas and find a bunch of oil." His passion was to identify new energy resources, and to make sure that these resources were extracted in a sustainable manner. Andy graduated from ISU in 2001, and was interested in

pursuing an M.S. with a specialization in metamorphic petrology. Andy chose LSU over the University of Wisconsin, and developed a thesis project in the Archean core of Montana's Beartooth Mountains. Andy began his career at ExxonMobil after completing his M.S. in 2005. His experience is global with most of his attention devoted to the geology of the Gulf of Mexico basin. His principal expertise is using sophisticated software for visualizing modeling the three-dimensional architecture of oil reservoirs. He and his wife, Kristina, and three daughters live in Houston, where he works at the ExxonMobil headquarters.

Congratulations, Graduates!

Geography

David Babcock
Lauren Blayney
Tyler Brown
Thomas Cahill
Gary Clark
Bryce Conrad
Cory Fruge
Ryan Gelber
Ryan Godar
Frank LiMandri
Kenneth McNeely
Michael Pignatiello
Nathaniel Sarich
Brooke Schumacher
Kenneth Sekulski
Jonathon Smith
Andrew Streight
Alex Suo
Clifton Ulbricht
James Uvodich
Forrest Volz
Britney West
Laurie Wheatley

Geology

Katherine Anderson
Kelcey Brown
Dakota Csanda
Daniel Dallstream
Mark Dreher
Kacey Garber
Lacy Haefli
Allyson Hanlin
Mark Hodges
Eric Jensen
Zachary Malone
Krista McGillivray
Mackenzie Mowen
Rene Philippe
Tyler Rothschild
Christine Salinas
Eric Savin
Daniel Warbritton
Reinhardt Warkenth
Jessica Welch
Hannah Wirth
Everett Wood

Hydrogeology

Mabossani Akara
Benjamin Bruening
Lucas Chabela
Andrew Francis
Audrey Happel
Luke Lampo
Ryan Plath
Matthew Rhoads
Samuel Schoenmann

Student Presentations

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Continued on page 12



Geology Field Camp Receives Excellence Award

By: Dr. David Malone

Illinois State University's Geology Field Camp was named the 2017 Geological Society of America/ExxonMobil Camp Excellence Award recipient. The Field Camp was selected for this award based on technical abilities, the outstanding safety records, and diversity of participants and instructors.

Along with the recognition and prestige of winning the award, Illinois State's Field Camp will also receive \$10,000, which is allocated for curriculum enhancement including the development of new field project sites.

Field Camp is the capstone experience for undergraduate Geology majors, and provides the students with the opportunity to apply their accumulated knowledge and skills to the investigation and interpretation of unfamiliar geologic areas. The camp is a six-week program, with a different theme each week. Students begin their Field Camp experience in Wyoming, make their way through the northern part of the state, and complete camp in western South Dakota.

Illinois State University Professor of Geology Dave Malone has been involved with Field Camp since 1992 and has spent the last 17 years as the camp's director. "The Geological Society of America/Exxon-Mobil Field Camp Excellence Award is testimony to our Field Camp's commitment to diversity, safety, and technical excellence," s Malone said. "It also is testimony to the commitment of our University to support this essential capstone experience for our geology majors."

During his time as camp instructor and director, Malone has served 737 students from dozens of universities. He is within reach of his goal of teaching 1,000 students at the camp. Malone and the Field Camp were recognized at the Presidential Award Ceremony Annual Meeting, which was held in Seattle, in October 2017.

Field Camp was first offered as a cooperative effort between Illinois State and Northern Illinois University in 1970. Illinois State fully took over the directorship and administration in 2007, and began accepting students from universities across the country in 2008. Field Camp is a required six-credit course for Illinois State students pursuing a bachelor's degree in Geology.



For more information or to get involved, visit the Field Camp website.

