

The Dickin-stone-ian

Earth Sciences
Newsletter 2022

Greetings from Carlisle PA and the Department of Earth Sciences!

It's great to be writing to you all after another two years of interesting and exciting times at Dickinson College! Not only does the college now have a president who has frequently spoken publicly about the influence of geology on his judicial career, but we have a new tenured faculty member (Dr. Alyson Thibodeau) who is taking the reins of the department chair for the next three years. Our two most recent additions to the ERSC department (Aly and Dr. Jorden Hayes) are dynamic and have added a number of new dimensions to our department and for our majors. We have continued to move the department in important directions over the past two years, COVID notwithstanding. Our majors now choose 4 of 6 courses for their 300-level core department requirement, including two different geophysics courses (only one can count for the 4 required courses but of course many students are taking both with the second counting as an elective). The opportunities for our majors to take geochemistry and geophysics courses as part of our curriculum help keep these foundational sciences at the center of our educational planning.

The College more broadly has now picked up the mantle of geospatial reasoning as a core part of its curriculum, and we have strengthened our connections to the program by having two different faculty assisting with the teaching of GIS (Pete and Ben). While we had always encouraged our majors to pick up this critical skill, teaching in the formal curriculum is a new step to increase our involvement in this new and important, growing college program. While not integrated into the broader program yet, we also continue to expand our own remote sensing capabilities through the use in research and coursework of UAVs (a.k.a. drones). Both Jorden and Ben are conducting research near campus (e.g., the College Farm) and in more remote locations (Georgia, California, Chile, Iceland) with UAVs, and we will continue to expand our fleet in the near future with a move to a larger UAV with many more capabilities for training students potentially for gas collection, multispectral imaging, and possibly even LiDAR.

In a similar vein, we also have positioned the earth sciences to be one of the on-campus cornerstones of Dickinson's fledgling master's program in Managing Complex Disasters (Marcus and Ben), which has significant potential for growth if properly advertised for the rising generations of college-graduates who increasingly understand the needs of our rapidly changing planet. We also are continuing to be one of the leading departments for the alumni travel programs (2022 Iceland Northern Lights trip led by Ben) and are continuing to be at the heart of the growing Arctic Studies program with faculty-led student trips to Iceland (Aug. 2021 and May 2022) and the Canadian High Arctic (July 2022).

While we hope that COVID disruptions are largely behind us, we all know that these sorts of events are likely to occur on a planet with extensive global travel and increasing numbers of global environmental disasters. We developed many innovative ways to teach during the disruptions, including shipping rock and mineral samples to students and designing virtual field trips. We are hoping for our first major disruption-free year in 2022-23, but we are now also much better prepared to respond rapidly to any future disruptions. For all of you who gave the college extra support over the past two years, I can assure you that it was much needed and well-utilized by our department! Our lab technician Rob Dean was indispensable in preparing materials to be sent across the country over the past year, reminding us how lucky we are to have dedicated help!! Deb Peters quickly transitioned to running our on-line department meetings and kept us all organized from her South Mountain retreat, which we desperately needed. So as a well-trained team should do, we pulled together to help one another through the COVID challenges for our students and earth science majors.

Things to look forward to in the coming year:

Prof. Edwards completing his second stint as department chair as of 1 July 2022!

A full-return to in-person classes and fieldtrips!

Our 10 year departmental review, for which we will be seeking alumni input in the coming months...

With best wishes to all of you for your health and happiness, Ben

Inside this issue:

Department and Campus News	1-10
Faculty & Staff Updates	11-18
Alumni News	19-34
Contact Information	35

Global Experiences

by Ben Edwards



The August 2021 Globally Integrated Study program took 8 students, all of whom had taken ERSC 250 Introduction to Arctic Studies in Spring 2021, to Iceland for 10 days. Highlights of the trip included seeing Gigjökull glacier, puffins, hiking at Kerlingarfjall, and the active Geldingadalur lava flow at Fagradals, on the Reykjanes Peninsula.

The first of 3-4 years of fieldwork in Chile began this January, with Ben and ERSC major Ian Shull traveling to the Lake District of central Chile to begin identifying potential evidence for glaciovulcanism at Villarricca Volcano. As part of this NSF Frontiers research, Ben will take Dickinson students over the next 3 years to Chile to participate in a large research effort to test the idea that the shrinking Patagonia Ice Cap may have affected the activity of at least 6 different volcanoes in central Chile.



The March 2022 (delayed from 2021) Dickinson Northern Lights expedition to Iceland was a glowing success! We saw the aurora borealis in shades of green our first night and spent the rest of the trip exploring Iceland at its snowy best. Highlights included eating freshly caught sea food (literally being unshelled as we watched and ate) during an afternoon cruise in Breiðafjörður, tasting rotten shark, seeing the amazing glacial lagoon Jökulsárlon and its 'diamond beach', and eating freshly made tomato soup while sitting in the greenhouse at Freðheimar where the tomatoes were being grown. Be on the lookout for future alumni trips (or feel free to email Alumni Affairs with suggestions).





The May 2022 Globally Integrated Study program took 7 students plus alumnus Barbara Faulkner, all of whom had taken ERSC 250 Introduction to Arctic Studies in Spring 2021/22, to Iceland for 10 days. Highlights of the trip included seeing Gigjökull glacier, learning about 100 percent use of fishery catches, hiking to Kvíarjökull glacier in Skaftafell National Park, seeing the now inactive Geldingadalur lava field at Fagradals, exploring hidden waterfalls and a ferry ride to Heimaey.

Endowed Departmental Funds (Opportunities to help support our students.)

NAME	DESCRIPTION
David and Cary Cassa Extended Field Trip Fund	It is used by the Department to help subsidize student expenses for extended field trips. The trips supported will be beyond those ordinarily associated with regularly offered courses. Trips will occur either every year or every other year. Decisions about expenditure of the funds will be a joint decision of the Department faculty.
The Henry Hanson Research Prize	It is awarded to an outstanding student in support of their independent research project. The money will be used to help pay for expenses such as travel for field work, purchase of research equipment, software, supplies, etc. Travel to professional meetings can be supported, but only in so far as it is related to the student's research. While field work should be encouraged, support of laboratory work will also be appropriate. The award recipient will need to demonstrate initiative, curiosity, creativity, and promise in the field through a selection process which will be conducted by the Department faculty. Based on cumulative grade point average and a formal application submitted by each student. This application will include a complete research project proposal including an abstract, a hypothesis, an outline of their experimental design, a discussion of proposed data analysis techniques, a summary of how they plan to present their results, and a proposed budget for the project. This prize was established in honor of Professor of Geology Henry Hanson. It will normally be awarded annually in May at the year-end picnic with the moneys being available for use either over the summer or during the course of the following academic year. The selected student will be listed in the Convocation program at the beginning of the following fall semester.
Potter Lectureship	This lectureship was established by alumni, colleagues and friends in 2004 to honor Emeritus Prof. Potter who retired in 2005 from Dickinson. It provided an opportunity for our students to meet and engage established scientists and to have discussions about their research, career paths, graduate school and career opportunities beyond the limestone walls.
The William Vernon Research Prize	It is awarded to an outstanding rising senior Earth Sciences major in support of his or her laboratory or fieldwork or travel to present results at a recognized professional conference as part of their senior independent research project. The award recipient will be chosen through a selection process which will be conducted by the Department faculty based on grade point average and a formal application.

