

MACALESTER GEOLOGY



FALL 2025 NEWSLETTER

GREETINGS FROM THE CHAIR RAY ROGERS

Hello Macalester Geology! I hope this Fall 2025 Newsletter finds you happy and healthy! I'm still rambling along, and this fall marks my 28th year at Macalester and the beginning of my 16th year as chair. I'm back at it after a much-appreciated break (sincere thanks to Alan Chapman for his service over the past three years).

To start, a few quick news items. We are planning some updates and renovations in the department, such as new images in the hallways that better connect with our exhibits. And speaking of exhibits, Jeff Thole has made great progress on two new cases of amazing agate specimens (generously donated to the department by Mary Kazeil Anderson of St. Paul). Most of you are well aware of Jeff's love of agates - he has taken his obsession to a new level. Stop by and check it out if you are in the neighborhood!

Emily First recently completed her 3rd year review (success was never in question - congrats Emily). She is making great strides setting up her experimental petrology lab. A room in the back of the Keck Lab



*Jeff Thole, Josh Schmidt '27, Ava Ver Ploeg '27,
and Ray Rogers, SW Wyoming*

has been converted to accommodate exciting new adventures in petrology. Emily's furnace is here, and the fume hood will soon be replaced. In the near future Emily and her students will be making their own igneous rocks right here in Olin Rice!

Our other new(ish) colleague Benoit Welsch is also doing great and making wonderful contributions to our program. Last semester Ben headed up our Spring Senior Seminar, and our seniors appreciated his guidance as they worked to complete capstones and theses. This semester Ben is teaching Analytical Methods for the second time, and the students in the course are getting a solid grounding in the theory and methods of rock/fossil analysis. Ben is also teaching one section of the Dynamic Earth and Global Change lab to lighten the load on Jeff. Thank you Ben!

Some of you may have met our second Oberg Postbac Riley Waters last year, and Riley was a great addition to our department. They have since moved on to a PhD program at Yale (go Riley!). Our new Oberg Postbac Alexandra (Alex) Parr ('25) is now on the job! Alex is a Saint Paul native and scoria aficionado (her Senior Honors Thesis focused on gas bubbles in Icelandic basalts). We all look forward to spending this year with Alex and we are excited to help her explore next steps (thank you again Rollie Oberg, class of 1960, for making this endowed position possible).

Last but not least, we all remain wonderfully pleased with our Department Coordinator Kate Anders. Kate keeps things organized and moving smoothly, and she is an outstanding addition to the geology crew. She even knows a little something about rocks (Carleton geo undergrad).

Now a few highlights of my own. Fall semester 2024 I co-taught a new course with Kristi entitled "Origins and Extinctions: Rocks and Life in Deep Time." In this course we explored topics ranging from the onset of plate tectonics, the origin of life, evolutionary innovations, and mass extinction. Numerous experts ZOOMED in or stopped by in person, and together we explored the evolution of early animals, the return of tetrapods to the seas (think marine reptiles and whales), the amazing Cretaceous birds of China, mass extinction (P/T in the Karoo and K-Pg in Montana and Colorado), and many other topics. Visitors included alums Tom Tobin ('08), Brady Foreman ('04), and Rachel Surprenant (18'). Even Jack Horner of dinosaur fame stopped by to visit with the class (and catch a Vikings game). The last and only other time Kristi and I co-taught a class was back in the early 2000's. We hope to do it again before one of us retires and moves to Montana!



(Left) Ray on the rocks in central Montana with Andy Grott '27.

(Below) A lone guanaco in Ischigualasto is looking forward to our visit this coming January!

In January 2025 Kristi and I traveled down to Argentina to plan a new January course. We connected with colleagues at the Universidad de San Juan and selected a route through the Precordillera. Rocks and early dinosaurs and endless amazing desert landscapes await our return this coming January (2026), when we will bring with us 14 lucky students (and a few department colleagues)! In June I traveled to southwestern Wyoming with Jeff to begin a new project in the Upper Cretaceous Almond Formation. Two current juniors, Ava Ver Ploeg and Josh Schmidt (currently in New Zealand) joined us in the Almond, and the two of them spent three weeks out in the Wyoming wilds camping and learning the ins and outs of field paleontology. Later in July and August Kristi and I shifted the focus north to Montana, where we worked on microsites and returned to a plesiosaur site to prospect for more material. Next summer we plan to bring students with us to exhume the specimen.