Scholarships and Awards

Louis Miglio Scholarship:

John Sinclair
Nathaline Pheteau
Stephanie Dwyer

Harry Lathrop & Arthur Watterson Memorial Award:

Joe Syzdek
Lexi Wallenberg
Sam Bybee

George R. Means Geography Scholarship:

Madison Myers
Marc Zidek

Margaret Means Endowment Stipend:

Brooke Schumacher
Britney West
Mike Pignatiello

Eunice Blackburn Scholarship:

Bradley Brewer
Nate Sarich

John Wesley Powell:

Ethan Schneider
Graham Hill

Excellence Fund:

Sarah Yoder

Gamma Theta Upsilon:

Sam Bybee
Michael Pignatiello
Giosue Floyd



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Continued from page 10

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Student participation in research and professional travel to conferences is made possible through generous gifts made to the Powell Fund, the Geology Excellence Fund, the Patterson Fund, and the Geography Excellence Fund.

From Joey to Joseph J. III: A Brief on Mr. Fluder

By: Dr. Michael D. Sublett



The Vice President and Chief Operating Officer of SWCA Environmental Consultants came to Illinois State in the fall of 1995 suggesting an interest in the environment and a preference for the name that his family called him, Joey. Today Joseph J. Fluder III is a key component of a nationwide firm that prides itself on providing solutions to environmental permitting and compliance challenges for private and governmental entities, solutions that allow for the maintenance of tomorrow's resource capability while permitting completion today of significant projects. This brief is the story of a man's evolution from high school to corporate management while maintaining a long-felt love for the environment and the University that set him on his career path.

A graduate of Hinsdale Township South High School in June of 1995, Joey Fluder came to Illinois State as a Geology major after liking a Geology course in high school but remained open-minded while taking the usual variety of general studies courses and visiting regularly with Academic Advisement. Sensing his academic uncertainties, his advisor suggested several possibilities; and he ultimately settled on Geography. Somewhere in that transition, perhaps because he was too polite to correct his professors, Joey Fluder became Joe Fluder.

Joe thrived in Geography. Here he finally began to succeed in even the most challenging classes. He served as president of Geography Club and joined Gamma Theta Upsilon (the national Geography honorary society). He garnered high praise after a very successful GIS internship in Champaign, presented his first professional paper (at West Lakes AAG), won campus-wide recognition as a Future Alumni Leader, led numerous clean-up efforts along the creek that passes through west campus, and picked up the his department's Illinois Geographical Society Outstanding Senior Award for 2000. On his way to graduate school at the University of New Mexico, "Joseph J. Fluder III" sent me a nice note of thanks, saying in part, "I will not fail you or the department on my journey."

At the University of New Mexico, Joseph continued his quest for scientific excellence. While earning and after finishing his master's in Geography, he taught a variety of classes at the university and at nearby Central New Mexico Community College. He did so well that a professor at the University of New Mexico offered him the opportunity to pursue the Ph.D., which he did briefly, taking some

of the coursework. About that time, however, he also got the call from SWCA and decided to leave behind the academic life.

Joseph's career trajectory at SWCA Environmental Consultants has been impressive. He began working three-fourths time for SWCA in its Albuquerque office, in 2003, as an Environmental Scientist and soon grew to be a Project Manager, handling the largest clients and projects in New Mexico. Next came his role as Natural Resources Program Director where he saw revenue and sales growth double in the Albuquerque office during the years 2005 to 2011. As Office Director, 2008-2009, he was responsible for revenue of over \$3 million per year and staff of 35. SWCA made him the Albuquerque Principal in 2009, and his numbers grew to \$4 million in revenue as he also took on the Durango office in southern Colorado. His elevation in 2012 to Rocky Mountain-Central Regional Manager, first out of Albuquerque and then Warrenville, Illinois, saw his revenue generation grow to \$40 million and staff to roughly 300, in 11 different offices. Most recently, out of the Warrenville (and now a Lombard) office, in his role as Chief Operating Officer, he and his 800 or so staff (31 offices) are generating over \$90 million in annual revenue and over \$100 million in sales. He has come up through the ranks, using his love for the environment and taking his scientific point of view into the business world, rather than earning an advanced business degree and then trying to learn about the company and its industry. Few scientists have the wherewithal to do what he has done, whether it is setting up new SWCA offices, smoothly integrating acquired companies/offices into the system, or mentoring junior members of the firm in their careers.