Endowed Departmental Funds (cont'd)

NAME	DESCRIPTION
The William Vernon Research Prize (cont'd)	This application will include a complete research project proposal including an abstract, a hypothesis, an outline of their experimental design, a discussion of proposed data analysis techniques, a summary of how they plan to present their results, and a proposed budget for the project. This prize was established in honor of Professor William Vernon, the founding member of the department. It will normally be awarded annually in May at the year-end picnic with the moneys being available for use either over the summer or during the course of the following academic year. The selected student will be listed in the Convocation program at the beginning of the following fall semester.

Related Endowments

NAME	DESCRIPTION
Robert Allan Jansen Memorial Student-Faculty Research Fund	It is awarded by the College's Research and Development Committee for a student-faculty research team involving an Earth Sciences (first choice) or Environmental Sciences/Environmental Studies (second choice) sophomore or junior (or to a sophomore or junior in a closely related field of study in the sciences).
Jeffrey Niemitz Endowed Student Research Fund	It is awarded by the College's Center for Sustainability Education to a student researcher in Earth Sciences (first preference), Environmental Sciences/Environmental Studies (second preference) or a closely related field. It is preferred that the Fund shall be used to support a research project involving or closely related to the sustainable use of Earth's natural resources in disadvantaged communities around the world. The research project would ideally aim to solve an existing or potential challenge related to the use or misuse of natural resources. Additionally, educating communities about the benefits and holistic value of sustainable living should be incorporated as part of the research project. A tangible outcome (publication, presentation, etc.) from the research project is highly desired. When fully funded by existing pledges by the year 2020, the endowment will generate an annual student research grant of at least \$5000. This grant will be awarded to a student to fund scientifically-based research around the world.
The Dickinson Fund	Working in line with the college's mission and core values, the Dickinson Fund supports educational access for students in need. It funds sustainability efforts. It purchases lab equipment and art supplies. It is part of why this college has such a track record of success in all fields, including its exceptional financial management and fiscal responsibility.

Capstone Experience for Current Majors

Earth Sciences majors have a senior capstone requirement designed to integrate their previous coursework in the department before they graduate. They can fulfill it in one of three ways depending on their career trajectory: field camp, professional internship, or student-faculty research. The diversity of capstone experiences our students are getting is impressive!

Our current batch of seniors (class of 2022):

Field camp:

- Charlie Coriell did summer field camp out west through Southern Illinois University. He is starting with Environmental Resource Management, an international environmental consulting firm, in their Princeton, NJ office after graduation.

Student-faculty research:

- Sam Arnold did student-faculty research with Marcus Key on *New evidence for the Corotoman re-use hypothesis for the stone floor of colonial Christ Church, Irvington, VA*. It was published in the Quarterly Bulletin of the Archeological Society of Virginia. Sam is currently working on his M.S. in GIS at Penn State.
- Elizabeth Zink did student-faculty research with Ben Edwards on *Xenoliths/cumulate inclusions from the 2010 Eyjafjallajökull eruption in Iceland*. She will be employed at Acadia National Park doing bird surveys.
- Liz McCreary did student-faculty research with Marcus Key on *Historical geoarcheological sourcing of the exterior stone stairs at colonial Stratford Hall, Virginia*. Liz starts a geoarcheology masters program at Indiana University Pennsylvania in the fall.

Juniors (class of 2023):

Student-faculty research:

- Christian Knight will be doing research with Ben Edwards on *Extending the record of glacier change on southern Ellesmere Island, Nunavut, Canada*.
- Madelaine McDowell will be doing research with Marcus Key on *Growth checks in erect bryozoans as climate proxies*.
- Patrick Noonan will be doing research with Ben Edwards on *Characterizing methanogen microbial communities on rural farmland at the Dickinson College farm*.
- Dylan Rasinski will be doing research with Marcus Key on *Ontogenetic morphologic variation in ceratopsid dinosaur frills*.
- Sarah Wood will be doing research with Ben Edwards on *Carbon cycling at the Dickinson College farm*.

Professional summer internship:

- Evan Bechtel, Technical Scientific and Engineering Intern, PA Geological Survey's minerals section, Middletown, PA
- Ian Schull, BL Companies in Meriden, CT
- Peter Scarborough, Geotechnical intern, Keller Management Services, Odenton, MD
- Claire Hallman, GIS intern, Langan Engineering and Environmental Consulting in Doylestown, PA
- Natalie Cist, Geo-environmental student teaching at Carlisle High School

Field camp:

- Matthew Foote is doing summer field camp out west through Lehigh University.

William Vernon Prize for Excellence in the Earth Sciences 2021 & 2022

Each year the faculty has the difficult task of deciding which graduating senior will receive the Vernon Prize for Excellence in the Earth Sciences. The prize is based on grade point average, service to the department and the college, and promise for the future.

Angelo Tarzona '21, was awarded the 2021 Vernon Prize for Excellence in Geology. His thesis titled, "Using Ground Penetrating Radar and Drone Imagery to locate lost graves at Mount Tabor Cemetery, Mount Holly Springs, PA helped to earn him the recognition.



This year's recipient is Elizabeth McCreary '22 who was awarded the 2022 Vernon Prize for Excellence in Geology, Liz's senior thesis titled, "Historical geoaarchaeological sourcing of the exterior stone stairs at colonial Stratford Hall, Virginia" helped to earned her the recognition.



Annual End of the Semester Events



The 2021 annual end of the semester event was held on the last day of class as usual, however we did not host our normal BBQ event and opted for an in-person ice cream social. The majors, faculty and staff met at everyone's Carlisle favorite, Masseys.

It was great to be back in-person and to see our students together again and enjoy the ice cream.



The 2022 annual end of the semester event was planned for a normal BBQ at Professor Edwards home but due to inclement weather, the event was moved indoors to the Kaufman student lounge. Despite the weather, there was plenty of good food, good friends and much to celebrate as we ended another academic year.



Potter Lectureship Going Strong

The Potter Lecture was established by alumni, colleagues, and friends of the department in 2004 who set up an endowed lectureship to honor Emeritus Professor Noel Potter who retired in 2005 from Dickinson College.

