

Dear Alumni and Friends,

Over each of the past three years, I started this newsletter with a statement related to “change” — and then 2020 came along. The word “change” does not seem appropriate for what all of us have gone through and continue to experience during this pandemic. I am proud to say that our students, staff and faculty took this monumental shift in stride. They truly rose to the occasion to deal with this catastrophe — an event we hope we never experience again. As was happening over virtually the entire world, the University closed and went on-line just prior to spring break last March. The faculty went from teaching 90% of their courses using in-person instruction to 100% on-line. They did this in two weeks — something that nobody would have predicted was possible. Likewise, students accepted and made the pivot with few complaints. Summer and fall instruction were also rescheduled to be on-line. A few exceptions were granted for local, field-based courses and some labs that cannot be completed virtually. We are currently operating at 90% on-line and 10% in person. As you can imagine, this makes field-based, experiential learning in geology and environmental science particularly challenging. Was the transition seamless? No — but everyone made it work.

At the same time, the pandemic placed even more serious pressure on budget challenges facing the University. State funding for Crouse Hall renovations was suspended, the state instructional subsidy was reduced and enrollment projections for fall 2020 were horrible. Compounding that, we knew supplemental services such as housing and dining would be massively affected for the upcoming fall term. In late May to early June, all units across the University were required to submit plans for a 25% budget cut across all budget categories, including personnel. Geosciences survived the cuts and remains strong. Though we hated to see them leave, Linda Barrett, Shanon Donnelly, Jeremy Spencer and Elaine Butcher had already decided prior to the pandemic to retire or accept a university buyout and move elsewhere. Those losses meant no remaining Geoscience faculty had to be let go; we were even able to hire Molly Witter Shelleman as our new mineralogist.

So where do we go from here? Well, some signs of normalcy are beginning to appear. The Crouse Hall renovation budget was restored in late December. Though it will be a major undertaking, we should be out of Crouse Hall by early June. We will take up residence in Central Hower for two years and be back in the new and greatly improved Crouse

Hall during the summer of 2023 if not sooner. Enrollment has held reasonably strong even during the pandemic. As of fall 2020, we had 90 undergraduates and six graduate students. Incoming students are more interested in environmental science than ever before. We also continue to draw majors from across campus when students choose new career paths.

I thank you once again for your continued financial support. Your donations make a direct impact on our undergraduate and graduate students. Due to your generosity, last year we were able to award over \$3,100 in scholarships and awards to eight students. That amount was substantially smaller than usual because we conducted field camp locally. Under normal circumstances we try to provide financial assistance to all students attending field camp out west. Hopefully by 2022 we will be able to do so. In the meantime, you can continue to support students by clicking the “Give online” button found on the bottom right side of our webpage (www.uakron.edu/geology). You can direct your donation to support scholarships, field camp, for general use or for a designation of your own choosing. Our students truly appreciate your expression of interest in their well-being through your generosity.

Remember to check out our Akron Geology Alumni Facebook page. It is a great place to rekindle old acquaintances, make new contacts, support students and programs, and keep in touch. Again, I also welcome your email updates, phone calls and visits if you are in the area. Feel free to contact me any time (steer@uakron.edu; 330-972-2099).

David Steer



With COVID protocols in place, field camp was conducted locally. In this photo Dr. Peck explains a fault in Ohio to a socially distanced group of students.

Alumnus Report

LATER THAN YOU THINK!

By Alex Pachos, M.S. Geology '08

Dear Alumni Friends and Current Geology Troopers,

Well, it's been one hell of a year, hasn't it? Like no other mentor, Mother Nature has a way of swatting human egos back into reality about our limitations to shape the future. Just when you think things are humming along fairly nicely, a pesky pandemic can really muck up the plan. For the students who have graduated or are graduating into this mess, seeking employment, on top of everything else, must be extremely stressful and our (the geezer class) hearts go out to you. So, I would like to offer some thoughts that may help you forge ahead.

Good or bad, everything comes to an end. Right now, things may seem bad, but it will pass. The pandemic will eventually come to an end and life will return to some semblance of normal. However, don't let the life lesson slip past you. Capitalize on the good times, all the while knowing that there will be difficult times you will need to endure. Also, realize that no one gets through life without help from others. Maybe part of my story will help...

In spring 2008, oil prices were well above \$100/barrel and some forecasters were talking about \$200/barrel oil; euphoria pervaded the petroleum industry. I expected to graduate with my Geology M.S. in the fall of 2008 and life was looking good. In May 2008, at the national AAPG conference in Houston, as I was prospecting for employment, I wandered into the Fugro booth and met Tom Taylor, the North American Manager for Fugro-Jason. Tom started pitching me on the Jason seismic inversion solution for reservoir characterization, when Alan Frink, a Houstonian and Fugro customer, joined the conversation and Tom introduced us. I didn't know it at the time but that chance meeting led to events that I could never have predicted. Tom wanted to hire me on the spot, but I needed to finish both my Geology M.S. and another advanced degree that I was working on simultaneously. The job would need to wait for another day.

Over the summer of 2008 there were ominous economic signs that only grew darker as we entered the fall. In October, I met Tom (Fugro-Jason) again at an AAPG event just as the U.S. economy was tanking. There would be no job waiting for me at graduation. The following week, I attended a Regional AAPG meeting in Pittsburgh, still prospecting for a job. There were no jobs to be found, but I met someone very special who was attending from Western Michigan University. Tracie and I kept in touch after that AAPG meeting and we ended up getting married. That's another story though.

As the holidays approached, the job prospects looked very bleak. Then, during Thanksgiving week I broke my humerus (and, no it was not humorous—it took a year

to fully heal). So, with a broken arm and running out of money, I was trying to finish my 2 degrees and figure out the next chapter of life. I should have been jumping for joy when I graduated in December with my geology master's degree, but I felt beaten. What kept me going was the certitude that the bad circumstances would eventually come to end.

Fortunately for me, Alan Frink is a very persistent guy. We kept talking and he said to me, "Look, if you want to be in movies, you move to L.A., if you want to be in the petroleum business, you need to move to Houston". That seemed impossible. But, in February 2009, Alan invited me to dog and house sit while he and his wife, Debbie, were traveling to Australia for a few months. So, I took the leap of faith. But, when I arrived in April, Houston was hemorrhaging jobs. Even restaurant serving positions were unavailable because they were already filled by laid-off geoscientists. It was rough. I was preparing for the worst and spent some of the last money I had on camping equipment in case that's what it came to. Alan and Debbie got back from Australia; and when I told Alan that I had not found a job, he said, 'that's okay, you can live here with us until you find something'. Man!!! Talk about kindness!!! There are not adequate words to convey how much Alan and Debbie helped me. I was able to finish the second advanced degree while living with them and eventually I found a job (not the one I wanted) that enabled me to get out on my own again. Over those 2 years, Tracie and I kept in touch and she decided that I was worth moving for, so she moved to Texas and we got married in December 2010. In January 2011, Fugro-Jason hired me and then, a year later, CGG bought the Jason business unit, where I am still working as an account manager in the CGG GeoSoftware business line. After Alan retired from BHP, he and Debbie moved to Australia in 2017.

Recounting this experience would not be complete without recognizing and thanking all of the people who helped me along the way to reach my goal. I used to joke with Elaine (when I was working on the Geology B.S. degree) that I just wanted to get my degree in Geology before I became a part of the geology. Elaine heartily commended me when I made it. Special thanks to Dr. Ira Sasowsky, my advisor and fantastic mentor, Elaine Butcher (Magician Extraordinaire), Drs. David McConnell, John Peck, David Steer, Verne Friberg, Lisa Park, Annabelle Fooks, Mr. Tom Quick (another Magician Extraordinaire), and many others.

In closing, I'll just encourage everyone to stay positive, lean on friends when you need to, be there for your friends to lean on, and be kind to everyone who deserves it.

Alex Pachos



PART TIME FACULTY DURING 2020

These part-time faculty taught courses during calendar year 2020, and their contributions are greatly appreciated.

Dr. Robert Barrett Mr. Nick Frankovits
Ms. Chrystal Fretz Dr. Ronald Runeric

Faculty News



LINDA R. BARRETT, PH.D.

ASSOCIATE PROFESSOR
BARRETT@UAKRON.EDU

Linda retired at the end of spring semester 2020.



HAZEL A. BARTON, PH.D.