To wrap things up, a quick update on the state of the department. All is well, and thanks to the generosity of our alums and the college, we continue to accomplish our goals and enrich the learning experience for our students. A key lab is being updated, our classes are well enrolled, and we presently have 32 declared majors and 4 minors. Seventeen majors graduated this past spring, and eight more will graduate this coming spring.

Go Mac Geology!



Fall 2025 Paleobiology field trip to Rockford, Iowa



KRISTI CURRY ROGERS

Hi! This summer was fantastic! Ray and I kicked it off by attending our daughter, Lucy's, graduation from Colorado College (right), where she majored in Geology and minored in Dance. From there, I had a productive visit to the Denver Museum of Nature and Science, where I got to hang out in the fossil collection with alums Sierra Swenson '17, Julia Ricks '22, and Brooke Noonan '23, who were all working in museum curation and/or education. In Denver I also got to reconnect with alums Patrick Sullivan and Casey Dallavalle (both '16). The alumni experience extended to reunion where Kelly and I got together with a ton of folks from way back when at Dunn Brothers – it was wonderful to see everyone (and to ensure they all had their Mac Geo Swag).



After a few weeks in Minnesota, Ray and I headed to Paris, where we worked in the Musee d'Histoire Naturelle fossil collection on specimens collected back in the early 1900s (left). While in France, we made sure to connect with old friends and spent some fun evenings hanging out on the Seine and hit up a few art museums. Then it was off to Montana, where we visited our old stomping grounds in the Upper Missouri River Breaks National Monument (lower left), fly fished like crazy, worked on our shipping container cabin (lower right), and revisited and collected at the plesiosaur site that we first worked in the summer of 2024. Marisa Luft ('25) who completed their honors thesis in May on the vertebrae of this animal, has officially joined the "Macalester Mafia" at the Denver Museum. We'll look forward to seeing them next time we're in the collection.