	Name	Affiliation
2005	Richard Alley	Pennsylvania State University
2006	Bruce Marsh	Johns Hopkins University
2007	Rob Thieler '87	USGS-Woods Hole
2008	Jeremy Jackson	Scripps Institution Oceanography– University of California at San Diego
2009	Mark Brandon	Yale University
2010	John Eichelberger	USGS-Reston
2011	Katie Huntington	University of Washington
2012	Frank Pazzaglia	Lehigh University
2012	David Bottjer	University of Southern California
2014	Rudy Slingerland '69	Pennsylvania State University
2015	Susan Brantley	Pennsylvania State University
2016	Lonnie Thompson	Ohio State University
2017	Ted Daeschler	Drexel University
2018	Steve Holbrook	VA Polytechnical Institute & State University
2019	William Fitzhugh	Arctic Studies Center, Smithsonian Institute
2021	Dorothy Merritts	Earth & Environmental Science, Franklin & Marshall
2022	Kevin Padian	University of California, Berkeley

17th Annual Potter Lecture

11/17/21- Dr. Dorothy Merritts, Professor of Earth and Environmental Science at Franklin and Marshall College in Lancaster, Pennsylvania. The lecture was entitled, "When natural isn't what we thought but matters to dam removal and stream restoration in Pennsylvania". Dr. Merritts is a geologist with expertise in streams, rivers, and other landforms, and on the impact of geologic processes, climate change, and human activities on the form and history of Earth's surface. Her primary research in the eastern United States is in the Appalachian mid-Atlantic region, where she is investigating the role of human activities in transforming the upland woodlands and valley bottom wetland meadows of Eastern North America to a predominantly agricultural and mixed industrial/urban landscape since European settlement.

The 18th Annual Potter Lecture

3/24/22— Dr. Kevin Padian, Emeritus Professor of Integrative Biology at the University of California, Berkeley, Curator of Paleontology, University of California Museum of Paleontology. The lecture was entitled, "Evolution, Education, and "Intelligent Design": A View from the Dover Trial". Dr. Padian's area of interest is vertebrate evolution, especially the origins of flight and the evolution of birds from theropod dinosaurs. He served as an expert witness for the plaintiffs in the Kitzmiller v. Dover Area School District trial, and his testimony was repeatedly cited in the court's decision.

Professor Marcus Key



Greetings!

Compared to my last newsletter update, my news is MUCH better. Peter is almost 20. He finally made it to college after a gap year. His vision and word recall deficiencies have not improved, but his spirits have! All the other kids are great. Maria and I are empty nesters again.

As the pandemic lock down has passed, it is great to be back in the classroom and lab and in vans going on field trips, finally without masks! It was hard to teach, and it was hard to learn online. It is great to be back in the field with my students! A couple of years ago, I taught a timely first year seminar on natural disasters. It was so much fun that I decided to teach it a second time this coming fall. It is the first time I have ever repeated a first year seminar. This fall, I am also teaching Paleontology, the first time in four years.

My research has continued to focus on geoarcheology and bryozoan fouling. The geoarcheological work mostly uses fossils to determine the source of Colonial building stones imported from Europe into the Chesapeake Bay area. The bryozoan fouling work has extended from the Recent back into the Ordovician documenting the evolutionary trajectory of bryozoans growing on mobile hosts such as trilobites,

crabs, and lobsters. It is good to finally work with students face-to-face and go back to face-to-face meetings with students presenting their research.

Sincerely,
Marcus

Professor Peter Sak



It has certainly been a different past couple of years, and I hope this note finds you all doing well. In the classroom, I continue to enjoy teaching Structure, Field, Geomorphology, and Introductory Courses and have recently begun teaching Intro to Geographical Information Science (GIS). It was particularly challenging teaching Field Methods remotely during peak Covid, but fortunately the students were accommodating and willing to work the videos that I was able to capture using a GoPro. Only had one near miss where a bull in a pasture charged at me when I returned to collect a few additional measurements for the students, and no there is no recording of me running frantically to safety. The entire process of adapting to remote teaching was surprisingly helpful for seeing which course materials were most relevant and the thinking of new ways to teach those topics. The students certainly rose to the challenge and demonstrated seemingly limitless patience and adaptability. What an experience, and one I hope to never experience again...On the research front, I have been fortunate to work with a highly motivated group of students. We have worked on the two unrelated topics of tropical weathering mainly focused on the Caribbean Island of Basse-Terre in Guadeloupe and using field mapping to constrain geologic cross sections across the central Appalachian Mountains. The weathering project has been a very productive and has grown in scope from individual weathering

clasts, to watersheds, to island wide landscape evolution. Amazing how the research seems to spark additional new questions. Similarly, the cross-sections and inclusion of detailed seismic data are revealing how different units respond to the shortening. Beyond campus, Maya (now 14) keeps Linda and I busy, and she continues to play and ice hockey and participate in Odyssey of the Mind. It has been awesome to watch her develop and refine her interests.

Hope to see you in the near future during reunion weekend, GSA, or the next time you are passing through Carlisle.

Professor Ben Edwards



The past year has been a full one, and I think the next may be even more so as we develop our arctic studies, geospatial and UAV programs at Dickinson. I've kept busy teaching about the arctic and earth materials, UAV planning and image processing, traveling to the arctic with students and alums, and continuing with several research projects related to arctic and volcano science, including starting a new 5 year research project on several active volcanoes in Chile.

My arctic teaching was expanded in two different ways this past year. In the summer I co-taught the introductory GIS course (ERSC 218) with alumnus Will Kochtitzky (2016) and in the fall a course on the arctic as part of our new and expanding Masters in Managing Complex Disasters program. I had three graduate students in that course, all of whom are alums and all of whom were fantastic to teach. The course gave the students an introduction to arctic geography and the cryosphere, and then focused on arctic-themed disasters and policies. This gave me the opportunity to build my background in those areas for use in the undergraduate arctic studies program as well as bringing a new set of alums into the Dickinson arctic program. Several of the policy discussions from the fall prepped me to doing some similar activities in the spring ERSC 250 Introduction to Arctic Studies course, which ended up with 25 students. While the course cap has been 15 students in the past, I decided to expand the capacity at least for this spring. This made for a busier course, but as usual I had some truly excellent individual projects (research papers on the Russian gulag system, printmaking artwork with supporting background research on a famous Inuit artist, even an Icelandic knitting project). For the group projects students were assigned to an group whose geographic focus was one of the six 'great' arctic river catchments (Ob, Lena, Yenisey, Kolyma, Yukon, Mackenzie), and the presentations were thorough and enlightening.

As part of continuing efforts to provide students with opportunities for global experiences, I took 7 students and one alumnus to Iceland after graduation for a 10-day experience to solidify their classroom coursework. I also did this last fall, with 8 students traveling to Iceland in August and experiencing both fire and ice, as they got to see active lava up close at the Fagradals eruption. All the students from both trips seemed to have had excellent experiences. We did have COVID moments, but we were able to handle those safely and complete our agenda. Two of the 7 students are now alums, and I am sure they will help spread the word to other alums about our growing strength in the Arctic, as are the 20 or so alums that went on the March 2022 Northern Lights expedition to Iceland with me just over two months ago. I think the alum trips are raising lots of interest from Board members in the Arctic Studies program and are a good reminder of the reach of the Department of Earth Sciences, so also good to have their approval and support.