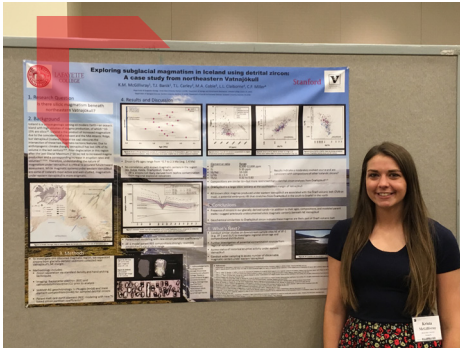
As a professor, over my 45 years in the classroom, I often looked at my classes of Geography majors and wondered which of them I would never see or hear from after graduation, which ones would stay in touch briefly as they started their careers, and which ones would stay with us down through the years. Joe, as we still know him, falls into that third and most prized category. In 2001 and 2011, he wrote articles at my request for *Glacial Deposits*, the first about making the transition from undergraduate to graduate school and the second about ecosystem restoration that SWCA was coordinating along the Rio Grande in central New Mexico. For the Geography Career Fairs of 2005 and 2011 he was an invited panelist and table host. As part of the 2013-2014 Geography Career Year, Joe visited my Seminar in Geography class to discuss his career ideas for upcoming geographers. Most recently, he was back as Geography's Alumni Day Guest at Homecoming 2016. Not required but definitely something Joe wanted to do on that Friday was to speak to students and faculty in a career-oriented presentation he called "Putting the Puzzle Pieces Together."

Joe (or Joey or Joseph) still values what he found here two decades ago. He always thanks us for inviting him to visit or otherwise contribute to our mission through the written and spoken word. "The debt I owe the department ... cannot be repaid," he wrote recently, telling us then that Illinois State was "a huge part of my life during a transitory time." We hope and fully expect that Joe and Illinois State will continue to enjoy a productive partnership.

Mr. Fluder's visit was made possible by The Geography Excellence Fund.

McGillivray (Geology '17) Wins Poster Award

By: Dr. Tenley Banik



Krista McGillivray won the Outstanding Poster Award for her poster entitled “Exploring subglacial magmatism in Iceland using detrital zircon: A case study from northeastern Vatnajökull” presented at the 2017 Geological Society of America (GSA) Cordilleran Section Meeting in Honolulu, Hawaii in May. Krista’s research under the supervision of Dr. Tenley Banik utilizes geochronology and trace element compositions of zircons derived from

sediments in rivers that drain Vatnajökull, Iceland’s largest glacier. These data allow investigation of the longevity and formation processes of volcanic systems that are otherwise inaccessible beneath the ice—some potentially undetected prior to this study. Krista’s research is part of a larger collaborative project that seeks to understand the nature of these hidden volcanoes and their evolution. Prior deglaciation led to significant increases in eruption rate at Vatnajökull’s volcanoes, and planning for future volcanic hazards in light of climate change-induced glacial melting requires more complete knowledge of Vatnajökull’s hidden magmatic systems. Krista’s poster was on display at the Annual GSA Meeting in Seattle, Washington, in October. Krista graduated from ISU with a B.S. in Geology in 2017 and is currently enrolled in the M.S. program at the University of Florida. Congratulations!

New Course: Volcanic Processes

By: Lexi Wallenberg



The Department is renowned for providing its students opportunities to demonstrate the culmination of their knowledge outside the classroom, particularly through trips that reach beyond the borders of the “Prairie State.” In April 2017, students partaking in the GEO 366: Volcanic Processes course went on a pilgrimage to Nevada and eastern California, observing the subsequent results of plate tectonics and how volcanic processes shaped the landscape. Not only did the students apply the knowledge they garnered in the classroom to identify volcanic features and generate proper field guides, they also explored popular tourist attractions such as Death Valley National Park and the salt flats of the Badwater Basin. The students also

had the opportunity to tour the Mammoth Geothermal Complex, a geothermal power plant located in the eastern Sierra Nevada mountain range. The plant provided an inside look at the myriad of uses geothermal sources can supply and hands-on knowledge of what industry work entails. After a long day travelling from stop to stop and writing observations and interpretations vehemently in their notebooks, the students took time to relax and prattle about the adventures of the day by the fire at their campsite. Surprisingly, the dehydrated, pre-packaged meals—ranging from cheese enchilada ranchero to Thai style chicken and noodles—provided a satisfying and delectable meal. However, the most rewarding experience at the campsite was to look up and see thousands of stars illuminating the sky, an experience that some do not have too often due to the proximity of cities and other light sources back home. Overall, the trip was a resounding success, leaving students enthralled and yearning for more.