PROFESSOR (PRIMARY APPT. BIOLOGY)
BARTONH@UAKRON.EDU

Hazel started 2020 on sabbatical, with many plans for caving expeditions, including to China. By February, it looked as though China was going to be a challenge, and by March all flights into the country were canceled. This affected many other planned expeditions, and in lockdown she turned her attention to writing grants and writing papers. We did manage one research trip, a long road trip (to avoid flying and COVID) out to South Dakota's Wind Cave, where graduate student George Breley collected samples aimed at understanding how the huge displays of aragonite in the cave form. Hazel and George then carried on to Wyoming, where they took samples and helped map Great Expectations Cave. During this trip, George was able to join a team that made the through trip in 8 hours—the deepest through trip of any cave in the continental US at 1,435 feet deep. They started in the main Entrance near camp, exiting out of the Grim Crawl of Death, a foot high bedding plane 6" deep in water, 8 hours later in Trapper Creek. Highlights of the year included 12 submitted papers, including two on Hazel's recent expedition to the caves of Greenland and one on COVID in caves. Hazel also wrote an NIH grant to support our antibiotic work, as well as a project to NSF to study how microbes make calcite, and was awarded the Science Award from the National Speleological Society to recognize her 'outstanding dedication to the science of caves.'



JOHN BELTZ
PROFESSOR OF INSTRUCTION
JFB4@UAKRON.EDU

John started his 28th year of teaching at the University of Akron by continuing to instruct Historical Geology, Physical Geology, Earth Science, Introduction to the Oceans, Wetlands and Dinosaurs. He has now taken over Geology of Energy Resources as well. He continues to teach the Historical laboratory, because of the lack of sufficient graduate student teaching assistants in the department. Personally instructing the laboratory sections, however, gives him a better feel for how much students understand the material covered in lecture. As with everyone else in the Department, adapting to the challenges of 2020 were sometimes difficult. Converting class instruction to fully online after the spring semester had already started was daunting, but it worked out. It was much easier by fall semester, but it was still a work in progress. Laboratory instruction proved to be the most difficult aspect to convert to online presentation.

John and Tom Quick are still teaching the Wetlands class in summer. John continues to instruct the sections covering wetland types and determination, wetland soils and basic plant identification, while Tom instructs sections covering the chemical analysis of wetland water and soil samples collected on two field trips. They continue to take the class to the Bath Nature Preserve as well as Tom's house. Tom's wetland has developed from an old pond, and they are looking for changes over time as it continues to transition. With the severe restrictions of 2020, conducting a field-oriented class like this one wasn't easy, but they managed to get everyone to the sites and gather the information that they needed.

John continues to serve as secretary for the Department's faculty meetings after more than eighteen years. In his spare time, he continues to work on home improvements, sings in a choir and takes his kids on field trips around Ohio looking for abandoned places to explore. Sixteen-year-old Hollie is learning to drive, and twelve-year-old Will is enjoying playing in a soccer league. Will still likes math and science, while Hollie is doing well in French and algebra in high school.



*Field Camp 1971 -
photo provided by
Gary Dannemiller*



MEERA CHATTERJEE, PH.D.
PROFESSOR OF INSTRUCTION
MEERA@UAKRON.EDU

Meera has been very active teaching multiple sections of Cultural Diversity, Introduction to Geography and World Regional Geography. Following the trend of increased demand for remote learning, she has worked on getting Introduction to Geography and Cultural Diversity online (100%). These sections have attracted a substantial number of students to take the courses. In 2020, she along with Jeremy Spencer, applied for a grant to adopt Open Educational Resources (OER) for the course “Introduction to Geography”. The project was selected for funding. The course has been fully revamped and offered in spring 2020. During COVID, she taught a combination of hybrid, group hybrid, synchronous and asynchronous classes. She went through a series of Teams training to conduct classes online.

She is happy to share that her son is busy finishing an MBA from The Ohio State University. He is graduating in May 2021. It's been a challenging year but we sailed through it.



SHANON DONNELLY, PH.D.
ASSISTANT PROFESSOR
SD51@UAKRON.EDU

Shanon left the University at the end of spring semester 2020. He now makes use of his skills with his company, Donnelly Geospatial, to provide the power of a spatial perspective through GIS and aerial imagery.



CALEB HOLYOKE, PH.D.
ASSOCIATE PROFESSOR
CHOLYOKE@UAKRON.EDU

In 2020, everything was nuts, but Caleb taught Field Camp, Structural Geology, Advanced Structural Geology and Graduate Seminar and continued as the undergraduate advisor for geology majors. He and his students are investigating how foliations and lattice preferred orientations affect the strength of rocks. Casey Braccia (Dec. 2018 graduate) worked in the lab until August when she left to start her Ph.D. at the University of Maryland. Jake Waller finished his Honors Thesis analyzing shear zones that formed in the Scituate Granite, RI and decided to switch to doing experiments on a different granite from Rhode Island (Westerly) as an M.S. student here. JJ Kullberg finished his experiments for his thesis investigating how foliation orientation affects fault reactivation and is starting to write towards graduating in May 2021. Jacob Tallon, a new M.S. student who came from Texas A&M University started in August and will be deforming mica-rich rocks. Undergraduates Maria Razo and Nicole Wagner performed experiments remotely at Argonne National Laboratory in order to determine how foliation orientation affects melt segregation at the source and begin to migrate towards Earth's surface. They are supported by Research Experiences for Undergraduates supplemental funding from the National Science Foundation awarded this year to Caleb. JJ, Jake, Maria and Nicole all presented their results at this fall's online American Geophysical Union meeting and enjoyed presenting their work but were bummed that they couldn't go to San Francisco! Two additional undergraduates, Megan Ryan and Leah Stanovich, continued to work with Caleb and Tom Quick on developing a portable rock deformation apparatus with motion sensors (seismometers) to take to area schools to educate students about how different properties of rocks can affect earthquake nucleation.



Structural Geology field trip 2020.



JOHN PECK, PH.D.
PROFESSOR
 JPECK@UAKRON.EDU

2020 was remarkable in so many ways, including the fact that it did not rain on any of the 20 days John spent in the field with students. Although John was unable to take his Physical Geology class into the field, students in Sedimentology-Stratigraphy, Coastal Geology, Rivers, Independent Research and Field Camp were able to get outdoors and hone their field skills. On these trips students are required to make measurements, interpret the results and produce substantial written reports. Garrett Modd cored the sediment remaining in the former LeFever Dam Pool for his research project. Anthony Perretta examined how physical and chemical limnology influence the type of sediment accumulating in a local lake. Madison Smith studied an existing lake core and was able to identify and quantify the various types of gastropods found deep in the core when the lake was in a different condition. Missy Rego examined the recent sediment accumulation in Summit Lake and has since become a graduate student in the program. She presented the preliminary results at the annual Geological Society of America meeting. Sierra Swisher's study of the Younger Dryas climate reversal in NE Ohio, based on pollen preserved in kettle lake sediment, was published in 2020. John is particularly grateful to Mr. Gary Harris for his continuing generous support that helps provide UAkron students with research opportunities. John's interview concerning the Cuyahoga River and the Gorge Dam was aired on TV in June. Due to safety concerns, we were unable to go to SD and WY for the traditional Geology Field Camp. Therefore, we designed a field-based geology camp here in Ohio. In preparing an Ohio-based camp, John roamed all around northern Ohio to check out sites for accessibility, geologic features and parking for all the individual cars. In the end Caleb Holyoke and John were able to provide the students with safe and meaningful field-based experiences including a visit to a Vanport limestone mine. It had been many years since John took students to that mine and it was nice to see old friends, both people and rocks.



TOM QUICK
ASST. PROFESSOR OF INSTRUCTION
 TJQUICK@UAKRON.EDU

This year started as usual with Tom assisting in the ongoing move for the Geosciences Department to its new location and then the pandemic occurred and every-

thing changed. Although Tom's classes were already online, and he did not have to change the format for the class, but new tests had to be created due to students not having access to the University testing center. Tom's summer Earth Science classes ran much like the spring classes but the wetlands class that Tom taught with John Beltz posed some challenges. The class had to be online, with no labs; but the class did have field trips. To take care of the lab, Tom invested in some video editing software and created online lab experiences for the class. Here the class could see the lab operation as if they were performing the tests with data being given to the students as part of their assignment. Nothing beats the real lab experience, but this was the next best thing.

Tom is currently assisting John Senko in a project where a current in the nano amp range needs to be measured. Two amplifiers have been assembled as a start into the investigation. Tom hopes to successfully create a system to record the currents at various intervals.