We have been making slow but steady programmatic progress towards an Arctic Studies program. Kristin Strock (ENV) and I are editing the document which will be submitted to the Academic Programming Committee to hopefully establish a certificate program in Arctic Studies this fall. As part of that, we are also leading a faculty reading group sponsored by the Clarke Forum this fall with 8-10 participants that will have an arctic theme (Marcus is also participating in this). We are already lining up potential speakers and will plan the group readings over the summer. I am also leading a faculty discussion session in the fall on why we should care about climate change in the Arctic in preparation for Dickinson's fall Climate Summit. Hopefully this will prepare faculty to ask lots of questions at the climate summit, organized in part to honor the Internal Panel on Climate Change (IPCC), which was awarded the Rose-Walters prize for 2022. Alumnus John Pohl and I have also been slowly but surely building an Arctic and Alpine Image Lexicon, and I am hoping to be able to get the complete skeleton of that online before the fall semester! We are traveling together with Susan and two rising second year students (Olive Stern and Casey Pahre) to Axel Heiberg Island in the far north in a few days to gather more images and introduce the next generation of Dickinsonians to the Arctic.

I am also staying busy with scholarship. In addition to the new article in *Frontiers in Earth Sciences* on cryospheric influences on volcanic systems (Open Access: <https://www.frontiersin.org/articles/10.3389/feart.2022.871951/full>), I helped write an article for the April issue of *Natural History* magazine entitled 'Tuyas: landforms of fire and ice' with a focus on tuya volcanoes in Canada. With collaborators and Dickinson alums we also have two more manuscripts on our work on Icelandic volcanoes in preparation. I am presently supervising three ERSC senior research projects, two of which are being conducted at the College farm with a focus on carbon storage in soils and the microbial methane cycle, and the other is finishing up work on our Ellesmere-Devon islands glacier change inventory. I have also begun the first year of my new 5 year glacier-volcano project in central Chile, with some very excited preliminary results from our fieldwork at Villarrica volcano. I had student with me in Chile this first season but hopefully will have more in the next two years. Chile had quite strict COVID protocols that we were able to navigate, but I wanted to keep logistics simple the first season so only took one student. We initiated fieldwork at two different volcanoes and had an awesome-but-strenuous 5 day backpacking camp in a remote section to which we hopefully will return next year. As a part of the outreach component of this NSF project, I helped to teach a 5 day volcano-ice field course for a select group of ten Portland Community College students 20-24 June this year. We will also be doing a similar course in the Bend area in 2024, as well as two similar field courses in Chile (2023 and 2025; probably in Spanish).

I am continuing to lay the groundwork for future Iceland research projects even as we focus on completing several ongoing ones. This latest trip was coordinated through GEO Camp, which is a developing program in Iceland that facilitates earth sciences-related educational experiences in Iceland. I've gotten to know the people who run this quite well and am in conversation with them about being involved in the development and expansion of their program to include the Faroe Islands and Greenland. Running a two-week field camp that gets students to the only ice sheet in North America and some of the world's oldest rocks, as well as the more accessible ice caps in Iceland and some of the world's youngest rocks would be a world-class and life-changing experience for students in Dickinson's Arctic Studies program. So I am working to strengthen that connection, in addition to several others including ongoing talks with the Smithsonian Arctic Studies Center about possible future collaborations. I know many of you have Arctic connections and experiences, and I'd love to hear about them when you have time to email or phone!

Cheers!
Ben

Associate Professor Alyson Thibodeau



Hello alumni and friends,

My biggest professional news is that I was promoted to associate professor with tenure in June of 2021! I am excited to continue my career here and to work with the next generation of Dickinson students. I will also be assuming the role of department chair starting July 1 and I am looking forward to new opportunities to meet and collaborate with our fantastic alumni. Please feel free to reach out anytime!

On the research side, I am busy catching up on projects that got delayed due to the pandemic, including several new projects that use lead and strontium isotopes to trace the geological source(s) of turquoise from archaeological sites in northern Mexico, eastern Arizona, and Texas. I also continue to study mercury deposition and burial in sediments and soils here in PA and to collaborate on projects that investigate mercury in sedimentary records as a proxy for volcan-

ism associated with the creation of large igneous provinces. In addition, I have been focusing on ensuring lab facilities here at Dickinson can support these (and other) research activities and thinking about how our lab capabilities could be expanded in the future to support a wide range of teaching- and research-related pursuits.

Over the past two years, much of my teaching has been focused at the introductory level, including working to further develop the department's new gateway course, "Foundations of Earth Sciences" (ERSC 151). It has been extremely interesting to repeat the same course several times using a combination of different delivery methods (i.e., remote vs. hybrid vs. in-person), and while there have been many pedagogical challenges, the unusual circumstances of the past few years have created space to innovate and experiment with new assignments, labs, and course materials. I also continue to teach my upper-level classes in archaeological geology and isotope geochemistry, and I can't wait to teach ERSC 331 (Geochemistry) to the current crop of ERSC majors this fall.

On a personal note, my partner Chris and I bought a house in Boiling Springs in Fall of 2020 and have been enjoying the views of South Mountain, open space, and easy access to a great trail system. My son Simon, who just turned 3, loves feeding the ducks in Children's Lake and is now riding his scooter and balance bike everywhere.

Be well, everyone!

Assistant Professor Jorden Hayes



Greetings from the High Sierra!

This year's update is being written in the midst of fieldwork in the Sierra Nevada. The last few years, as with many, have been a wild ride. Yet exciting things continue despite the challenges of the pandemic.

At the end of 2020 I was very fortunate to be awarded two NSF grants. The first is for a thematic cluster associated with [CZNet](#) – NSF's Critical Zone research program. Our thematic cluster, Bedrock, examines the deep critical zone to better understand how bedrock conditions below shape the processes above (e.g., erosion, hydrology, and ecosystem productivity). We have two very ambitious geophysical field campaigns planned. Last summer we were in South Carolina and Georgia examining piedmont weathering. This work included two Dickinson students – Natalie Cist ('23) and Evan Bechtel ('22). This summer we are in California at sites in the San Gabriels, San Jacintos, and Sierra Nevada. You can learn more about this work at criticalzone.org/bedrock OR follow us on Instagram/Twitter [@BedrockZone](#). Team Bedrock is also proud to have a Dickinson alumni, Ben Eppinger ('20) participating as a graduate student at Virginia Tech. Also - Ben's undergraduate research using seismic anisotropy to understand critical zone weathering was recently published by JGR Earth Surface and can be found [here](#).

The second NSF grant allows for the continuation of the [GNOMES program \(Geophysics of the Near-surface: an Outdoor Motivational Experience for Students\)](#). We were finally able to resume our field experience this year after a two-year hiatus due to the pandemic. This year Earth Sciences alumni, Angelo Tarzona ('21) led the near-peer mentors. Angelo is also a geophysics graduate student working on GPR data over Antarctic glaciers at Georgia Tech. You can see more about GNOMES including video highlights on my Twitter [@WiggleTracers](#).

On the home front we welcomed our second daughter, River Eirene Hayes in mid-January. Big sister Noelle is loving her new role. Isaac and I are incredibly blessed by these two extraordinary little souls. It turns out, River makes a pretty great field companion. She joins me this summer and already has ~5 weeks of fieldwork under her belt at only 5 months old!

After having sabbatical and parental leave, I'm looking forward to being back in the classroom this fall! I miss students! I hope you are well and look forward to hearing from our alums – perhaps at AGU this fall?

