

**Earth Sciences Newsletter 2020
The COVID-19 Issue**

The Dickin-stone-ian

**COVID-19
Unprecedented Times at Dickinson College**

As you can imagine the college and the Earth Sciences department have been faced with many challenges relative to the unprecedented issues of COVID-19. The messages below were the start of the communications from the college administration and the start of the distance learning challenges.

On March 16th—To the Dickinson College community by President Margee Ensign, all non-essential access to the Dickinson College campus is now suspended until further notice. Ensign said that students will be contacted by professors before March 23 as online learning plans are developed to continue classes, which had been due to resume in person on March 23. This comes after an announcement by Ensign on March 11th extending spring break by an additional week, ending on March 23 rather than March 16. “We are all living through extraordinary time” said Ensign, “This is not a decision we take lightly, and it is certainly not the decisions we would prefer.”

On March 19th, —Dickinson College will conduct the remainder of the Spring 2020 semester online. Students are directed to remain away from Carlisle, and instead remain in contact with professors remotely.

From the very beginning of the pandemic, the college has been pro-active in addressing the issues to ensure the health and wellbeing of our students, faculty and staff and concurrently fulfilling the obligations to our mission of education and completing the semester. Immediately, the faculty and staff began the process of developing and adapting the remainder of the semester to an online distant learning experience. Thankfully, today we have the technology available to us because if this would have happened 10 years ago, our challenges would have been daunting. The college offered training workshops to faculty to teach them as well as make them aware of the technology available. The faculty have become creative and proficient with Zoom, Moodle and Remote Lab. Many of the traditional labs and field trips have had to be videotaped and posted online for viewing. On July 17th it was announced that the Fall 2020 semester will continue to be a distance learning experience. We face many challenges, but everyone is moving forward and planning a robust program. We are all anxious to be back to our normal routines and look forward to that day. Guaranteed that we will be back to “Dickinson strong” when we do get back to normal. We hope you enjoy this edition of the Dickin-stone-ian!

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Arctic and Alpine Climate Change Experience (AACCRE) Trips 2018-2020

by Ben Edwards

Arctic and Alpine Climate Change Experience (AACCRE) Trips 2018-19

Thanks to the continued very generous support from John and Susan Pohl, we are continuing to grow our Arctic and Alpine Climate Change Experience program. We completed four different trips over the past two summers, including two trips to the Canadian High Arctic and two trips to Iceland. These trips have involved 18 students, all of whom have participated in learning some basic field geology and environmental science techniques, and 3 of which used data collected on trips to do independent research projects. Overall the program has now taken more than 40 students and faculty to Arctic and alpine environments for field-based experiences aimed at documenting ancient and modern climate change. We had planned a trip to Svalbard for summer 2020, but have decided that is best put off for a future trip (among others!).

The first trip of 2018 was to Iceland, where Profs. Edwards and Kristin Strock (Env. Sci.) took students through a variety of field-based climate monitoring projects, ranging from collecting water and sediment samples from rafts to mapping glaciovolcanic deposits to flying drones to measure the positions of glaciers. The seven students on the trip were: Bianca Kapur '20, Karuna Sah '19, Jack Olsson '20, Billy Irving '19, Anna Zaremba '19, and Katie Overstrum '19. Two of the students on this trip, Karuna and Billy, collected field data to use for their senior theses; Karuna compared the impacts of global warming on three outlet glaciers to Eyjafjallajökull to impacts on two of these glaciers from non-climate driven events (a massive landslide on Steinhóltsjökull and the 2010 eruption on Gigjökull), and Billy mapped the volcanic lithofacies of a recently discovered tindar ridge near Ok volcano. The results of both of these works have been presented at the American Geophysical Union's annual conference, and as being worked up for future journal submissions.

On the second trip in Summer 2018, a group of 6 Dickinsonians (Allison Curley '19, Kendra Bonsey '19, Madie Ritter '19, John and Susan Pohl, Ben Edwards) expeditioned to Alexander Fiord, on the eastern central coast of Ellesmere Island, Nunavut, Canada. We camped at a remote, now-unused RCMP patrol station from which we hiked to visit several nearby glaciers and kayaked within the fiord to visit a number of Thule and Dorset archeological sites. The flight up comprised 5 jumps starting in Ottawa, giving us a showcase of the Canadian Arctic from sea ice flows in Hudson Bay and the Foxe Basin to patterned ground on Axel Heiberg and Ellesmere islands, with a short layover in the very comfortable accommodations of the South Camp Inn, Resolute Bay, on Cornwallis Island. Once at our destination, Alexander Fiord, we learned some high precision GPS techniques for marking the edges of cold-based glaciers and spent a day with a group of ecologists studying how a warming Arctic will impact tundra plants. Another highlight of this trip was kayaking through walrus-infested waters of the fiord to visit Skraeling Island, one of the most important archeological sites in all of the Arctic. The island has both Thule and Dorset stone structures, some of which still have the original whalebone that was used to support hide covers for the structures. This trip led to creation of a research project spearheaded by Allison Curley and alumnus Will Kochtitzky to examine rates of glacier change in Alexander Fiord using remote sensing; this work was also presented at AGU and is being turned into a journal manuscript.

Summer 2019 also started with a trip to Iceland, and included Prof. Edwards and Ethan Collins '20, Hiba Aoid '20, Marisa Schaefer '20, and Phoebe Galione '21. We missed Prof. Strock(!), but were happy to collaborate with a crew from the College of Wooster again courtesy of Prof. Meagen Pollock (who is a Dickinson visiting alumnus), who brought 3 students and another Wooster geology professor with her. This trip had more of a volcanology-climate focus, although we also did a set of water chemistry experiments near Gigjökull. We used small UAVs to produce detailed models of the tindar ridge discovered in 2017 (and worked on in 2018 by Billy Irving) using Structure-from-Motion and UAV images. All students got the opportunity to pilot the UAV, as well as learning field techniques for studying glaciovolcanic deposits. We continued long-term research aimed at understanding the volcanic anatomy of a volcanic ridge formed beneath late Pleistocene ice on the Reykjanes Peninsula just outside of Reykjavik, and rephotographed Gigjökull and Steinhóltsjökull glaciers.

Continued from page 2

The final trip of the past two years was an Arctic adventure somewhat unlike any other trip we have done. Prof. Edwards and five students (Alex Wattles '20, Allison Miller '20, Muhajir Lesure '20, Angelo Tarzona '21 and Cecilie Macpherson '20) ventured back to the Canadian High Arctic with a target of working on several climate change problems back on Ellesmere Island. For this second trip to Ellesmere we planned to be based out of the village of Grise Fiord, which is the northernmost village in Canada, on the southern shore of Ellesmere Island. We had many unplanned opportunities to see new parts of the Arctic on this trip! Highlights of this trip included finally getting to our destination after 4 days of delay, hiking to see two different glaciers on southern Ellesmere Island, having dinner with residents of Grise Fiord (including the Mayor), getting brief glimpses of beluga whales, and having a private viewing of a polar bear on Cornwallis Island.