Tom is still doing the usual equipment maintenance in the department from equipment and chemical inventory to repairing equipment as needed.



NITA SAHAI
PROFESSOR (PRIMARY APPT. POLYMER Sci)
 SAHAI@UAKRON.EDU

The past year was probably the most challenging for all of us in academia and I congratulate our students and research scientists for their hardwork and patience in getting through it all. Kudos especially to those who continued research in labs the past year through all the hurdles. I also taught for the first time a course in the Professional M.S. program of the School of Polymer Science and Polymer Engineering. It was an interesting and fun experience to work with students who were all working full-time and had "real-world" professional experience. My research group published seven peer-reviewed papers with graduate students and post-doctoral scientists as first author on all of them and an undergraduate student as co-author on two of them. I also gave several invited talks at different universities including one at the University of Vienna, Austria, sitting right at my desk in Akron! One of the most fun things I did last year was to be part of a documentary movie called "Fireball" (2020) co-directed by the famous director, Werner Herzog, and Prof. Clive Oppenheimer, a volcanologist from Cambridge University, UK. The movie is about the role of meteorites in potentially starting life and influencing the evolution of life on Earth, as well as how human societies have viewed meteorites in different societies over time. So, the movie addresses both the scientific and the socio-cultural aspects of meteorites. They flew me out to a meteor impact crater site in India in the semi-arid Rajasthan region

to shoot the film. Fireball is available on Apple TV+ and the trailer is here on YouTube: <https://www.youtube.com/watch?v=K4X9fQsiAOQ>. Here's to a more positive 2021!



IRA SASOWSKY, PH.D.

PROFESSOR

IDS@UAKRON.EDU

It was a year without a single cave. Since the 1970s Ira has visited many caves each year, so this was a sad break with tradition. Travel restrictions in the period of COVID, as well as the general challenges of life and of teaching conspired to bring this about. Let's hope for an improvement for 2021! There was not a complete lack of karst in his life, though. In March, just as COVID was accelerating, he began a project with George Bullerjahn (BGSU) to study the submarine and on-land karst springs of north-central Ohio. These include such fascinating and historic features as the Castalia Blue Hole. Fieldwork has been minimal, but it is great to get out of the office on occasion.

In spring semester 2020 Ira was teaching Petroleum Geology, Geoscience Research & Consulting, and an Honors Natural Science Colloquium titled "Our Great Lakes". When the pandemic hit, all of these had to be adapted to online only. This went surprisingly well, even with the colloquium where students led their own discussion groups over Zoom. In fall he taught 2 courses. The first one was Introduction to Environmental Science. This was offered fully online, synchronous, to 70 students. The second course, Geomorphology, was taught with online synchronous lectures, but the lab was (mostly) in-person. We had to split the lab in to 3-sections in order to meet COVID distancing restrictions.

Graduate students Moe Slinger and Michael Rebar continue on their thesis projects studying a Trenton Platform oil/gas play in northern Ohio. New M.S. student, Trevor Dwyer, arrived in Akron in late summer 2020, and has joined the research on springs mentioned earlier. This included the excitement of launching a boat at Miller Blue Hole to deploy a data logger, as well as an elaborate rigging system across Castalia Blue Hole for monitoring and water sampling. Undergraduate Geologic Aide Melissa Rego completed the Bath Bog project groundwater monitoring, and we also ceased the annual geochemical sampling at that site. Missy is continuing to an M.S. program with Dr. Peck. Emma Romesberg, also a Geologic Aide, spent time helping Ira to clear out his office for the upcoming move for building reconstruction. Hundreds of journals and books were either given away or recycled, since the new offices will be much smaller. She completed a research project studying a spring on her parent's land in southern Pennsylvania which

has served as a water source for generations. She graduated, but is still in the area.

Ira was scheduled to present a paper at the 16th Multidisciplinary Conference on Sinkholes in Puerto Rico, as well as the Karst Record IX Conference in Austria. Those meetings were both cancelled. He attended the fall GSA virtual annual meeting, which was a sad substitute for the usually invigorating event. He remains active with the Geological Society of America (serving on the Editorial Board for the journal Environmental & Engineering Geoscience), Cave Conservancy of the Virginias, and the Karst Waters Institute (serving as Secretary).



JOHN SENKO, PH.D.

ASSOCIATE PROFESSOR

SENKO@UAKRON.EDU

John was on sabbatical in spring 2020, and taught Geochemistry in fall 2020. Needless to say, 2020 was unusual. Despite the inability to travel, sabbatical was productive. We developed some exciting new ideas about how to use electrochemical techniques to detect microbiological activities in sediments of Old Woman Creek (near Lake Erie), in collaboration with Dr. Chelsea Monty and others at Kent State, Ohio State, and the State University of New York College of Environmental Science and Forestry. We also developed ideas, with Dr. Hazel Barton and Dr. Chelsea Monty of how microorganisms can protect steel from corrosion. Geochemistry was taught almost exclusively online. That was fine for lecture, but lab was a lot different. Field work was difficult and lab work was impossible, so we started with the chemistry of two types of coal mine-derived acid mine drainage and came up with plans to treat it. It was a nice reminder of how important (and rewarding) open discussions of ideas are for scientists. Finally, in summer 2020, John co-chaired a session at the 2020 Goldschmidt Conference in (virtual) Hawaii on the roles of microbiological activities in mining and mining-impacted environments.

The Senko Lab currently has a research associate, three Ph.D. students, and six undergraduate students. Research Associate, Olivia Hershey, was hired in the lab to work on a project (from The State of Ohio with USA CARES funds) to monitor SARS-CoV-2 in sewage as an early indicator of COVID outbreaks in communities. Josh Davis (Integrated Bioscience Ph.D. student) has isolated variety of types of anaerobic bacteria from corroding natural gas transmission lines and is examining electrochemical "signatures" of their activities in his US Department of Transportation-funded work. Melissa Mulford (Integrated Bioscience Ph.D. student) continues her National Science Foundation-funded work to understand how microbiological iron metabolism influences the solubility of Si in banded iron formation and

iron ores that host unique caves in the “Iron Quadrangle” of Brazil.

Unfortunately, our lab’s close collaborator, Dr. Chelsea Monty (from UA Chemical, Biomolecular, and Corrosion Engineering), was among those on the University’s “reduction in force” list. Our labs collaborated on US Dept. of Defense-, US Dept. of Transportation-, National Science Foundation-, and Ohio Water Resources Institute-funded projects, resulting in several publications, and support for the research of over a dozen students. Despite this setback, our collaboration continues.



JEREMY SPENCER, PH.D.
ASSIST. PROFESSOR OF INSTRUCTION
JSPENCER@UAKRON.EDU

Jeremy left the University at the end of spring semester 2020. He now works as a Utility Systems Specialist (Make-Ready Engineering, Utility Design) Davey Resource Group, Inc. in Kent, Ohio.



DAVID STEER, PH.D.
PROFESSOR
STEER@UAKRON.EDU

In 2020, Dr. Steer completed his third full year as Chair of the Department of Geosciences and his sixth year as Associate Dean for the Natural Sciences. The vast majority of his time was spent dealing with complex and urgent COVID-related issues at the Dean and Department levels. COVID forced cancellation of a spring 2020, 10-day field experience course to the Colorado Plateau that he was planning to lead. In the fall Dr. Steer taught a graduate seminar focused on modern developments in GIS. Students reviewed recent literature and completed a variety of mapping projects using in-house and third-party software.



MOLLY WITTER SHELLEMAN, PH.D.
ASSIST. PROFESSOR OF INSTRUCTION
JMWITTERSHELLEMAN@UAKRON.EDU

After completing her Ph.D. in geological sciences at Stanford University in spring 2020, Molly joined the Geosciences Department in August to bring her interests in mineralogy and petrology to the classrooms for UAkron students. Upon arrival, she quickly began adapting the Introduction to Physical Geology and Mineral Science courses to be taught in a hybrid mode, simultaneously teaching to both small in-person groups and students attending live online, to accommodate for the ongoing COVID health challenges. Perseverance, creativity, and dedication to the courses were not in short supply for Molly and her students as they found ways to explore geologic topics even under unusual learning circumstances. While being a new resident to the region during a time when travel and gatherings are restricted meant that developing field trips for Molly’s courses were not in the cards this year, all of Molly’s students had the opportunity to put together final projects exploring geologically fascinating regions, near and far. Students created short 5-minute “lightning presentations” and written reports where they got to practice their science communication skills, tackle presentation and technology obstacles, and showcase new understanding of geoscience topics learned throughout the courses. Molly has also enjoyed the chance to provide advice and feedback to undergraduate and graduate students with research interests in the mineralogy, petrology, and volcanology fields.