Be well,
-Jorden

Deb Peters, Academic Department Coordinator

Hi Everyone,

Another two years has flown by in the department and things are starting to get back to a more normal feel. I should say as "normal" as COVID will permit. For the past two years, I have worked a "hybrid" type schedule and was able to work 3 days in person and 2 remotely. This afforded me the best of both working worlds. I was able to connect with students and faculty on those in person days and on the remote days I was able to stay focused on my projects. We shall see what the fall semester (and COVID) will bring.

On the personal front, we are starting to think about the "R" word....retirement that is and we are already talking about those motorcycle trips out west when we will have more time to explore. We are looking forward to the next chapter and seeing the "geology" that everyone has been talking about since I've worked for the department.

That time is still a year or so away and I will be around for a bit. If you are in Carlisle, please stop by to say hello.

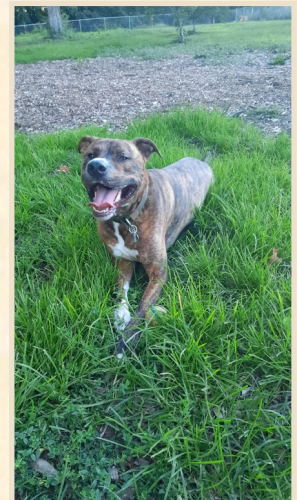
Robert Dean, Department Technician

Hello all from Kaufman Hall!

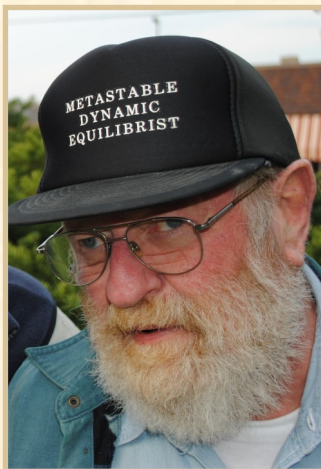
It's hard to believe, but I just celebrated 15 years at Dickinson! Like everyone else, the last couple were full of adjustments, adaptations, and patience in trying to navigate a new and different world. Fortunately, the pandemic did not impact my fly fishing.

Since the last update, my furry quarantine buddy (The Colonel) has doubled in size and now tops out at almost 100 lbs!

All is well here so please stop by if you are in town or say "Hi" if you run into me on the stream.



Noel Potter



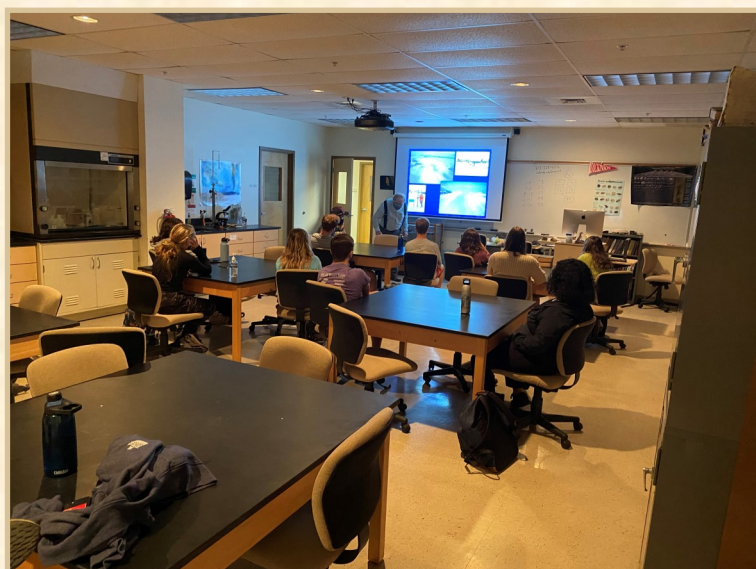
Helen and I are well, but moving a bit slower. By being a bit reclusive we have avoided covid. I think Helen will retire from work at the PA Survey later this year.

In the early stages of covid, because I wasn't an employee or student, I was banned from buildings at Dickinson. But last Summer I learned that I could enter the Department with a mask. I went back to going to the Department for an hour or two most weekday mornings. I wasn't there long before something didn't seem right. I finally figured out that all of the office doors were closed even though faculty were in. Turns out that the college's rules allowed people to remove masks if they were alone and office door was closed. In all my years I was proud that we had an open-door department, and now things had changed, in this case of necessity. Just recently in mid-April things have loosened up and masks are no longer required. I'm pleased to see that doors are open again.

Every so often I find myself driving on some of the secondary roads east and west of Carlisle. I think of the many years that majors worked as teams of two to map a modest sized area as part of the Field Geology course. We began in the 70's working east of Carlisle almost to Mechanicsburg and some of the last areas were near Newville to the West. For the most part areas were farm fields and pastures. In my travels now many of those pastures are housing developments and it would now be difficult to do the mapping in people's front and back yards. Just go on line and use Google Earth or Maps to see what it is like East and West of Carlisle. Note the warehouses West of Carlisle. Some of my pleasantest afternoons were with various of you wandering the fields and visiting outcrops. One day we were south of Carlisle and visiting the property of what in those days was Leo's dairy. As we went over a hill we heard a cow bawling. When we got closer it turns out she was having a calf. We went on our way to look at rocks, and when we returned there was the calf standing up nursing its mother.

I continue to enjoy the Potter Lectures. The one this past Spring was by Kevin Padian, the paleontologist who testified for the plaintiffs at the Dover Intelligent Design trial. It was nice to have Dickinson's current President John Jones who was the judge at the trial be at the lecture. I'm pleased to have had Judge/President Jones in Intro Geology in 1974.

I enjoy hearing from former students at pottern@dickinson.edu



Noel as guest lecturer in Professor Edwards Foundations of Earth Science class. (FA21)

Jeff Niemitz



Trish and I have now been retired for almost 7 years. It seem like yesterday I was still grading papers. I do not interact much with the College anymore because we are so busy with volunteering, visiting kids and grandkids, and traveling. With two kids in the Deep South and one in Indiana, we do a lot of driving to see them. When I'm asked to identify a rock by one of my grandkids, I feel a bit nostalgic for the teaching...but it quickly passes. I know very few of the present faculty.

We have become very involved in the homeless and disadvantaged communities of Carlisle. Recently we started helping an Afghan family acclimate to their new home after a harrowing escape from Kabul Airport last August. It is a family of eight, none of whom speak much English yet. So I am working on a few phrases in Dari. The cultural differences are stark but we are slowly starting to understand each other without a lot of *Google Translate*.

Our kids are doing well. Our son-in-law just got tenure at Valparaiso University and has a sabbatical fellowship at Cambridge University next year. So now we have an excuse to go back to England (as if we needed one). The grandkids are now 12 to 2 in age (see picture). They are growing fast and we do not get to see them all in one place very often, so we have to make it happen. Covid has not made this any easier.