Grise Fiord, Ellesmere Island 2019



Iceland 2019



Alexfiord 2018





Letter from the Chair

Departmental Update from the Chair

Hi All. As I sit down to write this note in the middle of July and somewhere between the start and end (hopefully!!) to the COVID pandemic, we have lots of news to share from the department and from alums. But first we want to wish all of you a safe and healthy summer and fall. While we batten down the hatches in Carlisle, we have been very lucky to not have much experience with COVID in our community, yet. The college is working diligently to make sure we can provide the best possible education in these trying times, and we thank you all as alums for your critical support to our department and to Dickinson. Please reach out to us if there are ways we can help from Carlisle with any issues you are encountering, or even if you just want a voice-to-voice or virtual catch-up. Campus is lonely without students and alums visiting.../

I have been the department head for the past two years, and our expanded department continues to thrive and chase the edge of technology in the earth sciences. We've graduated another cohort of excellent students with a diverse range of interests and accomplishments, who are prepared to help solve many of the crises that we are facing on planet Earth. Although my colleagues may be too humble to toot their own horns, we have much to celebrate too. Jordan recently received a grant from the National Science Foundation to support her continued critical zone research ("Collaborative Research: RUI: Network Cluster: Bedrock controls on the deep critical zone, landscapes, and ecosystems"), and Aly, Pete and Marcus continue to be productive scientists through publications and scholarship with students. We have also been very fortunate to receive permanent endowment funding to continue to build our Arctic program, including being awarded the first Moraine Chair in Arctic Studies (I have the honor of being the first 'seated'). While we were not able to run our planned trip to Svalbard this summer for the Arctic climate change research experience, we (thanks mainly to alum Will Kochtitzky '16) did run a very successful Arctic 'hackweek' program that including training on QGIS and lots of digitizing of glacier outlines on Ellesmere Island. Maybe even larger kudos goes to Professor Pete Sak, who was this spring promoted to full professor!!! Excellent news for Pete and for the department (Pete is presently chair of the Faculty Personnel Committee so doesn't really get much time to celebrate this accomplishment yet...).

Many of the exciting things happening in the department are directly related to your past support of student research and field experiences. For example, the most recent two recipients of the William Vernon Prize for Excellence in the Earth Sciences are both highly driven students with excellence graduate school opportunities in progress (Allison Curly '19 is presently at the University of Michigan doing graduate work) or about to start (Ben Eppinger '20 will begin the University of Virginia soon). Of course, all of our majors are heading to great things in their careers, and alumni-supported funding of the William Vernon Research Prize in Geology and the Henry Hanson Research Prize in Geology have supported many of our senior theses including Kendra Bonsey '19 "Investigation of Lead Isotopes and Trace Metals as Particulate Contaminant Tracers and Chrono-stratigraphic Markers for Lake Sediments in Lake Lacawac, Northeastern Pennsylvania", Allison Curly '19 "Investigation of Lead Isotopes and Trace Metals as Indicators of Terrestrial Contaminant Sources Associated with Browning in Lake Giles, Pennsylvania", William Irving '19 "Structural vs. Glaciological Controls on the Formation of a Glaciovolcanic Tindar, on the East Flank of OK Volcano, Iceland", Karuna Sah '19 "Can the Impact of Singular Events and Climate be Separated on Outlet Glaciers? A Study of Gigjokull, Steinholtsjokull and Kaldklifsjokull Glaciers on Eyjafjallajokull, Iceland", Josh Ablele '20 "Comparing Mercury Concentrations of Dragonfly Nymphs in Cumberland Valley, PA Waterbodies", Benjamin Eppinger '20 "A Characterization of Critical Zone Architecture and Near-Surface Seismic Anisotropy in Oregon Ridge Park, MD", Marisa Schaefer '20 "Estimation of Local Paleolce Thickness from Volatile Contents in Glassy Pillow Lava Rinds at Undirhlidar Ridge on the Reykjanes Peninsula, Iceland", and Alex Wattles '20 "Hydro-Geophysical Analysis of Borehole #2 at the Dickinson College Farm, South Middleton Township, PA".

The David and Cary Cassa Extended Field Trip Fund subsidizes fieldtrip costs for students allowing us to take them to diverse field areas including: Iceland, England, Scotland, and Wales, Sicily, Southern California, Hawaii, Death Valley, Grand Canyon, Zion, Yellowstone, Glacier, Acadia. Most recently in the spring of 2018 Aly Thibodeau (with help from Rob Dean, Marcus and Ben) were able to take 18 students to Arizona and New Mexico to look at volcanic stratigraphy, a Cu-mine (even go to witness 'blasting' from a distance), caves and archeological remains. The 2020 Cassa trip had been planned for Svalbard, but was put on hold for obvious reasons.

Finally, the Potter Lectureship Fund supports bringing a distinguished earth scientist to campus each year to interact with our students. This past spring, we were delighted to have planned to host Yarrow Axford from Northwestern University to speak about her Arctic paleoclimate work, but we decided to postpone for hopefully an in-person visit. Please stay tuned as we might end up doing this virtually if prospects for visitors don't work out this fall...

If you are able to contribute to any of these funds, please send a check payable to Dickinson College to Ben Edwards, Dept. of Earth Sciences, Dickinson College, P.O. Box 1773, Carlisle, PA 17013-2896. Please indicate on the memo line which fund you would like to contribute to (i.e., William Vernon Research Prize, Henry Hanson Research Prize, the Cassa Extended Field Trip Fund and/or Potter Lectureship Fund). Our goal is to build the research funds to the point where we can provide some funding to all our seniors and offer Cassa-funded trips annually.

On the home front, Kim is also preparing for some sort of virtual/hybrid school year teaching math at Carlisle High School, Teagan has been working from home in San Francisco since mid-March, and Kaelan is a COVID graduate, having completed her undergraduate degree from Carleton College in History and now sharing many people's concerns about trying to start a career in these difficult times. But we are all healthy and extremely fortunate to be in safe places, and we very much appreciate that!

Keep in touch and we look forward to seeing you all in a post-COVID future event on campus and/or a virtual GSA/AGU event!

Cheers,

Ben Edwards
Department of Earth Sciences Head
Moraine Chair in Arctic Studies

Endowed Departmental Funds

NAME	DESCRIPTION
David and Cary Cassa Extended Field Trip Fund	It is used by the Department to help subsidize student penses 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.

Endowed Extra-Departmental Funds

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.

William Vernon Prize for Excellence in the Earth Sciences 2019 & 2020

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.

Allison Curley '19, was awarded the 2019 Vernon Prize for Excellence in Geology.

Allison's senior thesis "Investigation of Lead Isotopes and Trace Metals as Indicators of Terrestrial Contaminant Sources Associated with Browning in Lake Giles, PA helped her to achieve Honors in the major.



This year's recipient is Ben Eppinger '20 who was awarded the 2020 Vernon Prize for Excellence in Geology, Ben's senior thesis "A Characterization of Critical Zone Architecture and Near-Surface Seismic Anisotropy in Oregon Ridge Park, MD" "helped him to achieve Honors in the major. This year's award was presented via Zoom.



2019 Annual End of the Semester Picnic



The 2019 annual end of the semester picnic was held at Aly's home on the last day of class.

A good time was had by all with plenty of food and entertainment.

Ben and the students perform their rendition of the popular country song; "Red Solo Cup" with their own volcano lyrics of course. (see next page for lyrics) (A favorite activity with the majors.)



Lyrics to "Red Lava Flow"

slightly adaptive from Toby Keith's "Red Solo Cup"
By Ben Edwards

G

Now glowing red lava can be quite a spectacle.
When it flows at night from a volcanic receptacle,

Am

And I don't know a person that's even half respectable

D

Who doesn't "oh" and "ah" at the site

A red lava flow is naturally disposable, and
Plants can even make it become decomposable,
And if it's in the way, your house may not be foreclosable.
No matter what Freddie Mac says.....

Red lava flow, I love how you glow,
Let's have a party, a Hawaiian party. You're blocky.....
Red lava flow, when you flow on the snow,
You're kinda steamy, glowing and dreamy.....