Scenes from the PTC: Southern terminus, San Jacinto Mountains, & Mount Whitney



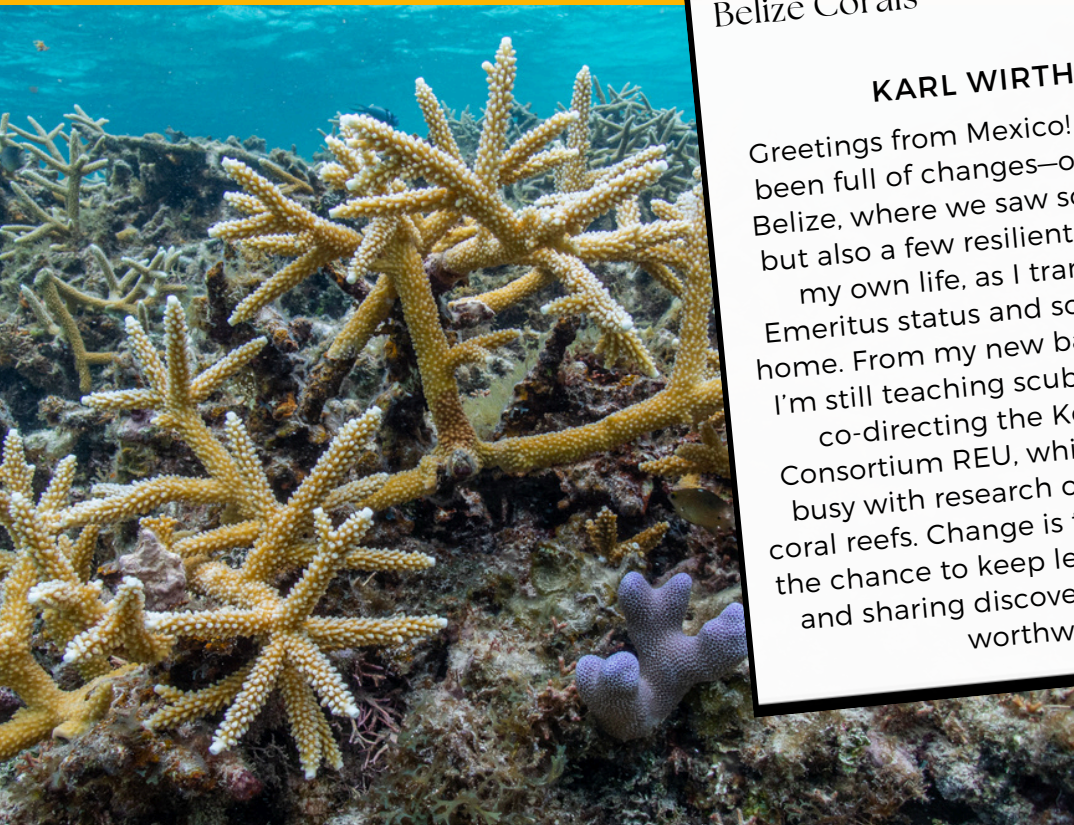
ALAN CHAPMAN

The 2024-2025 academic year was my last as chair of the department (the torch has been passed to Ray!) and included teaching the latest iterations of "Tectonics" and "Structural Geology" courses, which are always a hoot. I also supervised four students working on field-based projects in Northern California and Svalbard (Norway). It was a blast to see how far their projects had come since the previous summer when they, and 13 of their fellow seniors, presented their work at our annual Capstone event. My students presented their work at the GSA Cordilleran Section meeting and at the International Conference on Arctic Margins and are currently preparing manuscripts for publication.



The summer of 2025 was a big long personal and professional adventure. Two days after turning in grades for the spring, 2025 semester I flew to San Diego to begin a thru hike of the Pacific Crest Trail. I began walking from the Mexican border on May 10, taking 94 days to traverse 2,655 miles of mountainous wilderness, and reached the Canadian border on August 11. While the purpose of this trip was largely self-discovery, an important "side quest" entailed collecting photos and locations of mind-blowing landscapes and rock outcrops found along the trail. This resource will soon be hosted in FarOut, a ubiquitously used navigation app, enabling curious hikers to unravel the secrets of the rocks and landscapes found along the trail. I also plan to write a book on the geology and landscapes of the Pacific Crest Trail as a backburner passion project throughout the 2025-2026 academic year.

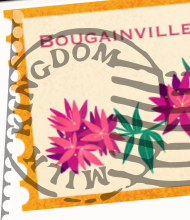
As I write this I'm still adjusting to "real life" behind a computer screen in the relatively noisy Twin Cities. That said, I'm delighted to embark on the domestic adventures of beginning a new year at Macalester and being with my family (my wife Kelly, our high school freshman Gabriel, and our 7th grader Jake).



Belize Corals

KARL WIRTH

Greetings from Mexico! This year has been full of changes—on the reefs of Belize, where we saw sobering losses but also a few resilient corals, and in my own life, as I transitioned to Emeritus status and sold our St. Paul home. From my new base in Cozumel, I'm still teaching scuba, birding, and co-directing the Keck Geology Consortium REU, while also keeping busy with research on learning and coral reefs. Change is the constant, but the chance to keep learning, teaching, and sharing discoveries makes it all worthwhile.



Mac Geology D

1600 Grand Av

Saint Paul, M

55105



KATE ANDERS

Kelly, Riley, Kate, Ray and Emily at the Mac holiday party Dec 2024

Greetings from the Department Office. This past year, my first at Mac, was an amazing adventure. I've had a blast getting to know students, faculty, and staff. Jökulhlaup and Lacuna Bajada, the two department BBQs, were so much fun - turns out I'm pretty good at throwing rock hammers. I learned a lot attending the senior major capstone and honors talks in April. One of my favorite tasks has been helping students pick a flannel and take their photo when officially declaring their geology major. I may be mostly working behind the scenes ordering massive quantities of Ziplock bags, running department tea time, and helping people find Jeff, but I feel fully adopted into the Geology Family. I even went along into the field with Jeff and Alex at the end of the summer to hunt for more graptolite fossils for our collection. Stop in and say hello if you are in the area, or email me at kanders@macalester.edu with your updates - we'd love hearing from you!

KELLY MACGREGOR

Hello amazing Mac alumni!

It has been a fun past year for me – a busy fall semester teaching and then a semester sabbatical in the spring. I had several fun adventures – New Hampshire, Tennessee, New Jersey – as well as a three-week trip to the European Geological Union Meeting in Vienna, Austria (and some travel in nearby Austria, Hungary, Italy, and Germany). Being in the Alps was so inspiring, and I got to think a lot about alpine landscapes!