Despite Covid we have been able to travel with significant amounts of preparation and a lot of stress. Last Spring we did a two week trip around the SW US in a camper van. Yes, I do not sleep on the ground any more. In October we made it to Israel for 11 days after two cancelations (unbelievable trip) despite the constraints of the Israeli government. We just made it in through a very small window of time before they closed the country again for Omicron. Next week we leave for 11 days in Greece on a cruise around the Aegean Sea and in September we are going to Tanzania for a safari. Christmas will most likely be in England. So we are doing it all while we can still walk without falling and talk somewhat coherently.

As I have said many times, if you are passing through Carlisle and we are here, please give us a heads up and we would love to have you stay with us on Conway St.

Cheers
Jeff

Alumni News

Rennie Rilling Museum of Earth Sciences



From left to right: Marcus Key, David Rilling '62, Rob Dean and Karina Rilling celebrate during alumni weekend the new trilobite exhibit based on the spectacular specimens donated by David for the Rennie-Rilling Museum of Earth Sciences.

CLASS OF 1967

Rumsey Young

After my abysmal GRExam results (the test was Connecticut River Valley...read Yale, Harvard, Dartmouth, Columbia centric. At least that's my story and I'm sticking to it,), I decided to "dodge the draft" that 1967 spring and enlisted in the U.S. Marine Corps. Not that safe a decision but my mind-set, as well as many of my Dickinson peers at the time, was to do my duty. Things worked out okay as I survived 14 years of flying fighters for the corps and went on to Captain jets for American Airlines for 32 years.

These days I've been retired for 16 years here in the northern Rocky Mountains and am enjoying my physical geology all over again...just in Montana. Sort of a full circle kind of thing.



CLASS OF 1968

George Pedlow

Wife Linda Morrow is my "rock hopping" buddy. She likes to hike in the woods, and I find neat outcrops to visit in the woods, so we have fun together hopping over logs and on the rocks. We've done parts of PA, NY, RI, MD, OH, WV, WY, CO, England, Scotland, Belgium, Germany, Luxembourg, France (and Nicaragua volcanoes while on mission trips there). I have taken up GPS surveying (at the cheap end of the tech price spectrum). And, I spend a lot of time putting land survey image overlays on Google Earth.

Also, putting Appalachian Basin Devonian & Carboniferous published depo environment maps on GE.

And, Linda and I were able to attend Bill Vernon's funeral.



CLASS OF 1968**Michael Conrad**

I retired from teaching Earth and Space Science at Cumberland Valley High School in 2007 after 42 years. That part of my life behind me, I continue my second career in broadcasting. Currently, I do most of the voice imaging for WIOO in Carlisle and voice-over work for several other Central PA clients. One of my hobbies, model railroading, has brought me back to geology. I recently created an HO scale Yellowstone layout complete with a working geyser and several bubbling hot springs.

Thomas Hoffman

After a three-year stint as Associate Professor of Earth Science at Minot State University (ND), I joined Consolidation Coal Company (now CONSOL Energy) in 1974 -2009. I held various positions in what is usually described as External Affairs. While I wasn't 'practicing' geology in those years, in representing a natural resource company in various public arenas my training as a geologist was always a useful foundational skill. Following my retirement from CONSOL in late 2009, I worked as a consultant and advisor to Walter Energy before retiring fully in 2015.

Like many others, the current pandemic derailed many of my plans. My wife and I had been working on a bucket list project of hiking every state park in Pennsylvania. Travel and overnighting in hotels while we accessed more remote parks was put on hold in 2020. We're hoping that we can resume this year. I was fortunate to be a student of the great Bill Vernon and Henry Hanson, and I continue to follow with interest the Department's growth and progress.

CLASS OF 1970**Michael Hozik**

I retired after 40 years on the faculty at Stockton University (Stockton State College when I first got there) in Galloway, New Jersey. I thoroughly enjoyed my time teaching and doing research at Stockton, but higher education was moving in directions that I was not comfortable with (too much bureaucracy) and I wanted some time to do other things while I was still healthy enough to do them.

We still live in Hammonton, New Jersey, and I am active in the town serving on the Land Use Board (combined Planning and Zoning Board) and the board of the Eagle Theatre, an Equity theater in Southern New Jersey. I also am President of the Church Council and St. James' Lutheran Church.

My wife and I own a vacation condo in southern Utah, and we try to spend 4 to 5 months a year there: 2-3 months in the winter and 2-3 months in the summer. The Red Rock country is a paradise for a geologist, and we enjoy our time there immensely.

CLASS OF 1971



Hadrian's Wall a Houstead's Fort in Northumbria, England in 2017

Molly Flower Eppig

From 1974-1979, I taught Earth Sciences in Manchester, NH

From 1979-1989, I raised two fine children.

From 1980-2000, I taught Earth Science in Hillsboro, NH

From 2000-2012, I taught Earth Science in Peterborough, NH

At Peterborough, I was the coach of the Science Bowl Team, assistant coach of the Ocean Bowl Team, and the coach of the Granite State Challenge Team

Both our sons earned their PhD: one in Physics, the other in Biology. They are data scientists.

Since 2012, I have been retired and enjoying life in New Hampshire and our vacation house in Prince Edward Island, Canada.

Lots of good geology at both places

George Lee

Our 3rd grandchild should come into the family in June - my daughter Katie and husband AJ are adopting their third child . My wife Cynthia and I both retired in December 2021. 4 weddings of nieces, cousins, and a daughter this year have us busy. Also put us down for a bucket list item. We are headed to the Running of The Roses/ Kentucky Derby.

CLASS OF 1972**Michael Gang**

After graduating Dickinson College with a BS degree in Geology I earned my MS degree from Penn State working primarily on the environmental effects of gas and oil drilling and coal mining in western Pa. Thereafter, I decided that I would return to central Pa to obtain my law degree. On graduation from Dickinson Law in 1977, I became an associate in the law firm of Morgan Lewis, becoming a partner in that mega firm in 1984. While I have practiced some environmental law over the ensuing years, most of my practice is in representing energy and utility companies in regulatory matters before state and federal agencies. In 2005, I left Morgan Lewis with 6 other lawyers to join Post & Schell, PC and became Co Chair of its Energy and Utility Group. In 2015, I became Chairman of the Post & Schell Board of Directors and continue in that position. I also have served for more than 25 years on the Board of Directors of The York Water Company, the oldest public company in America, having been formed by an Act of the Pennsylvania legislature in 1816. I also have served on the Board of the Central Pa Youth Ballet in Carlisle Pa..

**Randy Wallet**

Enjoying retirement and spending time with my four children and six grandchildren.

CLASS OF 1973



Jonathan Amos

Married 34 years
3 Sons

CLASS OF 1975

Lisa Lepofsky

Hi all. I am currently dividing my time between Philly and Macon, GA. I'd love to hear from folks and maybe grab a coffee.



Lisa Rossbacher

My husband, Dallas Rhodes, and I continue to enjoy living in New Mexico. We can't imagine a better place to have been during the pandemic. A hiking trail crosses our front yard, and our Dobergirl demands a walk every day. I continue to enroll in college classes that have included Spanish, Native American literature, web design, watercolor painting, and fundamentals of professional investigation. (I'm not planning to become a private investigator, but I think most of my classmates do!) I am writing a book, and Dallas and I both continue to volunteer in the community.