Now red lava domes are like lava haystacks
And when they cool down, they're all covered in cracks
But if they collapse child you better run fast,
Cuz nuees ardentis are no fun

While I have to admit viscous domes are intriguing
Stability from a distance can be slightly deceiving
And if you're at the wrong end of receiving
A block-and-ash flow, you'll be toast-ed.

Oh, red lava dome, don't collapse on my home,
Let's have a party, a Pelean party, No surging....
Red lava dome, refillin' the cone, evacuation and relocation.

Now your cinders are red, or maybe altered to yellow
But red cinder cone I love when you bellow
Cuz your bombs are the fruit in my volcanic jello
Piled up to the angle of repose.

Red cinder cone you are more than fantastic
You are perfectly formed from blocks inelastic
And I'm not being the least sarcastic
When I look up at your crater and say;

Red cinder cone, you're more than
a very hot hole in the ground

You're a perfect example of how
natural processes can be beautiful
and dangerous at the same time!

Thanks for reminding me of the
Fragility of my life on a tiny planet
in the habitable zone, because
if it wasn't for volcanic activity
Life wouldn't exist today.....

Oh, Red cinder cone, glowing on a
volcanic throne
Let's have a party, a Strombolian party,
scoriaceous.....
Red lava dome, making our earthly
Home,
So, life enhancing for bacterial dancing.

Oh, Red pillowed flow, with submarine
glow,
Let's have a party, a pillow party, So
bubbly.....
Submarine black smoker hole, spewing
sulfurous blow,
Extremophile living in anaerobic
Oblivion....

Oh, Red cinder cone, shooting bombs
At my home,
Let's have a party, a tephra party,
agglutination.....
Red lava flow, pahoehoe you know,
Ropy and shelly, and kinda of sulfur
Smelly....I love you!

Congratulations to the Class of 2020



Josh Abele

Favorite Memory: My favorite memory from the major was the field trip that our Sedimentology and Stratigraphy class took to Cape Henlopen in Fall 2019 with Marcus Key.

Future Plans: I currently work as the head of business development for a financial technology firm in Miami. I also run my own digital marketing company on the side. After graduation, I intend to continue these roles and hopefully take on some new business ventures.

Ethan Collins

Favorite Memory: Favorite memory has to be the trip to Iceland last summer with Prof. Edwards. The views were breathtaking and the science was so interesting. I hope I can go back to Iceland someday!

Future Plans: I am currently in the process of finding a graduate program, but the ultimate goal is to continue playing baseball.



Pete Dubravski

Favorite Memory: mapping the Whaleback in structure

Future Plans: If all goes well, I'll have a job as a field geologist by the end of the week. Also, currently studying to take the GIT in the fall

Congratulations to the Class of 2020

Ben Eppinger

Favorite Memory: Going to Canada and learning how to field map for my field methods class.

Future Plans: Going to grad school to get a PhD in geophysics



Devin Hogan



Bianca Kapur

Favorite Memory: AACCRE trip to Iceland

Future Plans: I wish to pursue a Master's degree in Canada

Congratulations to the Class of 2020



Ian Ransom

Favorite Memory: My best memory from the major would have to be a weekend trip I took for my Environmental Geophysics class with Jordan Hayes. I was a sophomore at the time and this was the first major Earth Sciences class I had taken as well as one of my first times doing field work. I along with a few classmates helped perform an electrical resistivity survey on a little, hidden creek in this beautiful valley. The field work was super interesting and it felt good putting our classroom knowledge to use in a real world application. That trip was the first time I really saw the future career paths a major in the Earth Sciences could lead to.

Future Plans: I'm hoping to find a company that I can use my Environmental Geosciences degree for, and seeing as I love travelling and the outdoors, location isn't an issue. If by chance you have any ideas, send them my way!

My email is 'ian.s.ransom@gmail.com'.

Lionel Reid-Shaw



Congratulations to the Class of 2020



Marisa Schaefer

Favorite Memory: My favorite memory is all of the late nights that were spent working on the cross-sections for structure with a lot of my fellow students. I also loved all of the holiday luncheons!

Future Plans: : I don't have any set plans yet, but I will continue my job search after graduation.

Alex Wattles

Favorite Memory: Geophysics seismic line surveys

Future Plans: Ideally I would love to work in the energy industry but am still unsure as to what area of work I want to pursue.



Potter Lectureship Going Strong

	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

15th Annual Potter Lecture

On 4/17/2019 The department welcomed our guest speaker, Dr. William W Fitzhugh, Curator and Director, Arctic Studies Center, National Museum of Natural History, Smithsonian Institute. His lecture was entitled “Exploring Circumpolar Culture Connections: 40,000 Years from Yamal to Greenland”. The search for Eskimo origins has been a Smithsonian project since its founding in 1848. 150 years of Smithsonian research have brought us closer to that elusive goal. Here we follow the footsteps and paddle-strokes of the first Arctic pioneers across the circumpolar Arctic from Western Siberia to Greenland and Labrador, where European Vikings and the Elizabethan explorers first met the Inuit.

****The 16th Annual Potter Lecture** was postponed this spring due to the COVID-19 issues. Please watch for a rescheduled event in the Fall 2020 semester.

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.

Professor Marcus Key



Greetings!

Maria and I were enjoying being empty nesters for the first time when our youngest son had to move home from boarding school due to medical problems. Peter's first symptom was on 4/3/19 when he had a headache. On 4/4/19 he started having seizures. That night they took out a fist sized tumor from the left side of his brain. After months in hospitals and rehab facilities he finally came home. He is finishing 12th grade at Carlisle High School thanks to a plethora of academic accommodations. Cognitively his quantitative skills were strangely unaffected, but his reading skills took a beating. Word recognition is his main challenge. Physically he is blind on the right side of both eyes, so driving is not in his future. Fortunately, after a long difficult period of "Why me? Life is so unfair!" he has turned that corner and is looking forward to a challenging but better life. He has decided to take a gap year and try one chemistry class at Dickinson in the fall and see how that goes.

Looking back at my previous alumni updates, I noticed that this one is much more personal, but that has been my main focus since the last alumni newsletter. It has been a humbling experience realizing that my sabbatical research last spring on sourcing colonial era fossiliferous limestone tombstones around the Chesapeake Bay is not the most important thing in the world. It has been a blessing getting to spend so much time with Peter, even though he was making me go to the gym with him twice a week before the pandemic happily put an end to that.

Speaking of the pandemic, it has been a challenge switching to online teaching. The virtual field trips are my least favorite, but I just miss ALL the interaction with students. I did not go into this business to teach online, especially field trips. After this experience, I have decided not to become a professional YouTuber, and my students have enthusiastically agreed. Speaking of teaching, I am currently teaching a new course for me: Foundations of Earth Sciences (ERSC 151). It is a required course for all upper level core courses. It has been fun getting back up to speed on mineralogy and petrology (esp. igneous and metamorphic).

Another bright spot was leading an alumni trip to the Galápagos islands a few months back with Ben Edwards. Of note on the trip was one Geology alumnus, a set of parents of another Earth Sciences alumnus, and a sister of an alumnus who went with me on a previous class trip to the Galápagos. It was an absolute blast! If you have the time and money, I recommend going on one of these trips. Ben has run a few of these alumni trips to volcanoes. But all would agree that my rendition of the blue footed booby mating dance is FAR superior to Ben's!

I hope you and your families are all well during the pandemic. The Key family is so far. I miss you all. I doubt I'll be seeing you at any alumni events this summer on campus. Perhaps a future GSA???