Molly will also soon spend time sorting through and packing the abundant mineral and rock collections in the department to ensure they are well cared for during the upcoming building move. Though Molly joined the department during challenging times, she has enjoyed getting to work alongside thoughtful students and colleagues and being geographically closer to her family in PA and NY.



COVID measures were put in place in campus buildings, including signage and protective barriers.

Exterior door sign reads:

*If you are sick (Coughing, sneezing or fever): **Please go home now.** Otherwise: 1) In the building use social distancing (3-6 feet) always. 2) Sneeze or cough? Use elbow or tissue. 3) Wash hands, disinfect surfaces. 4) Don't touch face. Thanks - we are all in this together!*



Alumni News

Julie Brown, B.S. '97. I am currently a supervisor of the Air Quality and Solid Waste programs at Summit County Public Health. I have been with the health department for 18 years. I received my Master of Public Administration at Kent State in 2017.

Hunter Campbell, B.S. '16. I moved to Elkins, WV to work as Karst Field Geologist, where I was monitoring karst features for impacts during a construction project. Three months later I got moved to an Environmental Inspector position to do compliance monitoring for the same construction project. Life down here is basically work all week to fund my caving habit then go caving all weekend. I've dug into/found thousands' of feet of new cave over the course of being here. More recently I've gotten into bolt climbing which has led to a number of projects changing old ropes and hangers out of caves, as well as climbing into new passages. Not sure what I got planned next, but so far life has been wild and wonderful in West Virginia.



Hunter and friend, Dave, rigging in Stove Cave

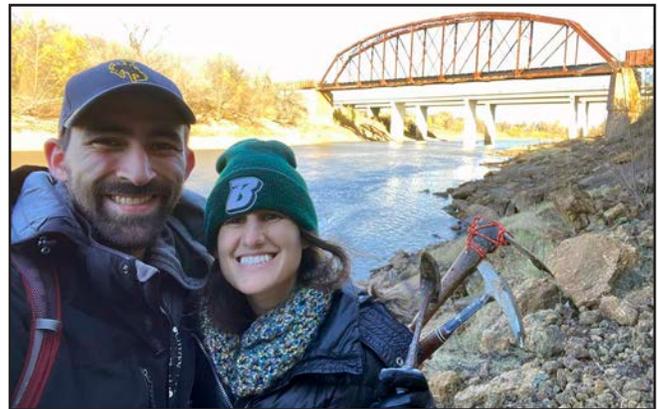
Kelly (Shaw) Crout, M.S. '13 Kelly and husband Isaac Crout welcomed their first child, Landen James Crout on March 28, 2020. Kelly is the Director of the Butler Soil & Water Conservation District and Isaac owns a construction business.



Kelly, Landen and Isaac Crout

David Mangold, B.A. '90. Many of you may know, some may not, I am presently working for National Railroad Safety Services, Inc. (NRSS). My current title is RWIC – Roadway Worker In Charge, I will also be doing various construction related duties for our RR clients, both short lines and class ones.

Josh Novello, B.S. '17. After graduating from UA, Josh went on to a Masters program at SUNY-Binghamton. In September 2020, Josh successfully defended his thesis via Zoom on the Wasatch and Green River formations in South-west Wyoming. He and his wife Caryn moved from Binghamton, New York to Houston, Texas for a job he accepted with Southwestern Energy as a Rotational Geologist. Since October, he has been learning about and working in the Appalachian Basin in Pennsylvania and West Virginia, and is putting to use much of what he learned during his time at Akron. Although he genuinely misses the cold and snow of Ohio winters, he is getting used to 60 degree weather in January.



Josh and Caryn Novello

PLEASE SUPPORT GEOSCIENCES

Your annual gift is important and makes a real difference for students and programming!

3 WAYS TO GIVE:

- Online at www.uakron.edu/giving/geo
- Text **GEO** to **41444** on your mobile device
- Mail a check (payable to The University of Akron) using the postage-paid envelope provided in this newsletter.

If you prefer to mail a check, please make your check payable to The University of Akron Foundation and write the designation on the memo line.

News from Retired Faculty

Charlie Carter. Sally and I have been in little, plain vanilla, Beaverton, a suburb of Portland, for 20 years! At first I was doing a little geology for Audubon, the Nature Conservancy; but lately I have been doing as little as possible. I am definitely Early PreCambrian in age, but still do a little hiking and tennis. My only regret from teaching at Akron is that I think that I was too demanding at times, and I hope that my students can forgive me for this. We always look forward to seeing former students and faculty, so if you are out this way, please get a hold of me.

I still remember the weekend that Ira Sasowsky took me and one of his graduate students and a couple of others to a cave in Kentucky. It was quite a memorable experience and I think it took me about a week to recover!

John Szabo. Hola, amigos! This is Dr. Szabo checking in from the folded mountains in Honduras. Rosario and I live in San Francisco de la Paz, Olancho, in the east-central part of Honduras. We are in a huge anticline of Mesozoic rocks including redbeds and andesites of the Valle Angeles Group. The redbeds become greasy when wet, making the mountain roads tricky. There is a long fault running north of the town, and some talc schists crop out in the high mountains where we have 18 acres, 3 of which are in coffee, bananas, plantains, and other fruits. The rocks are fractured with quartz veins and there are traces of gold.

The Honduran mission project, with which I have been affiliated for many years and lasted 20 years, ended last July 31st when the priest, who started the project after Hurricane Mitch, retired; and the new priest decided not to continue the project. Before he arrived, we distributed the donated funds to various organizations here and in the US. A church from NH will manage the 57 water purification systems. I built about 45 of them in addition to managing the installation of 400 latrines; we built the latrine houses out of 1" hollow steel tubing for the frames and sheet metal for the sides and roofs. Self-tapping screws are a wonder and a time saver. We built three 12,000 gallon concrete water tanks and about 17 chapels. I wired churches and schools, also. The purpose of the mission was not religion, but to improve the lives of the people. We also sponsored medical brigades from the US.

So after working like a 20-yr old for 5 years, my body rebelled and I began to feel my age this past year. I returned to the US last July for some minor medical issues and to visit my 100-yr old father. To return to Honduras, I needed a COVID test less than 72 hours old upon entry. After 25 phone calls and a little truth-stretching, I returned here in mid-September. When the restrictions were in place here, you could only circulate on days designated by your last digit of your ID. To enter malls, banks, pharmacies, and supermarkets, you passed through a shoe bath, had your temperature taken, and received hand gel. You could always go to the corner stores any time. They lifted the restrictions after the hurricanes, which cause little damage here except for wiping out the water supply lines from the spring

on the mountain for a week. The restrictions did not return because the controlling businessmen of the country were not making any money and Christmas was coming, Poor people here are like poor people everywhere; they have their priorities. Here it is fireworks where they sell everything from ladyfingers up to 3-inch mortar shells that rattle your concrete block walls. I hope that they have money for food in February.

With the close of the mission Rosario and I had hoped to spend more time at my house in Richfield. In 2019 we made it back for 4 months, but COVID did 2020 in.

I putter around the house and wait for a problem that the kid that I trained for 4 years cannot handle. I treated him like a graduate student. So far I am like the Maytag repairman.



John Szabo's 70th birthday. His wife, Rosario, is on the right.



Suspension foot bridge over Rio Teluca.

WE ARE ON THE MOVE!