In addition to eating some amazing food and enjoying train travel, I got to spend a long afternoon visiting the South Tyrol Museum of Archeology (Ötzi the Iceman museum)! Ötzi is a 5,300 year-old mummy from the Copper Age, found ~30 years ago on a mountain ridge covered by a perennial snow/ice field at the border between Italy and Austria. His story is incredible, and there's tons of great geoscience (including isotope geochemistry) that was used to understand his history.

A highlight of June was a GREAT Macalester Reunion with so many geology alumni back! Kristi and I were lucky enough to spend a morning drinking coffee at Dunn Bros with Mara Brady '05, Cara Harwood Theisen '06, Kirsten Fristad '05, Eric Hankin '05, Genevive Mathers '05, Edward Schexnayder '05, Nick Perkins '05, and Sam Polglase '05. I also managed to see Louisa Mullin '20, Ilian DeCorte '15, Emily Diener '15, Anya Ptacek '20, Gabbi Rutherford '20, and Clare Johnson '20 (pictures below)! It was so so wonderful to reconnect with folks as peers and hear all about everyone's life and adventures.



I spent the summer co-writing (with Karl Wirth!!!) an NSF Research Experience for Undergraduates proposal to help fund the Keck Geology Consortium (Keck Project) programming for the next four years (fingers crossed)! If the project is funded I'll be helping support summer research opportunities for ~20 students per year. It is a pretty uncertain time for NSF funding, but we feel good about the proposal and of course working with undergraduates is so wonderful and important for the future of the geosciences. I also submitted a paper on my work looking at two centuries of environmental change in Glacier National Park, Montana that was long overdue (shout out to co-author Heidi Anderson '14!) and am currently working on the revisions. I'm teaching a new FYC this fall after saying goodbye to an AMAZING cohort that graduated this past spring, and am looking forward to our annual trip (with Jeff leading!) up to Bear Head Lake State Park and the Soudan Mine. Hopefully we won't have a repeat visit by a VERY large black bear.....! Geomorphology will be making our usual pilgrimage to Minnehaha Creek for the Rivers Project; hopefully we will see Carolyn Eckstein '22 (working for Minneapolis Parks & Recreation Board on stormwater management) out there again!

I still enjoy reading novels, hanging out in my garden (working to transform my yard from turf grass to a bee-friendly landscape with lots of 'leftover' rocks), and getting in some exercise and time outdoors! Our dog Murphy is still around (going on 16!), so walks are slow and meandering; our cat Ash is still his cranky self. We are fully empty-nesting now that our youngest is a Macalester sophomore! I miss so many of you and would love to hear how you are doing!

Fall 2025 FYC Dynamic Earth field trip to Lake Superior and Bear Head Lake State Park, MN





Brachiopod fossil collected on a recent Paleobiology field trip to Rockford

SPECIAL THANKS

Generous gifts over the past year from alums and department friends help make it possible for us to take good care of our students, especially in relation to support for collaborative summer research and field camp opportunities. We thank Rollie Oberg ('60), Mary Kazeil Anderson, Emily First, Phillip First, Joan Jacobs First, Mikayla Giehler ('24), Katja McKiernan ('18), Larry Pancoast ('73), Kristi & Ray Rogers, Kurt ('70) & Lesley Rusterholz, Hilary Schroeder ('12), and Jessica Shields ('15) for recent gifts and continued support of the geology program.

Congratulations to the 16 majors who graduated in May, 2025:

(Back left) Alex Parr, Lily Zugschwert, Sophia Powers, Rana Rishmawi, Claire McDayter-Hunter, Ike Hatlevig, Ollie Branch, John Johnson, Sophia Esquenet, Serena Stein. (Front left) Noah Riccardi, Matthew Flowers, Carmen Ramirez Y Porter, Gustavo Marchant Allende, Josephine Fernholz, Marisa Luft



ALEX PARR

My name is Alex Parr and I am excited to work this year as the Postbaccalaureate Department Assistant! I graduated in May as a geology major and environmental studies minor. I also completed an honors thesis studying the vesicles in tephra from the 1973 Eldfell volcano in Iceland to better understand the eruption dynamics and the development of the volcanic system. I will be continuing to work on this research over the next year and will be presenting a poster at GSA in October. Before returning to Macalester in August, I spent the summer on a long road trip visiting national parks, backpacking, and of course, learning about the geology of all the places we visited.