Sincerely,
Marcus

Professor Peter Sak



Greetings All!

It is hard to believe that another two years have pasted since I last sat down to write an update for the departmental newsletter. These past two years have been busy, fun, productive, rewarding, and recently unsettling.

On a professional front, my pivot to exploring questions of Appalachian geology appears like a well thought out plan now in the age of travel restrictions. This Appalachian work has been field based with some projects focused on tectonic questions such as: quantifying the amount of shortening across the Valley and Ridge and Appalachian Plateau, the magnitudes of incision throughout the upper Susquehanna River basin, and other projects related to the geochemistry of weathering in the Great Valley. These local projects have been a very rewarded and have allowed me to stay closer to home and engage more students and classes in the ongoing research projects. I continue to work on landscape evolution of chemical weathering in the tropics although that fieldwork is on indefinite-hold.

In the classroom I continue to teach intro, structure, surface processes and field methods. It has been a few years since I last got to teach structure and field methods and am looking forward to offering both of those again this coming year. As always I am particularly exited to introduce a fresh crop of students to the geological wonders of Central Pennsylvania in intro courses. On the home front, Maya (12 ½) is growing like a weed, playing ice hockey, participating in Odyssey of the Mind, and swimming. Linda continues to thrive teaching in the math department at Bucknell. We continue enjoy hiking, biking and paddling the many local trails and waterways when we aren't traveling to the to see family and friends. I truly look forward to hearing from department alumni and friends through email updates, campus visits, or upcoming conferences – please do stay in touch. Or better yet, join us for a field trip.

Assistant Professor Alyson Thibodeau



I hope this note finds everyone healthy and safe.

It's hard to believe another two years have already passed – time has really flown. I spent much of the 2018-2019 academic year refining upper-level courses, including *Geochemistry* and *Isotope Geochemistry*. In *Geochemistry*, I changed up the lab portion of the course to accommodate a semester-long class project in which students investigated the mercury content of larval-stage dragonflies from Laurel Lake in Pine Grove Furnace State Park. Because of their position in aquatic food chains, dragonfly larvae are sometimes considered to be “bio-sentinels” or indicators of mercury pollution in freshwater ecosystems. Not only were students able to assess mercury contamination within the ecosystem, but they also evaluated how collection site, body size, and dragonfly family influenced the mercury content of the larvae. I hope to repeat this project

in future iterations of the class (including the upcoming fall term) and use it as a long-term monitoring tool.

On the research side, I continue to work collaboratively with archaeologists to trace the provenance of metals and minerals (especially turquoise) from the archaeological record. I am also developing some local projects to examine the fate and sources of metals in aquatic ecosystems here in Pennsylvania. I am particularly excited about findings that emerged from the senior research of Allison Curley '19 and Kendra Bonsey '19. Their work suggested that the same processes responsible for the “browning” of lakes in northeastern Pennsylvania over the past several decades may also be causing increased mercury burial in lake sediments. Over the next several years I will pursue these findings and their implications for the health of aquatic ecosystems.

On the home front, Chris and I welcomed our first child, Simon, into the world in July 2019. Although he spent the first nine months of his life waking up every 2-3 hours at night, he is a happy, curious baby and has brought so much joy to our lives. It's been amazing to watch him investigate the world – babies are incredible scientists! I have been on leave for most of the 2019-2020 academic year. Although I was looking forward to a trip to Arizona as part of my pre-tenure sabbatical, those plans were put on hold and I have been trying to get some writing done from home instead.

Be well, everyone! I look forward to a time when we can all gather again.

Assistant Professor Jordan Hayes

Greetings alumni and friends!



As Dickinson moved to remote instruction for the second half of the spring semester due to the Coronavirus pandemic, this update has been written from my home office in Boiling Springs. I miss seeing the students and interacting with them in the classroom. It is hard to believe I've nearly finished my fourth year (!) at Dickinson. It is particularly alarming to see first-years from my "first-year" graduating this spring. I suppose that also means I better start thinking about compiling that scary tenure dossier – the years really do fly by. It is such a pleasure to teach at Dickinson and especially in this department!

My research has continued to move forward in large part due to the hard-work of many dedicated student researchers. Hayat Rasul ('19) graduated last year after completing her senior thesis investigating bedrock structure at the Dickinson College Farm using seismic refraction. Hayat's work was expanded this year by Alex Wattles ('20) who incorporated a new downhole geophysical dataset (including twelve different types of measurements) that was collected in collaboration with Brad Carr (University of Wyoming). In addition to Alex, my long-standing research student Ben Eppinger ('20) will graduate after five semesters (+ one summer) studying seismology and the critical zone. He worked at a field site near Baltimore, MD using seismic anisotropy to investigate how rock fabric evolves as it is exhumed through the deep critical zone to earth's surface. Ben received wonderful comments from leading scientists after presenting his results at the AGU Fall Meeting in San Francisco last December. He plans to submit a paper for publication very shortly. Congratulations to Ben and Alex!

This year I welcomed three more students to the geophysics team: Angelo Tarzona ('21), Hiba Aoid ('21), and Aisha Rodriguez ('22). They are working on diverse projects that include critical zone geophysics at Shale Hills Critical Zone Observatory, GPR at the Mt. Tabor AME historical site, and GPR investigations of rattlesnake hibernacula in Colorado (a project in collaboration with Scott Boback and Ben Edwards).

Over the last few years I have also been working on a project to help recruit and retain underrepresented groups in earth sciences through a two-week geophysical field experience. This NSF-GEOPATHS sponsored project is called GNOMES (Geophysics of the Near-surface: an Outdoor Motivational Experience for Students) and is a collaboration between Kristina Keating (Rutgers-Newark), Greg Mount (Indiana University of Pennsylvania) and myself. Two Dickinson students have attended this experience (Angelo Tarzona '21 and Aisha Rodriguez '22) and we liked them so much that we convinced them both to return as mentors! You can find out more (and even see Aisha's testimonial) here: <https://youtu.be/ITWPyZzMHtU>

In addition to Earth's Hazards and Oceanography I continue to teach two upper level geophysics classes: Global Geophysics and Tectonics and Environmental Geophysics – both have been well received by students. Last fall, Marcus and I took a joint Oceanography-Sed/Strat trip to Cape Henlopen, DE. It was great fun with warm temperatures and a distinct lack of stormy weather.

At home our toddler, Noelle, is running the show. She is speaking in full sentences, enjoys chasing the dogs, and in her own words, "loves rocks"! Isaac and I have enjoyed a fair bit of hiking this spring. We've seen some beautifully preserved sedimentary structures in the Tuscarora on Blue Mountain and had a good time examining the Weverton climbing over outcrops on South Mountain.

Please stop by if you are back in Carlisle! You can also follow our research and activities on Instagram and Twitter @WiggleTracers and @DsonEarthSci

-Jordan



Deb Peters, Academic Department Coordinator

Hi Everyone,

It's hard to believe that I have been with the Earth Sciences and the Environmental Studies departments for 7 years and almost 23 years with the college. Time sure does fly when your having fun! The department continues to keep me very busy and constantly learning new things. I love being part of a great team of people!

Last year my husband, Wayne and I celebrated our 40th wedding anniversary by traveling to the Big Island of Hawaii. Yes, they had a Harley shop there and of course we took advantage of the opportunity to travel around the island on Harleys. What a great well to celebrate 40 years together! I hope we have the opportunity to return to island life some day.