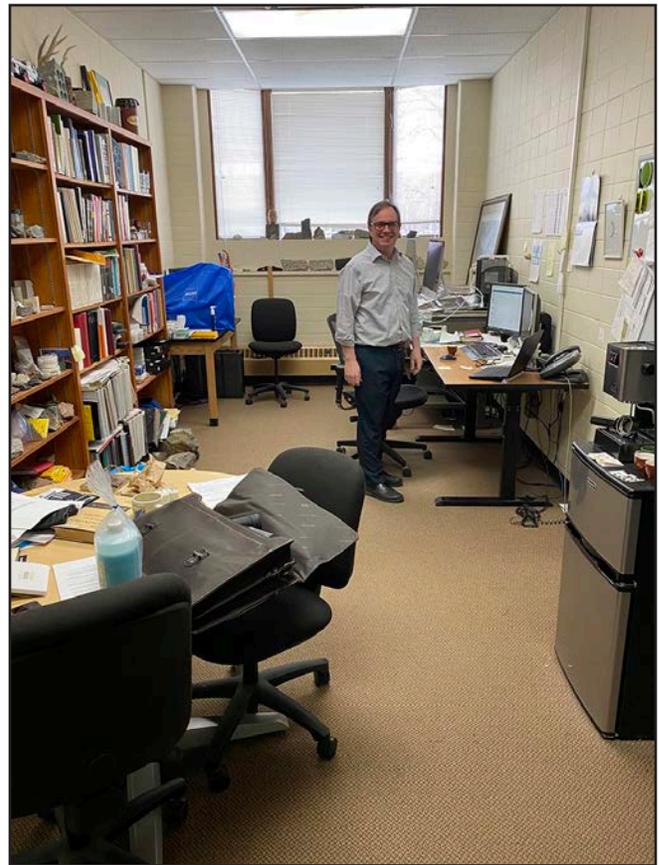
We are packing up and preparing to move to temporary quarters at Central Hower at the end of spring 2021 semester! Here are final shots of the faculty offices. New offices in the renovated Crouse Hall will be half the size, so you can see the magnitude of packing and downsizing facing everyone!



Mr. John Beltz.



Dr. Bob Barrett.



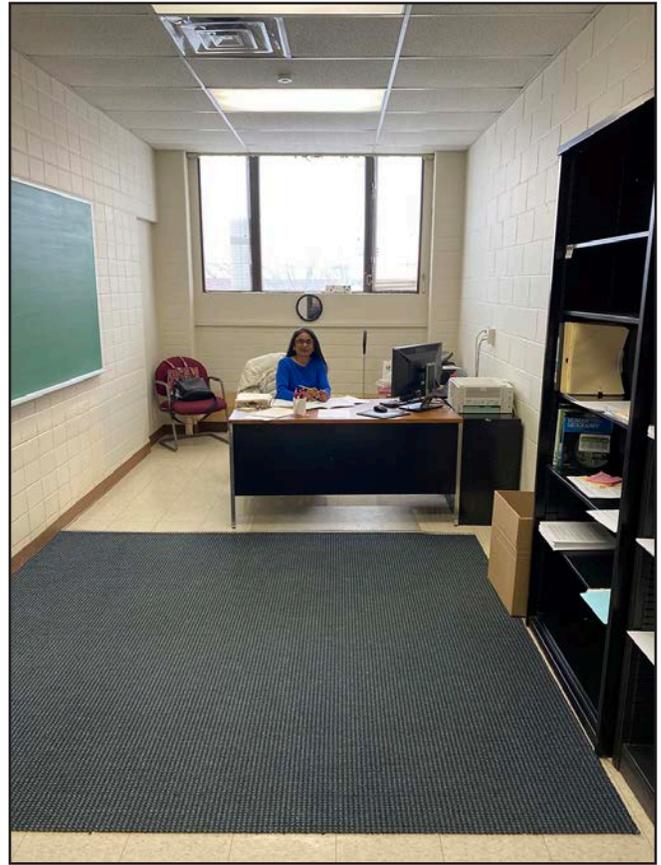
Dr. Caleb Holyoke.



Dr. Ira Sasowsky.



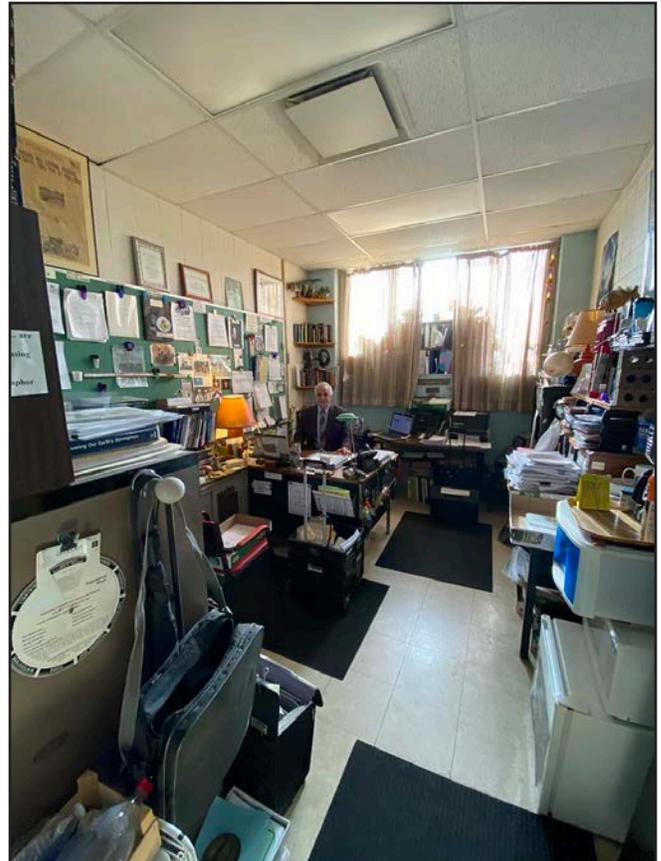
Dr. John Peck



Dr. Meera Chatterjee



Dr. Linda Barrett.



Mr. Nick Frankovits.



Dr. Shanon Donnelly.



Dr. Dave Steer.



Dr. Jeremy Spencer.



Mr. Tom Quick.



Dr. John Senko.

In Memoriam Roger J. Bain

Composed by his family, at <https://www.forevermissed.com/roger-j-bain/lifestory>



Roger was born March 29, 1940 in Kenosha, WI to Mathias and Hazel Bain. Roger's early years were happily spent on the family's dairy farm. He was the third of

four children; older brother Allen, older sister Marlene and younger sister Diane. He would relate that his dad kept draft horses long beyond their use on the farm, and he inherited his life-long love of animals, especially horses, from his father. Roger's sturdy work ethic and an abiding love of family can also be traced to these early years. His early interest in geology was generated by his mother, a school teacher, who had endless questions about the landforms in SE Wisconsin that piqued his interest for answers. He was the first child in the family to go on to college. The first two years of undergraduate work were spent at the local University of Wisconsin extension in Kenosha, since he was still working on the family farm. He transferred up to the main campus of UW in Madison for his last two years of undergrad studies and earned his Bachelor of Science degree in 1962. This led directly to a Master's Degree in Geology at Wisconsin (1964) following thesis research in the Yukon Territory on some very confusing sedimentary rocks (this was before plate tectonic theory was fully accepted). During the summers he was employed by oil and coal companies in New York, Colorado and Wyoming. He then initiated his doctoral studies at LSU where he met a visiting professor whose work fascinated Roger to the extent that he followed him back to Brigham Young University. Dr. Rigby proved to be a fantastic mentor and friend. Roger studied rocks in the Glass Mountains of west Texas for his doctoral dissertation and in 1968 completed his PhD in Geology at BYU.

It was at BYU that he met and wooed Leslie, his beloved wife of 54 years. He would tell how he saw her on his first day on the BYU campus where she was finishing her undergraduate work in geology for her BS degree. "She didn't really notice me, but I pursued her." They were married while at BYU and spent their first summer together in a tiny travel trailer parked at a roadside park south of Montrose Colorado. They acquired two kittens from a nearby haystack that summer. Roger was working a summer job for Kemmerer Coal Co. mapping and evaluating coal units in the mountains. He often said it was a wonderful experience – beautiful country, enough money (for a change) and freedom from the grind of a student's life.

Upon graduation, Roger was offered employment in the oil industry with a company he had worked for during previous summers, and he was also offered a one-year teaching position as a sabbatical replacement at the University of Rhode Island. He was having difficulty deciding, but the recruiter for the oil company told him to go teach for a year, and if he didn't like it, the job offer from the oil company would still be there. Well, one year of college teaching made up his mind and he stayed with it.

Following Rhode Island (where first daughter Cassie was born), Roger had a two-year contract at the University of Virginia (where second daughter Laura was born), and then moved to Akron. He was drawn to the University of Akron because in 1969 it was a growing institution with increasing enrollment and faculty, and prided itself in being a teaching university. The Geology Department had hired its first professor in the mid-60's and by 1997 the department

had grown to 13 full-time, tenure track faculty. He really enjoyed the interdisciplinary camaraderie of faculty and especially interacting with students.