I am grateful to Dr. Rolland Oberg and the geology department for this opportunity to develop my technical, teaching, and research skills in my role as the Post Bac!



Alex on a backpacking trip in the Bighorn mountains in WY this summer

Spring '25 Petrology students visiting Rockville quarry near Saint Cloud, MN. Students from left to right: Matthew Flowers, Caleb Bartlett, Delilah Acosta, Alex Parr, Elizabeth Trevathan, AJ Pier.



The final Geology and Physics tea of '24-'25! My son Gabe enjoyed getting in on the action. From left to right: Jeff Thole, Ray Rogers, Emily First, Ben Welsch, Gabe Welsch, Claire McDayter, Riley Waters.



EMILY FIRST

Happy autumn, everyone! I've been keeping busy for the past year: teaching, diving deep into research, field tripping, and spending time with husband Ben and now-Kindergartener Gabe. Eight of the fifteen First-Year students from my Dynamic Earth course last fall have now declared a Geology major (shout out to Jeff and Ray for sealing the deal in Historical)! I'm so grateful to have the opportunity to continue watching them grow as scientists and humans.

I spent the summer working on lunar research and taking some time with my family. In May I served on a National Science Foundation proposal review panel, which was inspiring (cool science! new professional acquaintances!) despite the depressing state of science funding in the US. June saw a week at the University of Minnesota, analyzing more Apollo 17 Moon rocks, and a couple of days spent with the Minnesota Minerals Education Workshop (MMEW) for K-12 teachers. This summer also marked the emergence of a new lunar research collaboration involving a group of physicists from Georgia Tech, including my own father! It has been unexpected, fun, and delightfully challenging to work across disciplines. In July we spent time visiting family and doing classic summer activities. August was back to UMN for more Moon rock research, and then to San Francisco for a conference about exoplanet science ...and now here we are with fall semester well underway!



Beachcombing during a break from the 51 Pegasi b Summit in Half Moon Bay, CA

Just before classes began, I received a huge crate containing the main experimental equipment that will go in my lab. When this furnace is up and running, I'll be able to melt and crystallize rocks at up to 1700 °C under a controlled gas atmosphere. These experiments will shed light on how magmas crystallize under conditions that mimic those on Earth, the Moon, or another planet. I'm excited to have my pre-tenure sabbatical this coming spring so that I will have more time to get this complex equipment up and running. If you have suggestions for our lab name, send 'em my way. MagMac? Magmas@Mac? LunarLava? Clever wordplay appreciated! Have a great year!



The new furnace and control system for my lab finally arrived!

BEN WELSCH

Hi everyone!

This past year has been quite intense for me, as I started to teach again after a long time. I had forgotten how much I enjoyed ~~torturing~~ connecting with the students, learning from them, and seeing them grow and mature. I started last fall teaching Analytical Methods – a new class developed with the help of Jeff, Emily, Riley (our 2024 – 2025 postbac) and Jen Mitchell (UMN). One goal is for students to become independent on the instruments in the Keck lab.

Meanwhile, Emily and I had the pleasure of welcoming 16 FYC students into our home for a home-cooked brunch (they devoured 80+ delicious crepes!), and hosting Thanksgiving with Riley and two of our seniors. Last spring I was then in charge of one section of Volcanoes, a fun and popular class crafted by Emily and that I further developed.

Finally, I ran the Senior Seminar class with Alan's help, to assist our seniors in their capstone presentations and thesis writing. Commencement at Mac was a great experience for me, seeing our students closing an important chapter of their life as they crossed the finish line, and looking for new beginnings. Summer was relatively busy, submitting a new research proposal to NSF, setting up our experimental petrology lab with a new heating stage, and working with Claire McDayter-Hunter ('25) and Daniel Li ('27) on two summer projects. Emily and I then had some much-needed family time: my mom visiting from Reunion Island, my extended family visiting from NYC, and we also went to Georgia for more family time – and to get our fill of fried green tomatoes! Now that the new academic year has started, I have been running the same classes as last year, with the addition of one lab section of Dynamic Earth with help from Jeff, Alex ('25 graduate and now our new postbac) and Scarlet ('26, our preceptor). Another year, another adventure in the Midwest!