This year, will be "vacationing" at home due to the COVID-19 pandemic. Of course there is no place like home and we will make the best of it. I hope everyone is well and staying safe.

Best,
Deb



Big Island Hawaii

Robert Dean, Department Technician



Hello All,

It's hard to believe, but I just celebrated my 13th year here at Dickinson as the Earth Sciences (formerly Geology) Technician. In that time, I have had the chance to cross paths with many great students and have enjoyed watching you all go on to do bigger and better things. The job keeps me busy and we're always finding new and interesting lines of research. On a professional note, we have continued building our Geophysics program. I installed a new seismometer at Kaufman and you can find a live feed at the Pennsylvania State Seismic Network. We are adjusting to the new "normal" but continue plenty of lines of fascinating research. Some of the new equipment we've brought in since the last newsletter include a new EMRIVER EM3 stream table, a freeze dryer for Geochemistry, and a new 44" plotter/scanner.

On a personal note, I added a family member just before the pandemic hit. I brought Colonel Forbin (German Pit) home on February 28 when he was just 10 weeks old. Perfect (albeit unintentional) timing given what was about to happen. See my attached pic for a look at the most handsome dog you've ever seen before. While I can no longer say that I fly fish for trout more days than I don't, The Colonel is a pretty good reason to not be on the water so much. We'll be back out there eventually, but right now he prefers splashing around in the creek rather than patiently sitting on the bank while dad fishes.

Cheers,
Rob

Tribute to Dr. Vernon

William W. Vernon, 1925-2018

The department has lost its founder, patriarch, teacher, and friend. William Vernon died on October 30, 2018. Bill was born on November 1, 1925 in Concord, NH. He graduated from Concord High School and Tilton Preparatory School while he served in the U.S. Naval Reserve during WWII. He received a B.A. in Geology from the University of New Hampshire and a M.S. in geology from Lehigh University.

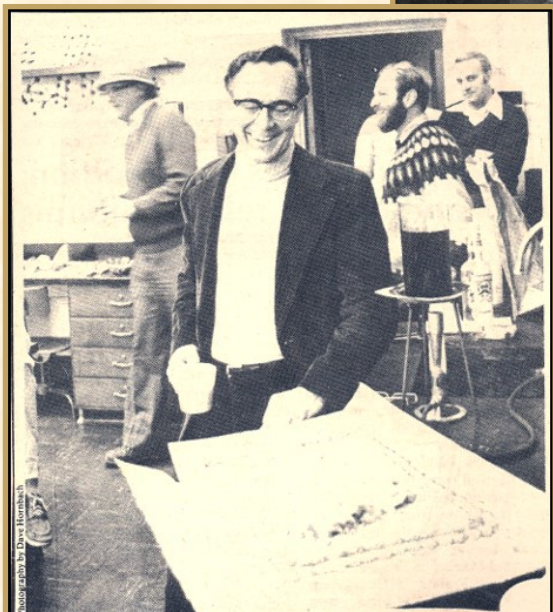
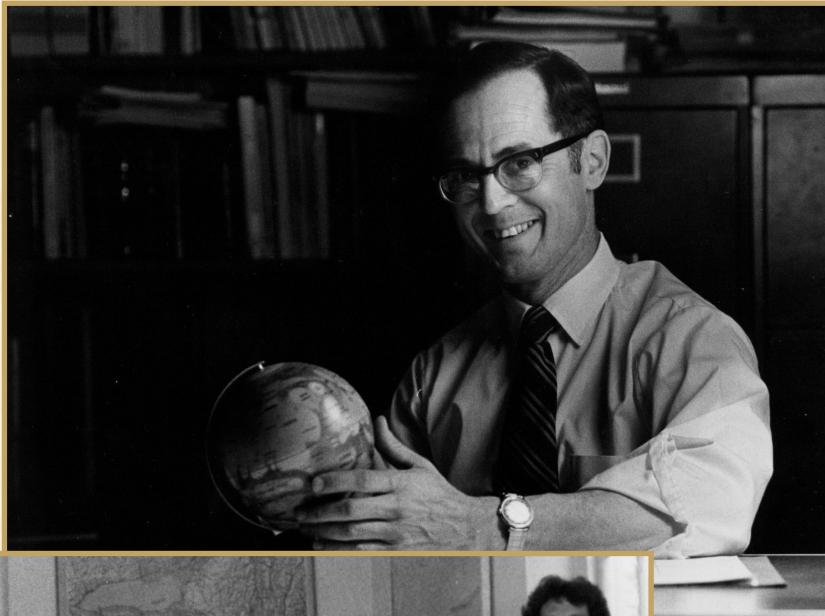
Before he came to Dickinson, he worked as a civil engineer for the N.H. Department of Works and Highways in Concord, N.H., and as a geologist for the U.S. Geological Survey in Washington, D.C. Bill arrived in Carlisle in 1957, initially on a one-year appointment as an instructor in geology and a part-time teacher in the chemistry department. During his first year he taught a course in a classroom with a dirt floor in the basement of Tome (now Stern Center). It was in the Fall of 1957 that Bill lobbied for the geology department and a major in geology. On the 25th anniversary of the department Bill surprised us when he produced the slip of paper on which he recorded the votes for the department with these words: "We made it! 27 to 22." In 1960 Bill was promoted to assistant professor with tenure, and upon completion of his Ph.D. in geology from Lehigh he was promoted to associate professor.

Bill's thesis was on igneous rocks from New Hampshire, and his specialties were mineralogy and petrology. But in the early years of the major he taught nearly every course, including historical geology, paleontology, and geomorphology. He once said that the only traditional course he never taught was structural geology. In the late 1970's Bill became involved in an archaeological excavation in New York state, and he began leaning toward research in archaeology. This led him to pursue a second masters degree in archaeology at the University of Pennsylvania, with a thesis on the copper artifacts of the Upper Peninsula of Michigan. He shortly began teaching in Dickinson's anthropology program including courses in archaeology. Bill continued his relation with the museum at Penn, particularly helping identify artifacts and their origin, especially from Thailand. He went to Thailand once with the Penn group.

At the time of his retirement in 1991 Bill had taught all but one of the 312 majors in the department. Bill received the Lindback Award for Distinguished Teaching in 1967. In his own words, Bill stated that "while teaching has been a profession, in many ways, I still consider myself a student, for I have learned from teaching as much as I have given." He was always available for a chat and gave good advice. We remember that despite his hardrock leanings he was the best of any of us at finding fossils. He once told Noel that he was on a field trip in upstate New York that went to a quarry. The leader told the participants that no one had ever found fossils there. He said he picked up the small rock lying on a shelf that he was leaning against, and there was a trilobite! Bill's New Hampshire roots were as near as his voice in his dialect—orthorhombic, for example, was pronounced "auth-o-rhombic."

Bill is survived by his wife Susan N. (Nelson) Vernon of Carlisle; a son, Thomas Lee Vernon of Carlisle; two step-daughters, Renee (husband Jeremy Danforth of Tucson, AZ, and Anastasia (husband Michael) Bolognese of Conshohocken; two sisters, three grandchildren; and several nieces and nephews. Bill was preceded in death by his first wife, Joyce Vernon, to whom he had been married for 55 years.

There was a fine memorial service for Bill on January 5, 2019 at the Unitarian Universalists of the Cumberland Valley in Boiling Springs with a reception afterward. Among the guests were former students George Pedlow '68, Scott Laird '71, and Barb Faulkner '74. During Alumni Weekend last summer, Bill's son Tom hosted an open house in honor of Bill and displayed a number of photos of Bill.