At UA, Roger moved steadily 'up the ladder' from Assistant Prof to tenured full Professor and finally Department Chairman. His specialty was sedimentary stratigraphy but he thoroughly enjoyed environmental studies, geomorphology and field studies. His courses were loved by students. Field trips to Ohio, Bahamas, Rocky Mountains, Virginia and so many other study areas were sought after and will always be remembered by undergrad and grad students alike. Roger retired in 2000 as Professor Emeritus

Two cherished daughters, Cassie and Laura, were born and thrived within this loving family. Horses, dogs and cats (also bunnies and chickens) were added over the years at their 7-acre Bath home. 4-H was a big part of the family's activities, with both girls training and showing their horses at the county and state fairs. Roger was Chairman of the Saddle Horse Committee and both he and Leslie led the Mustangs 4-H club in the 80's. The girls grew into young ladies; both earning advanced degrees, starting jobs and meeting wonderful men, Dan and Mike, who they married and proceeded to give them five very special grandsons (Matthew, Steven, Ben, David and Justin).

Retirement was chock full of activities. Roger and Leslie bought 11 acres of farmland and woods near Doylestown, OH and built their retirement home. Pastures were fenced, a horse barn designed, gardens planted, a pond readied for grandsons and a life devoted to family continued. He now referred to himself as a 'Gentleman Farmer' – returning to his roots.

Over the years, Roger and Leslie travelled the world, always finding new vistas and adventures. They often joined the University of Akron 'Tom's Tours' over the years. They went on safaris in Africa, in-depth visits to New Zealand, Iceland and Galapagos Islands, travelled the breadth of Europe and visited every state in the US. For years they spent vacations on horseback in Colorado, often being joined by family and friends. Roger and Leslie celebrated their 50th anniversary in the Tuscan hills of central Italy and along the Amalfi Coast.

It seemed that his last year of life was spent getting everything in order. All the trees and bushes were pruned, hay baled to see the horses through the winter, downed trees in the woods were sawn, important documents updated and always drawing close to family. Then he planned a 3-day get away in southern Ohio at the 'Wilds'. Roger and Leslie fed giraffes, were surrounded by a herd of rhinos, petted an overly friendly camel, watched cheetahs race across a hilltop pasture and stayed in a Yurt at night. The trees were in full autumnal splendor. Roger said that he couldn't recall another trip where not one thing went wrong. And then he was gone.

He will be greatly missed, but his legacy will live on through the countless wonderful memories of family and friends. He is forever in our hearts.



Field Camp 2020. Julia Belopotosky and Lauren Kouri examine a fault bend fold in Ohio



JJ Kullberg and Dr. Peck at Cleveland Shale.



Julia Belopotosky performs a percolation test.



Moe Slinger, Maguy Kitoko, and Missy Rego doing pace and compass map.

Scholarly Activities

(Current or past Geosciences students are in italics and Geosciences faculty are in bold print)

PUBLICATIONS

- Andronowski, J.A., Davis, R.A., and **Holyoke, C.W.**, 2020. A sectioning, coring, and image processing guide for high-throughput cortical bone sample procurement and analysis for Synchrotron Micro-CT. *J. Vis. Exp.*, v. 160, e61081, doi:10.3791/61081.
- Chen L., Zhao W., Wang Z., Gao M., and **Sahai N.**, 2020. Structure-activity relationships of hydroxyapatite-binding peptides. *Langmuir* 36, 2729-2739.
- Dalai P., and **Sahai N.**, 2020. A model photoheterotrophic protometabolism across protocell membranes promoted by photocatalytic minerals. *J. Phys. Chem. C* 124, 1469-1477.
- Goddard, R.M., Hansen, L.N., Wallis, D., Stipp, M., **Holyoke, C.W. III**, Kumamoto, K.M., and Kohlstedt, D.L., 2020. A subgrain-size piezometer calibrated for EBSD. *Geophysical Research Letters*, 47, e2020GL090056, <https://doi.org/10.1029/2020GL090056>.
- Kambesis, P., **Sasowsky, I.D.**, and Moore, B.P., 2020. Sinkholes and karst in Puerto Rico; picturesque and problematic, in: Land, L., Kromhout, C., and Byle, M. (eds.), Proceedings of the 16th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst, San Juan, Puerto Rico: NCKRI Symposium 8. Carlsbad, New Mexico: National Cave and Karst Research Institute, p. 278-286.
- Kronenberg, A.K., Ashley, K., Francis, M., **Holyoke, C.W.**, Jezek, L., Kronenberg, J., Law, R.D., and Thomas, J., 2020. Water loss during dynamic recrystallization of Moine thrust quartzites. *Geology*, v. 48, p. 557-561, doi: 10.1130/G47041.1
- Luo J., Ye S., Ustriyana P., Wei B., Chen J., Rhee E., Hu Y., Yang Y., Zhou Y., Westdemiotis C., **Sahai N.**, and Liu T., 2020. Unraveling chiral selection in the self-assembly of chiral fullerene macroions: effects of chiral components including counterions, co-ions or neutral molecules. *Langmuir* 36, 4702-4710.
- Miller R.B.*, Sadek, A., Crouch, A.L., Floyd, J.G., Drake C.A., Stevenson, B.S., Crookes-Goodson, W., Monty, C.N., and **Senko, J.M.**, 2020. Novel mechanism of microbially induced carbon steel corrosion at an aqueous/non-aqueous interface. *Industrial & Engineering Chemistry Research*. 59: 15784-15790.
- Santangelo, Z.*, and **Senko, J.M.**, 2020. The influence of O₂ on the enrichment and activities of acidophilic Fe(III) reducing bacteria. *Geomicrobiology Journal*. 37: 564-571.
- Sasowsky, I.D.**, and Alexander, E.C. Jr., 2020. Sinkholes developed in sandstone, in: Land, L., Kromhout, C., and Byle, M. (eds.), Proceedings of the 16th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst, San Juan, Puerto Rico: NCKRI Symposium 8. Carlsbad, New Mexico: National Cave and Karst Research Institute, p. 307-314.
- Sharma, S.*, Lee, M., Reinmann, C.S., Punneo, J., Cutright, T.J., and **Senko, J.M.**, 2020. Impact of acid mine drainage chemistry and microbiology on the development of efficient Fe removal activities. *Chemosphere* 249: 126117
- Swisher, S.E.*, and **Peck, J.A.**, 2020. Vegetation changes associated with the Younger Dryas from the sediments of Silver Lake, Summit County, Ohio, USA. *Ohio Journal of Science*, 120(2): 30-38.
- Ustriyana P., Michel F.M., Wilson M.C., Harmon E., Chen J., Liu T., and **Sahai N.**, 2020. Oligo(L-glutamic acids) in calcium phosphate precipitation: Mechanism of delayed phase transformation. *J. Phys. Chem. B* 124, 6288-6298.
- Ustriyana P., Harmon E., Chen K., Michel F.M., and **Sahai N.**, 2020. Oligo (L-glutamic acids) in calcium phosphate precipitation: chain length effect. *J. Phys. Chem. B* 124, 6278-6287.
- Wang Z., Ustriyana P., Chen K., Zhao W., Xu Z., and **Sahai N.**, 2020. Towards the understanding of small protein-mediated collagen intrafibrillar mineralization. *ACS Biomater. Sci. Eng.* 2020, 6, 7, 4247-4255
- Zhou X., Dalai P., and **Sahai N.**, 2020. Semipermeable mixed phospholipid-fatty acid membranes exhibit K⁺/Na⁺ selectivity in the absence of proteins. *Life* 10, doi: 10.3390/life10040039. Special issue "Frontiers of Astrobiology."