This Field Excursion was sponsored by gifts received through the Powell Fund.

2016-17 Donors. Thank you!

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Gifts received 07/2016 to 11/15/2017

Mr. J. L. Wroan III

By: Paul Meister



One of the most exquisite mineral specimens that the department houses (a beautiful piece of bladed yellow barite on fluorite) was kept

locked away in a cabinet for many years, forgotten by many except for the man who purchased it. Locked away not because of an oversight, but because the mineral's rare properties make it highly susceptible to damage from UV rays. On April 29, 2017, that all changed when Mr. J. L. Wroan III, the donor of the specimen, and family paid a visit. Mr. Wroan contacted the University inquiring about a unique mineral specimen he purchased from Mr. Lafayette Funk at the Tucson Gem and Mineral Show in 1975. After purchasing the mineral, it was displayed in the Illinois State University Museum until the museum closed in 1991. After the museum closed, many of the pieces were transferred to the Illinois State Museum in Springfield with the remainder given to the Department to be displayed. Mr. Wroan was thrilled to visit the specimen and reminisce with his children and grandchildren about the history of the piece, which is now on permanent display in the department office in a UV safe enclosure.

Research is Knowledge of How we Experience the World

By: Christine Salinas



From my very first project handed down to me almost three years ago, from Dr. Tranel, I have been dedicated and engaged in research. My research experience has filled me with the desire to seek out and find answers that was cultivated by my projects. Looking back, there is nothing I would change about my journey. The Department has a passion for seeing their students succeed beyond their four years at Illinois State University. I have never been so proud to receive an education here. After some experiences, outside of ISU, I have realized that we truly have one of the best departments in the country. The hands-on applications in the field are extremely beneficial to any geologist whether it is in a classroom or a research setting. Our professors make sure we get the opportunity to be exposed to all the things we learn about—It is empiricism.

My research is focused on investigating recently active faults based on the geomorphology of ephemeral channels in the Broke-off and Guadalupe Mountains in Texas and New Mexico. My first project was stream mapping using applications such as Google Earth, ArcGIS, and physical fault modeling. As my project started to evolve, I was invited by Dr. Tranel to go out to the study area to conduct actual field work. The most significant moment for me was seeing the mountain ranges in person rather than on a computer screen. Field work changes your

perspective and your perception of the landscape—It makes the research come alive and be something real and tangible. During our five days in the Guadalupe Mountains, we stayed at the "Ship-on-the-Desert," and every morning I would wake up to beautiful orange sunrises peeking over the mountainsides. Later during the day, I was walking through carved-out canyons that were chilly, and the puddles had a thin layer of ice on top. We took measurements of outcrops, used rock strength analysis, and gathered strike and dip values. One of my assignments was to collect rock samples using GPS at various locations near one of the canyon openings. I identified the rock lithology of each sample to better understand the types of rocks that came from the canyons. The rugged terrain was intense throughout the trip. The accomplishment was rewarding, satisfying, and gave me the confidence of "I can do anything." This was my first taste of field geology and is something that will always stay with me. I am still, to this day, in awe over my experiences. It is so much more than looking at pictures or reading about it in articles. It is through exposure to an unfamiliar world that we gain the knowledge of what lays before our eyes. It is asking a question and going out and finding the answer, investigating with our senses, and using our creativity to piece the information that we find together.

Research is knowledge of how we experience the world. It made me more critically aware, and it has left me inspired to want to become a research scientist. The professors in the Department have given me the gift of knowledge and the profound experiences to be more connected to myself and to the world.

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