Photography by Dave Hornsby

The Geology department celebrated its 20th birthday on Wednesday. Professor William Vernon, shown above, was responsible for the faculty approval of the major and is the only remaining member of the original two-man staff. The College has graduated 115 majors since the department was founded.

THE DILKINSONIAN

12-8-77



Noel Potter



This past January, before the coronavirus caused us to almost become recluses in self-defense, my wife Helen arranged a nice reception in the Department for my 80th birthday. I was delighted to see lots of old friends.

Until mid-March I went to the Department for a couple of hours mid-morning most weekdays. Now I have not seen any of my colleagues since then. I miss seeing them. We do get out for groceries and other necessities. Dickinson retirees have a social group, and some of us meet weekly on Zoom for short talks or sometimes just to chat.

Sometime after I retired a colleague suggested that I write a guide to good geologic teaching localities in the Carlisle area. After many years puttering away at it, a year or so ago I turned over to the department an extensive guide to some 60 localities with lots of references and some photos. It is now on some internal computer drive that I don't even have access to, although Marcus will add things if I furnish them to him.

Helen is well and still working at the Pennsylvania Geological Survey--actually tele-working from home now. Our son Noel Lewis is home with us.

Jeff Niemitz

Greetings,

Given the recent pandemic I really have little to say. We had #9 grandchild last May, a family Christmas in Nashville and a couple of other family visits. We have two trips planned; Alaska and BC in August (looking doubtful) and a trip to Israel in Nov. (who knows??).

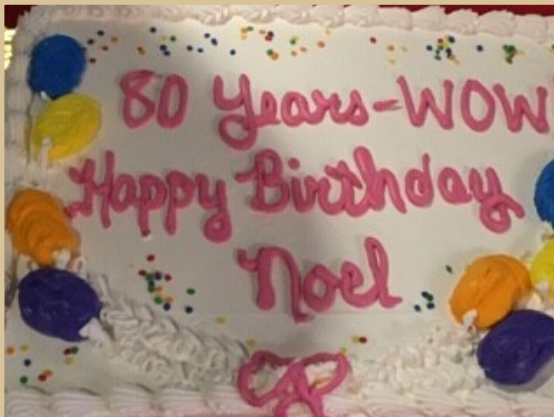
We continue to volunteer with Carlisle's homeless and semi-homeless population but that was cut off in March. That's about it.

We are safe and well and relatively unaffected by the lockdown to date. Our kids are all still working and grandkids finished school online.

Cheers
Jeff

Department Celebrations

**April 2019 Baby Shower for
Aly Thibodeau**



**January 2020 Noel Potter's 80th
Birthday Celebration**

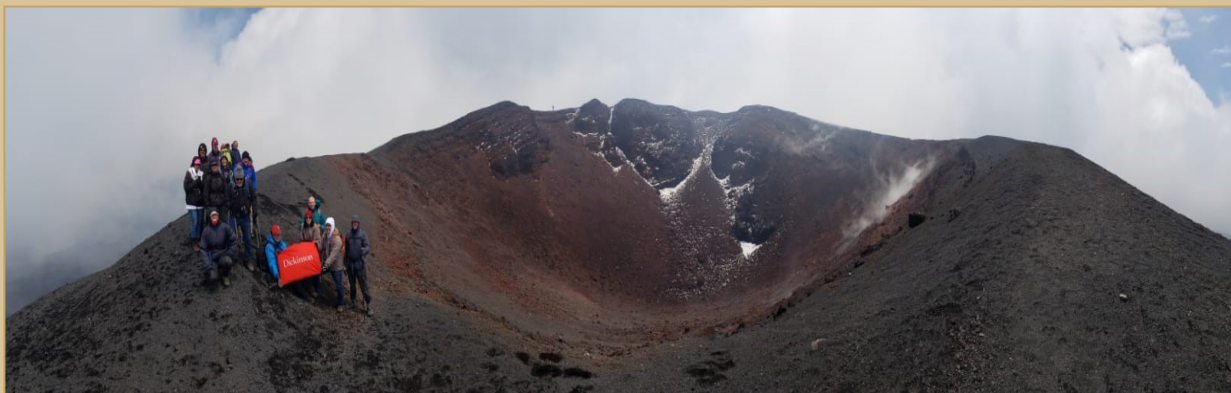
**Noel's family
(On the left is his son, Noel
and in the center is his wife,
Helen Delano.)**



Alumni Travel to Southern Italy

May 2019 By Ben Edwards

After finishing a busy academic year in the spring of 2019, I had the opportunity to lead a twelve day hiking and culinary alumni adventure to Southern Italy. The trip included such historic sites as Naples, Pompeii, Vesuvius National Park, Capri and Sorrento Peninsula.



Alumni Travel to the Galapagos Island

January 2020 (Marcus Key & Ben Edwards)

Dickinson Alumni Global Adventure to the Galápagos.

Ben Edwards and Marcus Key along with 22 Dickinson alumni and their partners, spent 10 days in the Galápagos in January 2020. The alumni ranged from the classes of 1969 to 2009, and we also had one geology alumnus and the parents of an Earth Sciences alumnus. Via our private ship, the appropriately named *M/V Evolution*, we visited 12 of the enchanted islands seeing lots of wildlife, botany and volcanoes. Highlights included reenacting the blue-footed booby mating dance on an `a`a lava flow (MK is available for virtual lessons!), visiting the Charles Darwin Center to see the tortoise captive breeding program, and snorkeling with penguins, hammerhead sharks, seals and ancient pillow lavas.

Stay tuned for future Dickinson Alumni Global Adventures – including the planned March 2021 Iceland Northern Lights trip!



ALUMNI UPDATES

CLASS OF 1961

Ron Page

I live in a 55 + community; playing a lot of golf and attending grandkids activities.

CLASS OF 1970

Nancy Spence Haile

This year I will celebrate my 50th wedding anniversary with David Haile '69.



CLASS OF 1971

Molly Eppig

I retired from teaching high school Earth Science in 2012. Since then I've been traveling more with my husband and participating in activities in our town. Library Trustee, Historical Society, Live Nativity, founder of the Bennington Rhubarb Festival.

Our sons both pursued science, earning their PhDs: one in Physics, one in Biology.

It is time for a reunion of the Alaska Trip of 1970.



CLASS OF 1971

Scott Laird

I have been an assistant Special Awards Judge on behalf of the Pennsylvania Council of Professional Geologists at the Delaware Valley Regional Science Fair for the past 5 years. Most of my free time, however, is spent doing volunteer mission work for my church.

This year I had the pleasure of spending 6 weeks in Bologna supporting Ellen following the birth of her second child. During that time I enjoyed meeting the two resident Directors for the Dickinson Program in Bologna (Prof. Andy Wolff) and the Italian and Italian Studies Program in Bologna (Prof. Bruno Grazioli).



Scott & Marty Laird
Pub Old Bridge 2019

CLASS OF 1972

Anne Bacon

I retired in Sept 2019 after practicing Rheumatology in Winchester, Va for 37 years. Am now enjoying life - reading and exercising more and am more active in the Democratic Committee in Winchester/Frederick County as well as several Quaker committees.

Also enjoy doing genealogy research. Am not doing my children's first priority - decluttering the house!

CLASS OF 1974

Geoff Coe

Still doing art festivals in SW Florida and (come summer) Virginia Beach and Williamsburg, VA. I specialize in bird photography: especially action images that show birds in natural habitats and doing the things birds do. Interested folks can view my work at www.wildimagesfla.com.