JEFF THOLE

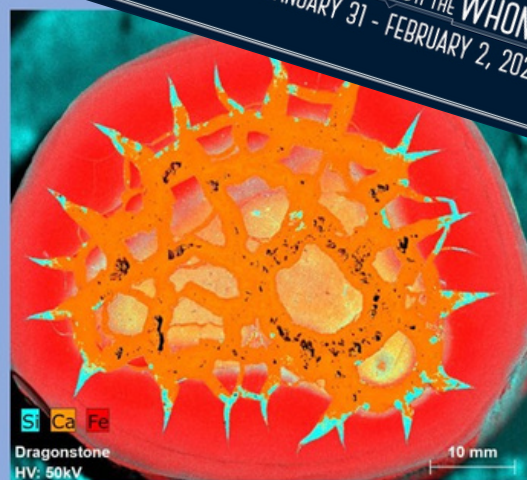
Another year has flown by but what doesn't when you are (still) having fun. We continue to enjoy success as a department bringing in an excited contingent of new majors. I believe this is a testament to the quality of our program, the enthusiasm displayed by our students and department members, and the continued support of our alumni. It is this sense of vibrant community that seems to define us and after nearly 3 decades, I'm grateful that continues. Our community keeps me hopping with the usual laboratory demands, field trips, and teaching. Since I can't "hop" as high as I used to, the growing amount of help I receive now is appreciated more than ever (shout out to Kate, Alex, and Ben). I also continue to do outreach as opportunities arise including an (nearly) annual visit by the Geological Society of Minnesota where I present a "Laboratory" on a mutually agreed upon topic (e.g. fossils, rocks, minerals, analytical techniques). I also gave a presentation last February to a local Dr. Who convention here in the Twin Cities (Console Room - "Rockin' through the WHONIVERSE"). Who knew?

Spectroscopy:

Mining information
using X-rays and
Electrons

Jeff Thole

Macalester College
Geology Department



ROCKIN' THROUGH THE WHONIVERSE
JANUARY 31 - FEBRUARY 2, 2025

LETTERS FROM FIELD CAMP

"I had such a lovely and educational experience doing the hydrogeology field course at the Itasca biological field station. I met some incredible people from all over the states and made some wonderful friends. I had never taken a hydro course before, so I came in with no prior experience which ended up being totally okay! All the professors were great and each were passionate about the individual topics they taught during the course. The TA's were also great and very helpful when questions arose during work. I gained many skills such as being able to do a pump test, slug test, understanding groundwater and surface water interactions, stream gauging, solute transport processes, how to use QGIS, and learned a lot about the geological glacial history of Minnesota. I had so much fun learning the material and it helped a lot that it was a hands-on experience as it helps to understand the material when you can see it right in front of you! I would highly recommend this course to anyone from any level of geology learning and, due to this course, in the future I hope to pursue a career in Hydrogeology!" - Sadie Cutler '26, attended UMN Hydrogeology Field Course

"I really enjoyed my time at hydro camp and I gained some very valuable experience. I really loved taking the surface/ groundwater hydrology class at Mac and this was the perfect opportunity to develop the practical skills I will need for a job in hydrogeology. We learned how to take groundwater level measurements and performed a slug and pump test at the UMN Itasca field site. I also really appreciated that the UMN hydro camp program includes a project on Line 3 that applies the concepts we learned to real-world issues to demonstrate the importance of understanding the social issues around water management." - Sophia Powers '25, UMN Hydrogeology Field Course



"Thank you so much for your interest in the Macalester college geology department and for your donation that allowed me and other students to take field courses. My experience at the UMN Hydrogeology Field Course was one of the most fantastic things I've ever done. It really solidified my love for Hydrogeology and my want to pursue a career in the field. We spent many of our days at the field site taking water level measurement of the wells, and learning various skills including surveying, sediment identification, potentiometric mapping, and stream gauging. We also were able to run two pump tests; one in the confined aquifer and one in the unconfined aquifer, something I'd been taught about conceptually at Macalester, but was unable to experience until this field course. When not working on course work, we had recreation time and spent time out on Lake Itasca (where we were staying), as well as biking, playing volleyball and soccer, and playing cards in the meal hall. I made some incredible friends throughout this class that I'll be bonded to for life. Again, I'd like to express my gratitude for you for making it possible for me. Thank you." - Scarlet Dunning '26, attended UMN Hydrogeology Field Course