ABSTRACTS AND ORAL PRESENTATIONS

- Barton, H.A.**, Parker, C.W., Kawaichi, S., Mulford, M.K., **Senko, J.**, Auler, A.S., and **Sasowsky, I.D.**, 2020. Subsurface microbial iron-reduction processes in the formation of iron ore caves. Goldschmidt abstract <https://goldschmidt.info/2020/abstracts/abstractView?id=2020004076>.
- Kullberg, J.*, and **Holyoke, C.W.**, 2020. Effect of foliation and lattice preferred orientation on viscous anisotropy. Abstract T032-0007 presented at 2020 Fall Meeting, AGU, 1-17 Dec.
- Razo, M.*, *Wagner, N.*, and **Holyoke, C.W.**, 2020. Effects of melt interconnectivity on strength of a fine-grained gneiss. Abstract T032-0005 presented at 2020 Fall Meeting, AGU, 1-17 Dec.
- Rego, M.* and **Peck, John A.**, 2020. Recent urban environmental impacts as recorded in laminated sediment from Summit lake, Akron, Ohio. *Geological Society of America Abstracts with Programs*, v. 52, no. 6, doi: 10.1130/abs/2020AM-354475
- Sasowsky, I.D.**, and Bullerjahn, G.S., 2020. A new look at major karst springs of north-central Ohio. *Geological Society of America Abstracts with Programs*, v. 52, no. 6, doi: 10.1130/abs/2020AM-359223.
- Wagner, N.*, *Razo, M.*, and **Holyoke, C.W.**, 2020. Influence of foliation orientation on melt interconnectivity and rock

strength in a natural fine-grained gneiss. Abstract T032-0008 presented at 2020 Fall Meeting, AGU, 1-17 Dec. *Waller, J., and Holyoke, C.W., 2020. Evolution of deformation mechanisms during strain localization in the scituate granite, Rhode Island, USA. Abstract T032-0004 presented at 2020 Fall Meeting, AGU, 1-17 Dec.*

Degrees Awarded

Spring 2020

Jason Cobb	MS	Geography/GIS
Maxwell Ott	BSGIS	Geography - GIS
Jorian Krob	MS	Geology
Zachary Alexander	BS	Geology
Gavin DeMali	BS	Geology
Emma Romesberg	BS	Geology
Jacob Waller	BS	Geology
Joseph Palte	BA	Geology - Earth Science
Tucker Cavanaugh	BA	Geology - Enviro Sci
Brooke Clayton	BA	Geology - Enviro Sci
Summer Ellis	BA	Geology - Enviro Sci
Eric Harper	BA	Geology - Enviro Sci
Alexandra Kahn	BA	Geology - Enviro Sci
Garrett Modd	BA	Geology - Enviro Sci
Kendall Weinsheimer	BA	Geology - Enviro Sci

Summer 2020

Taylor Barnum	BS	Geology
Alexander Lindner	BS	Geology
Julia Belopotosky	BA	Geology - Earth Science
Melissa Rego	BA	Geology - Enviro Sci

Fall 2020

Naif Aldawsari	MS	Geography/GIS
Nasser Alghamdi	MS	Geography/GIS
Daniel Deuble	BSGIS	Geography - GIS
Hanneh Hope-Taogoshi	BS	Geology
Lauren Kouri	BS	Geology
Shaelynn Nelson	BS	Geology
Anthony Perretta	BS	Geology
Maguy Salima Kitoko	BS	Geology
Janet Kodger	BA	Geology - Earth Science
Danae Greco	BA	Geology - Enviro Sci
Carley Yontz	BA	Geology - Enviro Sci

UA Geology Students Excel!



JJ Kullberg awarded Outstanding Graduate Student 2020

THREE GEOLOGY MAJORS HONORED FOR OUTSTANDING ACADEMIC PERFORMANCE



*Geology majors, from left, **Maria Razo**, junior; **Megan Ryan**, sophomore and **Nicole Wagner**, junior, have each received a \$1,000 academic award from the Ohio Oil & Gas Energy Education Program in recognition of their outstanding academic performance in their major field of study. This year is the second time Wagner has received this award from the Ohio Oil & Gas Energy Education Program.*

Giving to Geosciences

Support from alumni and friends – like YOU – is vital to the Department of Geosciences at The University of Akron because your gift is an investment in students!

When you give to scholarships or field camp, you eliminate financial hardships, allowing students to focus on their studies and graduate on time. When you make an unrestricted gift to the department, you provide funds to update labs and enrich programming, ensuring today's students continue to receive an outstanding academic experience. Give TODAY at uakron.edu/giving/GEO!

Donations received in 2020

Thanks to the following individuals, charitable funds and corporate matching funds, we received a total of \$24,057 in 2020. Thank you so much for your generosity!

DEPARTMENT OF GEOSCIENCES

Michael P. Angle
James V. Bikun
George J. Cherpas
Glenn C. Cranston
Connor D. Estes
Rene L. Fernandez
John M. Frank
Waldo J. Frlich
Patrick A. Harrington
Kelley A. Hartley
George D. Havale
Karen A. Heffley
Philip D. Heppard
Brian T. Huber
Patrick L. Noon
James D. Pennino
Thomas J. Quick
David N. Steer
Valerie J. Woodward

CORPORATE AND MATCHING FUNDS FROM

Benevity Fund
ConocoPhillips Company
ExxonMobil Foundation
Richard Lorson Family Charitable Foundation
Lubrizol Foundation
Shell Oil Company Foundation

ARTHUR E. BURFORD ENDOWED SCHOLARSHIP

George D. Havale

ENVIRONMENTAL MAGNETICS LAB

Gary M. Harris

GEOLOGY ALUMNI MEMORIAL SCHOLARSHIP

Mary Ann and Bruce E. Archinal Charitable Fund
Philip A. Fox

GEOSCIENCES FIELD EXPERIENCES

Charles E. Gross

DR. PAUL C. FRANKS ENDOWED SCHOLARSHIP

Frank A. Marsek
Richard Lorson Family Charitable Foundation

ROGER P. AND KATHLENE SNOBLE

ENDOWED SCHOLARSHIP

Natalie L. Gelfo-Michailides

Geoscience Program Awards

GEOLOGY ALUMNI SCHOLARSHIP - OUTSTANDING GRAD STUDENT GEOLOGY

Kullberg, Jonathan \$500

HSIN KWUNG CHEN ENDOWED FELLOWSHIP - OUTSTANDING GRAD STUDENT GEOGRAPHY

Cobb, Jason \$500

JAMES F. FITZGERALD, JR. MEMORIAL SCHOLARSHIP - OUTSTANDING SENIOR AWARD

Rego, Melissa (Enviro Sci) \$500

Waller, Jacob (Geology) \$500

ARTHUR E. BURFORD ENDOWED SCHOLARSHIP - OUTSTANDING UNDERGRAD GEOLOGY

Lor, Vang \$500

GEOLOGY LEADERSHIP AWARD

DeMali, Gavin \$200

Alexander, Zachary \$200

Romesberg, Emma \$200



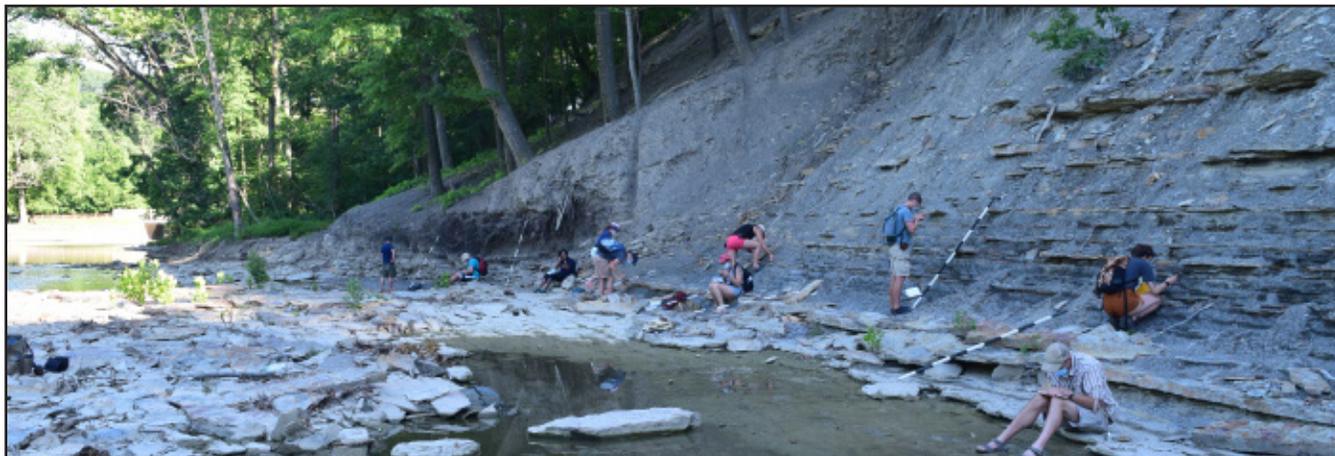
M.S. student Trevor Dwyer doing field work in 2020, with Dr. George Bullerjahn, BGSU, at Castalia Blue Hole.



Join us at:
Akron Geology Alumni

Your Support Makes a Difference!