I go to Alumni Weekend every year. Also, just met up with Jay Layman ('71) and his wife Chris at Six Mile Cypress Slough in Ft. Myers, FL, where I have volunteered leading guided tours and operating a spotting scope for visitors since 2007.

CLASS OF 1975



Lisa Rossbacher ('75) and husband Dallas Rhodes at Agate Beach, Patrick's Point State Park, Humboldt County, California, March 2019.

Lisa Rossbacher

After 21 years as a university president (in Georgia and California), I retired in summer 2019. My husband of 40 years, our crazy Dobergirl, and I are living in Santa Fe, New Mexico, where we can see mountains in every direction (Sangre de Cristos, Jemez, Ortiz, and Sandias).

I am really enjoying the opportunity to get back to what originally interested me about a career in higher education: learning. I've been taking classes (for grades!) in screenwriting and photography at the local community college. I'm focused on writing at the moment, including scripts, novels, and non-fiction. Dallas and I are both doing volunteer work in the community and planning lots of travel.

And our favorite field trip in New Mexico was with a group from Arizona State University, exploring the Valles Caldera and the ignimbrites, tuffs, pumices, and associated landforms.

CLASS OF 1975**Sara Heller Baldwin**

After 23 years of being a stay-at-home Mom, I have been putting a bookend on my career by teaching geology at Charleston Southern University for the past five years. This is the right place for me! CSU is a Baptist college in the Bible Belt. I enjoy challenging the young earth creationists here with a thoughtful and sensitive presentation of the evidence supporting an old earth and evolution, along with some ways to interpret Genesis that integrate faith and science.

Another bookend to my career has been my recent research. I was awarded a grant by the Cave Conservancy of the Virginias to make a geologic map of the Williamsburg anticline in Greenbrier County, West Virginia. This is a karst area with very rich ground water resources. It has not been mapped since 1938! So I am back looking at rocks in cow pastures and mountainsides, wading creeks, and scrambling over barbed wire fences. And it is so much fun! It is like doing a really big jigsaw puzzle, but I have to find the clues too. So far I have discovered five major reverse faults which have been somewhat of a surprise in this transitional area between the Valley and Ridge to the southeast, and the Appalachian plateau to the northwest.



CLASS OF 1978

Wayne Geller

Married to Beverly S. Geller (BA-University of Tennessee) for 26 years. Our daughter, Hannah, graduated Penn State in 2019 majoring in Communications with an emphasis in Film. She is currently working for Short Order Production House in Wilmington, Delaware. Our son, David, is finishing his sophomore year at Penn State University and is in the Smeal College of Business.

For nearly 10 years, I was a board-certified family physician in Northeast Philadelphia which I thoroughly enjoyed. As a result of managed care impacting my patient base, I decided to pursue a career in drug development utilizing my clinical medicine and pharmacology knowledge. The first 7 years of my drug development career were spent in Patient Safety at Johnson and Johnson in Titusville, NJ. The following 19 years were also in Patient Safety at AstraZeneca in Wilmington, DE.

In all, it has been a great 42 years since I graduated from Dickinson in 1978. Along the way, I have continued to fuel my passion for learning and enjoyed sharing/applying that knowledge to others in order to improve peoples' lives.

I am forever grateful to Dickinson, especially my professors and classmates, for having left an indelible mark upon me as an ambitious student wanting to make a difference in the world using the knowledge and skills that I received at Dickinson. Special thanks to Dr. Bill Vernon, Noel Potter, Robin Graham, Ken Wolgemuth, Henry Hanson, and Jeff Nemitz for putting our interests ahead of their own. You made a difference in all of our lives and that is something we will never forget.

CLASS OF 1982

Kristen Begor

Happily married with three boys, Will, Chase and Cortland.
We split our time between New Hampshire, Boston,
Park City and Atlanta.



Betsy Strachan Suppes



Betsy, Greg and sons, Conrad and Sam

Conrad, my oldest son is graduating from Episcopal High School this spring. Sam, his younger brother is at Culver, playing polo and riding in the Black Horse Troop. My husband of 19 years still reminds me of the time early in our marriage when I dragged him out to the Nevada desert to go trilobite collecting.

While many of my peers are now retiring, I am still “at the salt mine” because Conrad and Sam are in school. They will loan you money for college, but not retirement. I have been working toward my certification in mineral appraising. I have been doing oil and gas appraisals for a long time, however, felt that it would be good to have this certificate. In June of 2019, I completed a USPAP course in appraising. Although the class was structured more for residential and commercial appraisers (i.e., the surface estate), this class is a necessary step for receiving the stamp from the IIMA (International Institute for Mineral Appraisers). If I write you a snail mail letter, I will “impress” you with my crimp.

In addition to oil and gas appraisals, I have done private oil and gas company valuations, provided litigation support to attorneys and continued to work with charities that receive in-kind gifts of oil and gas rights. Not too long ago, I had a client who wanted to know if there was “architectural rock” on the property that they bought. I never thought that a liberal arts college distribution requirement 40 years ago would have resulted in a self-employed geologic consulting practice. I have many rocks in my collection, but I still do not have a crystal ball.

CLASS OF 1983

Suzanne Kairo

I retired from ExxonMobil in early 2018, freeing up my time and energy to do more of what I enjoy: geology! I'm putting my knowledge and expertise to work in developing lectures and teaching material and sharing those with young geologists through invited lectures and workshops. Through my affiliation with the Indiana University Geologic Field station in Montana, I am developing a virtual petrology laboratory that will allow students to make observations and collect data from high resolution digital images of thin sections of geologic formations in the field station study areas. I'm also expanding my network of colleagues outside of the fossil fuel industry to engage in academic research. I plan to keep active in professional societies, so if you are a geologist, keep an eye out for me at conferences.

This year my husband, Glenn Hieshima, also retired from ExxonMobil. He is a geologist, but his passions are fishing and playing bass trombone, and he is already fully engaged in both of those activities. Houston is a pretty good geographic location for us to pursue our interests, so we will stay here for at least a few years until the drain of traffic, over-development, pollution and climate are no longer worth the convenience of big-city-living.

I welcome communications from Dickinsonians, especially my geology-major contemporaries.
What are y'all up to?



Glen, Suzy and daughters,
Kalina and Hana

David Ellis

With both of my "younger" kids in college, I'm embracing empty-nest syndrome and beginning the process of downsizing in anticipation of (eventual) retirement. As part of that, I've been donating much of my father's extensive mineral and rock collection to Dickinson, along with some of his records from 30 years of prospecting and exploration geology, primarily in southern Africa.

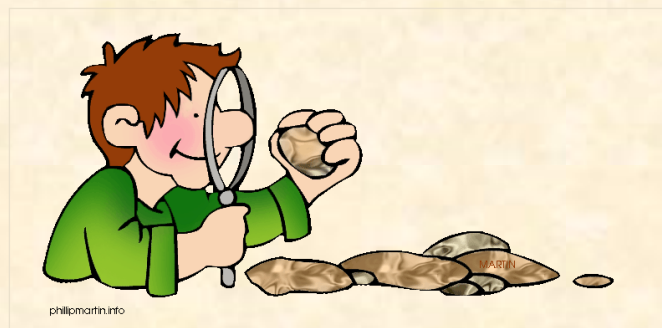
Meanwhile, I'm still working at the American Horticultural Society, where I am editor of the membership magazine (The American Gardener) and director of communications. In my free time, I'm enjoying gardening, bicycling, kayaking, and doing a bit of traveling. Having just gone through my 40th high school reunion, I'm looking forward to my Dickinson 40th in a couple of years.