Although I have rotated off the board of the Geological Society of American Foundation, I am currently serving as vice chair of the Board of Directors for the California Council on Science and Technology (<https://ccst.us>), which focuses on bringing science into policy decisions in that state.

Dallas and I have both been working as extras (a.k.a., "background") on film productions in New Mexico, including the TV series Roswell, N.M. We are a "dancing couple" near the end of Episode 13, Season 3; a screenshot shows us in the background on the left. Dallas is wearing his Stetson and facing the camera, and my cowgirl hat is hanging down my back. (Although the series is about extraterrestrials living among us, we play humans. Or at least we think we do.) We also tried out for a big-budget film titled Oppenheimer (set in Los Alamos) which will premier in 2023, but when you realize the average age of the people involved in the Manhattan Project was 28, it's no surprise that we didn't get hired!

Dallas and I travelled some in 2021, but none of our hoped-for international trips happened. We look forward to opportunities to travel, visit friends and family, and see new places.

Very best wishes to my fellow geo-alumni!

The "dancing couple" in the background on the left is my husband (facing the camera and wearing a Stetson) and me (with my hat hanging down my back) appearing as background actors in the TV series *Roswell*, episode 13 of season 3.



CLASS OF 1982

Betsy Strachan Suppes

Conrad, my oldest son, is a sophomore at Penn State majoring in economics. Sam, his younger brother, is a 1st year (as they call them) at University of Virginia, has an Naval ROTC scholarship and is majoring in mechanical engineering. Greg, my husband, who is also keeps the books for my consulting company, is the Vice President of Operations at GAPVAX, a Johnstown based manufacturer of vacuum trucks.

This past February I was in Salt Lake City, Utah and had an opportunity to catch up with fellow Dickinson geology classmate, Len Smith. Len and I were partners for Noel's Field and Structure classes and mapped many an Ordovician limestone bedding plane in our field area. While in Salt Lake for the annual Society of Mining Engineers' conference, I gave a talk on pitfalls of retrospective appraisals of oil and gas, chaired a session on mineral valuations and was elected as the Secretary of the International Institute of Minerals Appraisers (IIMA) for 2022. If any one has interest in pursuing a career in mineral appraisals (there's lots of work out there), visit the website, www.mineralsappraisers.org, or contact me. Neil Sullivan, another

Dickinson geologist, is also a member of IIMA.

Working as a consulting geologist is always interesting. Like the tag line in the TV show "Pawn Stars", you never know what is going to come through that door (or email.). Some times litigation support, sometimes an appraisal, sometimes a reserve study. The best project this year was going "into the field" and checking on a royalty owner's wells. I found that a surface owners (the surface and mineral estate had been severed years ago) had siphoned off the natural gas at the wellhead to heat his swimming pool.

In the fall of 2021, I was a poster session judge for student papers of the Eastern Section AAPG (American Association of Petroleum Geologists). Several students had papers on "Rare Earth Elements" (REE). When I asked them what REE's are used for, most of them didn't know. Another student had a title, but his work didn't address that topic. The best poster was one that had bullet points and a prepared student. Interestingly, her geology professor was a Dickinson alumna, Katie Tamulonis. Her well prepared student spoke volumes about the quality of Dickinson's geology department.



CLASS OF 1983**David Ellis**

Being able to work remotely during the pandemic has made a crazy couple of years much more bearable--it also saves me about 10 hours of commuting per week (not to mention reducing my carbon footprint). I'm still working at the American Horticultural Society in Alexandria, Virginia, as an editor and director of communications. My wife, Janice, continues to work as a book and paper conservator at the Smithsonian's American History Museum. My oldest son, Iain (35), is living down in Jacksonville, Florida. Daughter Nora (23) is heading to graduate school at Columbia in NYC this fall. Youngest, Daniel (21), is transferring to the University of Maryland at Baltimore. I've been doing a lot of bicycling and kayaking to stay sane, but otherwise keeping pretty close to home. We are hoping to get to Amsterdam this spring for our first trip overseas since 2019.

CLASS OF 1992**Rolf Ackermann**

Follow other geo-alumni on FaceBook. I still don't know what I want to do when I grow up. We have three dogs (Teddy, Get, and Loki) and a kitty named Mädel. Loki just turned a year old in March; Teddy is 15 and is tired of him.



ALUMNI UPDATES

CLASS OF 1996



Andy Chang

I live in the Raleigh NC area and currently work as a partner in a private practice urology group.

CLASS OF 1997

Arika Hunt

Hi everyone! After 20+ years moving around the world for my husband's Army career, we have decided to plant some roots in none other than Carlisle! And as an added bonus, I recently accepted a job working for Dickinson as the Alumni Relations Coordinator. Whether it's an alumni weekend or you're just passing through town, I would love to catch up with fellow Earth Science/Geology alumni!

CLASS OF 1999

Catherine Jamet Powers

Catherine, husband Peter, and three children (Marion, Avie, and Margaret) live in Denver, CO. The diverse geology of the Front Range & Rocky Mountains provides a spectacular backdrop for all outdoor activities, and a great way to instill a love of the outdoors to their children. Catherine teaches geology and Peter works for the USGS."



CLASS OF 2000

Christopher Junium

I am still working at Syracuse University doing stable isotope geochemistry of nitrogen, carbon and sulfur. My group's recent work has focused on sulfur chemistry of the atmosphere after the K-Pg extinction, carbon cycling in the Late Devonian and Proterozoic and stable isotope ecology of ancient mollusks like ammonites.

My wife Susan also works at Syracuse and our son Charlie is 10 years old. Over the last couple of years we have kept a low profile, but have plans for a research visit to University of St Andrews this year. Hope to see some of you at AGU or GSA if you are in Central New York, give a shout.

CLASS OF 2002**Kathryn "Katie" Tamulonis**

I recently began working as a geologist for a decarbonization start-up called Vault44.01. Prior to joining Vault, she worked as an assistant professor of geology at Allegheny College. Katie lives in Pittsburgh with her husband and two children.

CLASS OF 2005**Peter Enderlin**

In the summer of 2019 my family relocated to Boise, Idaho. At this time I switched from teaching high school science to my current position as a middle school science teacher at Anser Charter School. Another big switch happened in March 2020 when we switched to remote teaching due to the COVID lockdown. This was a blessing and a curse: being home with my family was awesome, but online teaching was more difficult than I imagined it could be. Needless to say, I was thrilled to return to the classroom this past fall. I'm loving living in the west and getting to expose my kids to hiking, skiing, and fishing in the Rocky Mountains.

**CLASS OF 2006****Camille Carter**

I just celebrated 5 years with GEI Consultants and love working on complex, outside-the-box oil and gas remediation projects. My husband and I made the move from Fort Collins to Denver in 2019 and welcomed our daughter in 2021. She is an absolute delight. We spend our free time hiking and being outside with her, though we are tackling easier trails these days as she grows into toddlerhood.

CLASS OF 2009**Whitney Hoffman**

Hello Dickinson friends!