Gifts from alumni and friends are vital to the success of Geosciences — both the program and the students! Each year, donor support makes it possible for deserving, hardworking students to attend field camp or afford tuition; for labs to be updated; and for programming to be enriched — all of which results in an outstanding academic experience. Your gift is tax deductible and 100 percent is used toward the designation of your choice. Please see the enclosed envelope for areas of greatest need or designate your gift to one of the following scholarships. Thank you for your consideration!



Field Camp 2020, with COVID social distancing sticks.

ARTHUR E. BURFORD ENDOWED SCHOLARSHIP FUND (638035)

Established in 2018, this scholarship will be awarded to full-time Geology students with demonstrated scholastic achievement, with an emphasis towards degree completion, as well as superior character and leadership. The scholarship is renewable provided recipients remain in good academic standing.

PAUL C. FRANKS ENDOWED SCHOLARSHIP FUND (637303)

The scholarship was established in 2010 in memory of Dr. Paul C. Franks to support geology majors interested in the resource side of geology (minerals, oil, gas, etc.). Preference is given to students from Northeast Ohio who are attending Geology Field Camp.

GEOLOGY ALUMNI MEMORIAL SCHOLARSHIP FUND (637348)

Established in 1991 with the express purpose of assisting eligible students to participate in the Geology Field Camp. This endowed fund provides support for a geology major with a 3.0 GPA or better who has completed at least 15 credits in geology. The student must have promise as a geologist and demonstrate enthusiasm, participation, interest and knowledge. Scholarship awards will be distributed each year from the fund's accumulated interest.

GEOLOGY ALUMNI SCHOLARSHIP FUND (636263)

This fund supports student attendance at Geology Field Camp as well as the Outstanding Graduate Student award. Students must be a currently enrolled, major having completed 21 credits of science, engineering, or math courses, have at least 8 credits in Geosciences and have a 3.3 GPA or higher.

JAMES F. FITZGERALD, JR. MEMORIAL SCHOLARSHIP FUND (637285)

Established in 1980, this scholarship honors the memory of James F. Fitzgerald, Jr., a 1970 geology graduate killed during the eruption of Mount St. Helens volcano while engaged in field work for his doctoral dissertation as a graduate student at The University of Idaho. This scholarship is awarded to an outstanding geology senior selected by the faculty of the Department and is given to the outstanding senior graduating within the current academic year who has at least a 3.5 GPA, responsibility, integrity, industry, originality, ability to communicate and professional attitude.

GEOSCIENCES VAN MAINTENANCE AND REPLACEMENT FUND (639516)

This fund allows the Department to maintain and periodically replace our fleet of two vans and pickup truck used for field trips and Field Camp.

GEOSCIENCES FIELD EXPERIENCES FUND (639572)

This fund helps to defray student costs for field-based experiential learning activities.

40 YEARS SINCE MT. ST. HELENS ERUPTED REMEMBERING FOUR SCIENTISTS

Compiled by Elaine Butcher from listed references



Aerial view of the May 18, 1980, eruption of Mount St. Helens as seen from the southwest. Columns of ash and volcanic gas reached heights of more than 24 km (80,000 ft) during the eruption. - public domain

Forty years ago, after two months of earthquakes and small explosions, Mount St. Helens cataclysmically erupted. A high-speed blast leveled millions of trees and ripped soil from bedrock. The eruption fed a towering plume of ash for more than nine hours, and winds carried the ash hundreds of miles away.

It was shortly after 8:30 a.m. on May 18, 1980 when Mount St. Helens erupted in Washington state. The eruption would quickly become the deadliest in U.S. history, killing 57 people. Autopsies showed that most of the people killed in the eruption likely died from asphyxiation after inhaling hot ash, according to the U.S. Geological Survey. The destruction caused more than \$1 billion in damage.

It has often been declared the most disastrous volcanic eruption in U.S. history. The eruption was preceded by a two-month series of earthquakes and steam-venting episodes, caused by an injection of magma at shallow depth below the volcano that created a large bulge and a fracture system on the mountain's north slope

Here's a look at four people who stayed near the volcano:

David A. Johnston

David A. Johnston, 30, was a volcanologist with the U.S. Geological Survey. He was monitoring Mount St. Helens from an observation post called Coldwater II on the day it erupted, according to the USGS. The post was thought to be relatively safe but was destroyed in the disaster.

The last transmission heard from Johnston occurred as the eruption happened, according to the Scientific American, Johnston said: "Vancouver! Vancouver! This is it!" before his radio signal went dark. His remains were never recovered.

Johnston is credited with saving many lives because he was outspoken about how dangerous the volcano was before the eruption. "(Johnston) helped persuade the authorities first to limit access to the area around the volcano, and then to resist heavy pressure to reopen it, thereby holding the May 18 death toll to a few tens instead of hundreds or thousands," the USGS said in a statement on its website.

An observatory built at Coldwater II was named the Johnston Ridge Observatory in his honor.

James F Fitzgerald

Jim attended The University of Akron; graduating in 1970, he was commissioned as a Second Lieutenant in the United States Air Force through the AFROTC program. Jim earned a B.S. in geology, went on to get his M.S. from University of Idaho, and was working on his Ph.D. in Vulcanology at the time of his death. At the time of his death he was engaged in field work for his doctoral dissertation as a graduate student at the University of Idaho.

He was camped on Spud Mountain, a few miles northwest of the volcano. His friend Trixie Anders, a volcanologist working on her PhD at University of Washington, had invited him to join her and her husband, Barry Johnston, at their campsite. He chose to stay there on the night of May 17th while Trixie and Barry stayed at a hotel in Toutle. He'd been doing fieldwork for his dissertation, and this must have been the opportunity of a lifetime for a volcanologist on the verge of earning his doctorate. He had joined the AGU in 1978, becoming a student member of the Volcanology, Geochemistry, and Petrology section. He was just 32 years old when the mountain blew. Trixie and Barry were on their way up to join him: they barely made it out ahead of the ash cloud. Jim's body was later recovered, and Trixie ensured a memorial was erected to him. He was awarded his PhD posthumously by the University of Idaho, and a scholarship was established in 1980 by family and friends. This endowed scholarship honors the memory of James F. Fitzgerald, Jr. of Canton, Ohio, a 1970 UA geology graduate and is awarded to an outstanding geology senior selected by the faculty of the Department of Geosciences.

Robert Kasewetter and Beverly Weatherald

Robert "Bob" Kasewetter and Beverly Weatherald were amateur volcanologists. Bob had a cabin at Spirit Lake, and he and Beverly were permitted to remain in his A-frame cabin on the lakeshore because he had a battery-operated seismograph there and was shooting a timed series of photographs of the volcano. He kept the car ready for a quick escape, but when the north flank failed, the avalanche buried them both within moments. Bob was 39; Beverly was 35.

Dedication is a multi-faceted word. All four volcanologists exemplified one of its meanings: they were dedicated

to their work. They knew it was dangerous. They knew there was a possibility they could lose their lives. But they knew the work was important. They, along with many others, took the necessary risks to further our understanding of volcanoes. They died doing what they loved. And they will never be forgotten.

Their names, along with all of the others who lost their lives, are engraved on the memorial at Johnston Ridge Observatory.

References

<https://www.usgs.gov/news/mount-st-helens-1980-eruption-changed-future-volcanology>

<https://www.king5.com/article/tech/science/environment/mount-st-helens/1980-mount-st-helens-eruption/281-9acd408-76da-4703-acab-261c023b12f4>

https://en.wikipedia.org/wiki/David_A._Johnston

<https://www.usatoday.com/story/news/nation-now/2015/05/17/mount-st-helens-people-stayed/27311467/>

<https://blogs.scientificamerican.com/rosetta-stones/dedication-the-geologists-who-died-at-mount-st-helens/>

<https://www.usgs.gov/media/images/a-geologist-remembers-mount-st-helens-eruption-37-years-ago-0>



USGS geologist Don Swanson (in red) and his colleague, Jim Moore, view a car filled with ash deposits from the May 18, 1980, eruption of Mount St. Helens. Additional photos of the 1980 eruption of Mount St. Helens are posted on the USGS Cascades Volcano Observatory website: https://volcanoes.usgs.gov/volcanoes/st_helens/st_helens_gallery_23.html. - Public Domain

**Keep UA up to date on your personal
information and accomplishments/news, go to:
www.uakron.edu/postyourpride**

**The
University
of Akron**

Department of Geosciences
Buchtel College of Arts and Sciences
Akron, OH 44325-4101

First Class Mail
U.S. Postage Paid
The University of Akron