CLASS OF 1992

Rolf Ackerman

I spent the 2018-2019 academic year in law school here in Houston. During the summer of 2019 I came the conclusion that I was more in love with the idea of learning the law than actually becoming a practicing attorney. I decided that it was not worth the expense and time commitment to do something that I could pursue on my own, so I withdrew from the program. So, I am back on the job market, but with the oil and gas industry doing so poorly for the last couple of years, and especially now with COVID-19, it is not a good time to be on the job market.

I hope everybody is staying safe and healthy!



Andrew Judd

Celebrating our 14th anniversary with wife Jennifer this year. Son Robbie is 11 y.o. (6th grade) and daughter Katie is 7 y.o. (2nd grade).

Professionally, CH2M HILL was acquired about 2 years ago by Jacobs Engineering and it's been a great merger. Office moved closer to home in Morristown, NJ and we're still living in rural Chester, NJ.

There's lots of family travel with both kids in travel soccer (why does it have to be year round?!) and other activities. I follow Facebook but don't post much.

Would love to hear from any old friends.

Andrew.Judd@Jacobs.com



CLASS OF 1996**Jonathan Gourley**

I've spent the last two years working on a serious problem that many homeowners in Connecticut are facing with home foundations tainted with aggregate containing the mineral pyrrhotite. We have developed a test for homeowners that estimates the concentration of the reactive mineral in their foundations.

In addition to my teaching responsibilities at Trinity, I spend a much of my time educating/advising homeowners, realtors, contractors and politicians on how pyrrhotite reacts and where it can be found in CT bedrock. It has been a rewarding project that has added true relevance to the field of geology in Connecticut and has provided my students with many interesting undergraduate research projects.

**CLASS OF 1998****Meredith Robertson**

Meredith Robertson retired from the Central Intelligence Agency (CIA) on January 1, 2020 as Director for CIA's 24-hour operations center. Her 18 years of service included National Clandestine Service operational assignments worldwide to include several war zones. Meredith held senior Directorate of Operations (DO) positions in the field and at CIA's Headquarters in Counterterrorism and Counterintelligence.

She also served as an instructor at CIA's flagship operational training school and was the recipient of numerous CIA awards for leadership, innovation and achievement. Meredith now serves as a senior consultant and instructor for the DoD and intelligence community.

CLASS OF 1998



Solomon's Pillars in Timna Park, near the city of Eilat, Israel.

Susan Herrgesell Zimmerman

Hi everyone! I'm excited to say that I'm writing this update from Jerusalem, where I'm on a year's sabbatical leave from my job in California. I'm working in the Institute of Earth Sciences at Hebrew University, where there are lots of amazing geochemists and geologists. For the first time in a very long time, I see cases of fossils, minerals, and rocks when I walk around my building every day. I'm taking advantage of this year to finish writing several articles on the past climate records of the western U.S., primarily from lakes, which are my expertise (and love), and start work on some datasets that have been waiting patiently. All the records I work on these days are Holocene (last 12,000 years), but my love for lakes goes back to my senior thesis with Jeff, on the Triassic lakes of the eastern seaboard.

My family is here with me, and we're all enjoying the adventures (and learning to be resilient to foreign bureaucracy, banking, etc.). The girls (Channah is 16, Rose is 13, and Sarah is 10) and Jack have all spent many years learning Hebrew, and I'm working to catch up a little. It doesn't help that there are lots of Russians here, so on the bus I have to tune out the conversations in Russian (my minor at Dickinson) in order to listen to the Hebrew ones! We've had a chance to do a little bit of traveling around, swimming in the Mediterranean in Tel Aviv, visiting outcrops of Pleistocene lake sediments (varved!) along the Dead Sea, and wandering among the rocks at Timna Park, near Eilat.

We'll return to California and real life over the summer, and hope to see you if you're ever in the Bay Area!

Joel Knauff

I celebrated my 11 year employment anniversary at Maryland Department of the Environment in November 2019. I work as a project geologist in the Land Restoration Program under the Controlled Hazardous Substance Enforcement Program (formerly State Superfund/Brownfields Program) and Voluntary Cleanup Program. Our program oversees environmental investigations and cleanups for properties where non-petroleum soil and/or groundwater contamination is suspected or had been identified.

CLASS OF 2009

Whitney Hoffman

Hello Dickinson friends!

I earned a Master of Science with Distinction in Archaeology from Bournemouth University (Bournemouth, UK) in November 2017, and started my National Park Service career in April 2018 at Weir Farm National Historic Site (Connecticut).

I am now working as an Administrative Support Assistant for Montezuma Castle and Tuzigoot National Monuments in Arizona.

These monuments are part of the Southern Arizona Group of parks, so I also provide administrative support to Tonto National Monument, the Southern Arizona Group office in Phoenix, and the Western Archeological and Conservation Center in Tucson.

While I miss working in the field, I'm privileged to be living inside a national park! Hope everyone is doing well and look forward to checking in next year.





Jake & Alyssa Chaplin Davidson

We moved out to Colorado in 2013 after getting married and both love the casual and relaxed lifestyle as well as the geology just outside our door. We live at the base of a mesa capped by lava flows and can see columnar jointing through our front window.

Alyssa is finishing her 10th year of teaching Earth Science with Jeffco Schools. She loves working with high school students as they learn more about the world around them and their impact on the environment.

Jake has been working with IDS GeoRadar for the last seven years. He started doing technical support for the company's mining clients and now enjoys balancing that with working closely with state Departments of Transportation to increase monitoring of rock fall and landslide hazards along transportation corridors.

Outside of work, Jake is still mountain biking and both of us enjoy hiking and exploring new places.

Marc Baumann

Ashley ('13) and I moved to Basking Ridge, NJ in late 2018. Our little boy is almost two now and is joined by a little sister. Our daughter, Hadley Stella Rae Baumann was born on January 12, 2020. Mom and baby are doing well.

I was promoted to Project Manager at Greek Development in January 2020 also. I oversee large industrial warehouse construction projects. I thoroughly enjoy my new role and the challenges that arise everyday.

CLASS OF 2017

Amanda Santilli

I am currently in my final semester of working towards a master's degree in Urban and Environmental Geosciences at the University of Missouri-Kansas City. My thesis is on a volcano in Iceland called Askja, where I went for field work last summer.

I have also enjoyed reconnecting with Dickinson faculty, students and alumni at various conferences, most recently the national American Geophysical Union conference in San Francisco this past December. Continuously thankful for the opportunities and experiences (field and otherwise!) that Dickinson and the Earth Sciences department provided for me!



I'm sitting in the same place a few Apollo astronauts have sat when they came to train at the same volcano I'm doing my thesis on! This particular feature is called The Rosa and it's in the Nautagil gully at Askja volcano in central Iceland.

CLASS OF 2019

**Tom O'Donnell**

Since graduation, I've been working for an environmental consulting firm doing federal contract work for the U.S. EPA. Remediation of the sites I work on are exclusively funded through CERCLA, also known as the Superfund Program. I have even helped in emergency responses to accidents such as hazardous waste spills.

CLASS OF 2019

Hayat Rasul

After I graduated, I wanted to further collaborate with my alma mater's community as well as multiple communities in Pennsylvania and New York.

At ALLARM, I co-lead a variety of community education workshops for diverse stakeholders, coordinate our Shale Gas Monitoring Community volunteers and database, and document ALLARM's work through generating media and expanding our outreach initiatives through the digital platform.

Pursuing a career in consulting and an education in Urban Planning as well as being a lifelong learner are the next steps on my journey!



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

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- ◆ 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.