I moved from Camp Verde, AZ, down to Ajo, AZ, in August 2021, accepting a promotion as the Administrative Assistant for Organ Pipe Cactus National Monument. The Monument is a UNESCO biosphere reserve, protecting the U.S. habitat of the Organ Pipe and Senita cacti, as well as other flora and fauna, and 95% of the park is designated wilderness. It's a beautiful place to live, though we are starting to get into the warmer temperatures.

Hope everyone is doing well!

**CLASS OF 2013****Marc Baumann**

Ashley ('13) and I moved again within Basking Ridge, NJ in late 2020. Our children, Grayson and Hadley are now joined by another sibling!
Peyton Harper Baumann was born in March 2021.

I started a new position as Vice President of Development and Construction at Claremont Development, LLC in April 2022. I oversee all aspects of development and construction of large industrial warehouse construction projects, including design, entitlements, and construction. I am excited about my new role and the challenges that present themselves daily.

CLASS OF 2013

Julia Rasamny Feeney

After teaching Earth Science for 8.5 years in West Philadelphia, I decided to make a career change to spend more time with my daughter, Samantha, who was born in January 2021. I am now the Director of Operations at her school, The Goddard School in King of Prussia, and I love seeing her throughout the day while I work!

CLASS OF 2017

Jessica Wolfman

I've been grateful to work for the National Academy of Sciences, Engineering, and Medicine in Washington, DC for the past five years (since graduation!!). Although I originally applied to work for their earth sciences board, they hired me to the Chemical Sciences and Technology Board (I tried!). From the beginning though, I felt like the chemical sciences board was a perfect fit for me because of the time I spent in the geochemistry lab in undergrad. However, I've always been very grateful for the fundamental skills that I was taught at Dickinson that enabled me to succeed in a different field than the one that I was trained in. Minus the 1.5 years I spent as an administrative assistant (entry level jobs are tedious but necessary!!), I have worked as a research associate at the Academies. I'm currently working on projects involving the impact of fundamental chemical research on the U.S. economy, evaluating the federal strategies that work to prevent, counter, and respond to chemical weapons of mass destruction, and a webinar series for our Chemical Sciences Roundtable. If anyone is ever interested in pursuing a career in science policy, please do not hesitate to reach out!!

CLASS OF 2018

**James Fisher**

I completed my Master's degree in Earth & Environmental Science at Lehigh University last May. My thesis was focused on restoring the tectonic uplift history of the Northern Apennine mountain of Italy based upon the shape of river longitudinal profiles (xy plots of river distance vs. elevation).

This work lead me into my current career in geospatial data and remote sensing consulting. I work with LiDAR and drone, and satellite data to help utility companies monitor vegetation and identify areas of wildfire risk. I'm forever grateful for the wonderful experiences and connections made in the Dickinson Earth Science Department!

Hayat Rasul

Hello rock stars,

My pup Couscous and I have been keeping busy in the ever-warming city of Los Angeles. Since departing from Carlisle 1-2ish years after graduating, I was able to further reflect upon the intricacies of hydrology within the physical sciences and intersections with the human right to water. To quench my curiosities, I decided to pursue a master's degree in Urban and Regional Planning at UCLA, where I am currently assisting Dr. Gregory Pierce and the Human Right to Water Lab at the Luskin Center for Innovation as an equity consultant in research on the Safe, Clean Water Program (SCWP/Measure W), or a parcel tax LA voters passed on themselves to fund water quality and supply projects. It has been an ideal experience being able to apply my undergrad geo-knowledge of subsurface and surface water mechanisms to further the view of watersheds through a systems-thinking approach rather than one that is governed as separate entities--oh! And one that centers disadvantaged narratives and visions of course. My relationship to water in academia started in the geology department, and I am forever grateful for gaining baseline knowledge on biogeochemical water complexities. This summer, I am working with Stantec as an Integrated Water Resource Management consultant to further my research on SCWP (and other western water policy programs) that put indigenous and marginalized settler communities at the forefront of water innovation in the driest parts of our country. Beyond all of that, I have been verrrrrry slowly (but surely) working on landscaping my family's yard and training Couscous to obtain her Canine Good Citizen Award! I have also hyper-fixated on dog sports recently and would love to enter my pup in Barn Hunt or some agility runs, so a lot of my time outside of school is spent building our bond and training! Couscous and I spend our free time frolicking in and around the Santa Monica Mountain Range, so if you are ever here, we would love to play! Missing the department a lot, and I hold you all near and dear more than you know.

Cheers!



CLASS OF 2019**Katie Manges**

I graduated from Dickinson in 2019 with my Earth Science degree and my first job was as an Environmental Scientist at an environmental company. I decided to go back to school for my teaching certificate, which I got from West Chester University. I'm now a science teacher at Avon Grove High School, and I also got married to my college sweetheart, Jack Lodge! We adopted a puppy last year and have 2 cats, so life is good!

**William "Billy" Irving**

In March I attended my graduation ceremony for my MSc from Imperial College London in Science Communication. The ceremony was held at the Royal Albert Hall.

I also just started my new position as a Medical Editor for Axiom of the Creative Engagement Group. I'll be editing medical communications for style and accuracy.

CLASS OF 2020

Ethan Collins

Since graduating Dickinson I have gone on to get a M.S. in Physical Education and started teaching PE at two, private, k-8 schools in the Boston area. I've also become a Personal Trainer and have enjoyed helping people reach their fitness goals. During the height of the pandemic my parents bought 30 acres of raw land in Jackson County Tennessee along the Cumberland River. They have plans of making a sustainable farm using a majority of up-cycled materials. During the summer of 2021 I helped them get the farm started, now called "Futurology Farms". If you're looking for a tiny house vacation experience in Tennessee they have one you can rent!



Ben Eppinger

A special congratulations to Ben Eppinger '20 who was awarded the National Science Foundation Graduate Research Fellowship in April of 2022. Ben is currently a PhD student at Virginia Tech working on a full waveform inversion of seismic waves in the near surface.

A note from Ben;

Today, I was awarded the NSF GRFP. I couldn't believe it when the email I received from NSF started with the word 'congratulations'. I have refreshed the website dozens of times now, but still can't believe my eyes. However, I know this accomplishment would not have been possible without all of your help.

Sincerely, thank you so much for your time, energy, belief, and support.

*All the best,
- Ben*

Thanks to all of the alumni who have submitted their personal updates and photos.

We enjoy hearing from and reading about careers, family and travels. If you are ever in the Carlisle area, please stop by and visit the department.

DICKINSON COLLEGE

Department of Earth Sciences
P.O. Box 1773
Carlisle, PA 17013
Phone: 717-245-1355

We're on the web:

<http://www.dickinson.edu/academics/programs/earth-sciences/>

WE WANT YOU!!!

- ◆ Has your Dickinson education landed you the perfect career?
- ◆ Are you excited to tell people about projects you are currently working on?
- ◆ Are you involved in cutting edge work?

If you answered "yes" to any of these questions, the Earth Sciences department would love to have you back to campus to speak with our current majors.

If you would like to share your wisdom, knowledge and experiences with our students, please contact the department at (717) 245-1355.