"The Hawaii Volcanology field camp was such a great experience! I learned how to map volcanic settings with both pen and paper techniques and mapping software. I got to explore the amazing landscape of Volcanoes National Park and work with the wonderful Cheryl Gansecki from University of Hilo. I was lucky to be in the park when the 30th episode of Kilauea's latest eruption began. We drove to the edge of the crater and watched its low fountain eruption. I learned so much field work and mapping skills, as well as getting to talk to professionals in the field of volcanology about things like graduate school and working for a volcano observatory. I have wanted to go to graduate school for volcanology for a few years, and this experience really solidified that this is the kind of work I want to do. I am incredibly thankful for the opportunity. "

- Henna Schechter '26, attended South Dakota School of Mines and Technology Hawaii Field Camp



"I had a great time at field camp up north near Ely, Minnesota! Pictured above are myself and Josephine, a fellow Mac grad, resting our heads on some billion year old pillow basalt I had visited on the Dynamic field trip nearly 3 years earlier. We did lots of things during this camp; we visited outcrops, logged core, mapped on a large scale (a section of Soudan Underground Mine State Park) and a smaller outcrop scale, and made lots of new friendships and built new relationships with students from as far away as Buffalo or as close as St Paul. Getting to meet such incredible people, especially the professors leading the trip, Annia Fayon and George Hudak, was a great blessing and I think being able to go on this trip and attend this camp will be a great boon for me going forward. Regardless, I gained a lot of skills I may have otherwise not been able to acquire and I got to explore a new city, meet new rocks, and get re-acquainted with some I already knew!" -

Ike Hatlevig '25, attended UMN Advance Field Camp



ALUMNI UPDATE

Hi everyone! My name is Sun Tun and I graduated from Macalester College in 2022. Following my adventures at MAC as a Bonner Community Scholar, captain of the Men's Tennis team, and presenting one of the most packed honors thesis presentations in the geology department's history on fossil eggshell taphonomy from the Judith River Formation vertebrate microfossil bonebeds (VMBs), I walked off into the sunset as a first-generation college student with a major in Geology and minors in Biology and Spanish. Shortly after, I worked at a local environmental consulting firm as an Environmental Scientist II for GZA GeoEnvironmental from July 2022 through March 2025. I conducted numerous Phase I Environmental Site Assessments projects, and Phase II Investigation fieldwork. I also performed excavation oversight, and groundwater remediation monitoring alongside my project managers in this position. I enjoyed working in the corporate sector; however, I felt I could use my degree differently and challenged myself to follow a career path where I could serve underprivileged and underrepresented communities like the ones I grew up in around the Twin Cities.

Currently, I am a graduate student in the Master of Arts in Teaching Earth Science Residency Program (MAT ESRP) located at the Richard Gilder Graduate School (RGGS) inside the American Museum of Natural History (AMNH) in New York City. The 15-month program prepares each cohort of candidates to become fully licensed public-school teachers (grades 7-12) in the largest school district in the country. We take a combination of science and education courses at the Museum, along with learning to co-teach at assigned residency schools with mentors across the NYC boroughs. This fall I am a resident teacher at Midwood High School in Brooklyn with Mr. Salwen and Ms. Peat, and help out with two periods of the Natural Disasters elective courses and three periods of Earth and Space Science courses. I am grateful for this opportunity to become the best Earth Science educator I am capable of becoming, and I look forward to helping students in NYC pass their Earth Science State Regents exam successfully so they can graduate on time. This experience continues to teach me that I can learn as much from students as they can learn from me. I aspire to remain teachable and plan to fully embrace the fact that learning is a lifelong journey. In my free time, I am riding the subway to explore each borough, playing tennis against fellow New Yorkers, and practicing how to be a phenomenal tour guide at the Museum. I leave the MAC geology department staff, students, faculty, and alumni with the following poem in honor of Mr. Jeff Thole (SinkThole), an earth science educator that always made learning in and out of the classroom fun, enjoyable, and memorable:

The Bronx is Gneiss,
Harlem is Marble-ous, and
Manhattan is FULL of Schist.



Monitoring well installation field work in Brooklyn Park, MN, with Bergerson-Caswell drillers Greg and Dave



Ms. Monica and Mr. Sun of MAT Cohort 14 in the Hall of Saurischian Dinosaurs interacting with the public as part of the summer Museum Residency course.



Mr. Sun with Ms. Peat (my SpecialEd mentor) and Mr. Salwen (my science teacher) at Midwood High School for Fall Teaching Residency of Natural Disasters and Earth and Space Science courses