

Geogram 2026

A publication of
The University
of Maryland
Department
of Geological,
Environmental,
and Planetary
Sciences

Photo credit: John Consoli

NEWS FROM COLLEGE PARK

I am excited to greet all of you as the Chair of the newly named **Department of Geological, Environmental, and Planetary Sciences**. I succeed **James Farquhar**, who served the department for five years as chair and stepped down on June 30, 2026. Our department celebrated its 50th anniversary during his tenure as chair and created a new Earth and Environmental Sciences track for our majors. We also welcomed two new faculty to our department under his leadership – **Cecilia Sanders** (see highlight later in this newsletter) and **Mengqiang “Mike” Zhu**. We thank James for his leadership!

James also led us through the process of changing our department’s name. The new name Geological, Environmental, and Planetary Sciences (known as GEPS – there is a lot of debate about whether this sounds more like “jeeps” or “gehps”) more accurately reflects the interdisciplinary nature of the department’s faculty expertise and academic programming, which spans the geological, planetary and environmental sciences. He notes that “The new name maintains our distinct geological perspective and will help us strengthen our connections with other environmental and planetary programs at UMD and aligns with the university’s strategic commitment to take on humanity’s grand challenges.” **Amitabh Varshney**, dean of the College of Computer, Mathematical, and Natural Sciences recognized this change, saying “The field of geology has evolved and expanded over time, and this new name reflects the department today and will enhance its visibility and recruitment efforts.”



I am writing this letter from the Goldschmidt geochemistry conference in Montreal. I am really excited to see many of our alumni/ae at this conference. Our alumni/ae reflect the best of our program – in terms of science excellence and also community. It is really important to the department to stay in touch with our alumni/ae. You all spread the impact of our department around the country and globe, but more importantly, you sustain the sense of community developed over 50+ years as a department! We are also incredibly thankful for the support that we have received from our alumni/ae. For more information on alumni/ae see the alumni spotlight on page 9 and annual donors on page 15.

Our undergraduate and graduate students have been busy since our last Geogram newsletter. You will see in this newsletter news about our new Mineralogical Society of America Student Club (page 5) which has been very active with monthly meetings including mineral of the month activities, field trips and connections to local mineralogists. Our senior thesis program continues as a capstone experience for our undergraduate students (see page 14-15). Our graduate students continue to perform excellent research, with numerous awards from the University along with external recognition from organizations such as the Geological Society of America, American Geophysical Union, Lunar Planetary Science Conference, Department of Energy, NASA, and the EPA (see page 12).

Our administrative staff continue to keep the department running smoothly. Two new staff members have joined our administrative team: **Nancy King** and **Tierra Wesley**. Welcome Nancy and Tierra! We were sad to lose staff member **Debbie Yeagley** to cancer in early 2023. Our condolences to her family and friends. Staff members **Suzanne Martin** and **Dorothy Brown** retired after many years of service to our department. We will miss them!

Our faculty are keeping busy. Since the last Geogram, we have welcomed Dr. **Cecilia Sanders** and Dr. **Mike Zhu** to our faculty. Cecilia comes to us from Caltech (Ph.D.) with postdocs at Johns Hopkins University and the Smithsonian National Museum of Natural History. Mike comes to us from the University of Delaware (Ph.D.), a postdoc at Lawrence Berkeley National

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BY THE NUMBERS: GEOSCIENCES AT UMD RANKS #24 GLOBALLY

Starting in the basement of HJ Patterson, geology has been taught on campus since the late 1960's. The Department of Geology was created in 1973 with an exclusively undergraduate curriculum, under the direction of its first Chair **Galt Siegrist**. Ten years later, Chair **Luke Chang** won campus approval for the creation of a graduate program. Despite these advances, the first several decades of the Department were especially challenging, with repeated funding issues, including threats of closure. Subsequent growth of the Department in terms of faculty numbers, scientific stature, student success and the construction of sophisticated facilities has led to global recognition of the Department as a leading Earth science program.

Information about this can be found at: geol.umd.edu/usnwr24



Today, Geosciences at the University of Maryland Ranks #24 Globally!
(US News and World Report 2026-2027 Best Global Universities)

IN MEMORIUM: HENRY GALT SIEGRIST JR.

October 20, 1934 - September 28, 2025



Galt Siegrist served as the first chair of the Department of Geology at the University of Maryland which started in 1973. He built a department known nationally for the excellence of its undergraduate educational program with its emphasis on research, field work, and the development of the individual student. He also led the effort to develop a graduate program, which started in 1982, the move into the Geology Building, along with the move of the department to the College of Computer, Mathematical and Physical Sciences (CMPS). Today, the department averages approximately 80 graduate and undergraduate students and over 40 resident and nonresident faculty, and it remains committed to student success, as it was under his leadership.

A story was written about Galt and his contributions to the department in the 2006 GeoGram, and can be found here (p. 8): geol.umd/geomgram2006.pdf

Galt's obituary can be found at: geol.umd.edu/hgs

Galt speaking at the department's 40th anniversary gala (October 19, 2013).

HELZ LECTURE SERIES: 2025



About the Talk

The direct impact of future climate change is increasingly viewed as catastrophic for society. Since the late 18th century, atmospheric carbon dioxide concentrations have risen from about 280 ppm to the present value of 425 ppm, the highest since 3 million years ago when average sea-level was more than 10 meters higher. The rise in atmospheric carbon dioxide is mainly linked to energy consumption accompanying improved living standards and increased longevity. Therefore, putting the brakes on climate change is difficult, and workable solutions involve complex systems that include social science as well as technology and business. Universities are well placed to provide the requisite trustworthy cross-disciplinary research, education and thought leadership needed for tackling this all-encompassing challenge. The lecture can be viewed here: geol.umd.edu/helz-2025

About the Speaker

Alex Halliday is Professor of Earth and Environmental Sciences and of Climate at Columbia University, and Founding Dean Emeritus of the Columbia Climate School. He was Director of Columbia's Earth Institute (2018-23), and before that, Oxford University's dean of science and engineering (2007-15) and Vice President (Physical Secretary) of the Royal Society (2014-18). Currently, he is also a Visiting Fellow at the Oxford Martin School. Halliday is an isotope geochemist known for novel mass spectrometry techniques and their applications to the Earth and planetary processes. He is particularly recognized for his work on the development of multiple-collector inductively-coupled plasma mass spectrometry and its application to the timing and processes of accretion, core formation and volatile loss in the terrestrial planets. However, he has also worked on mantle geochemistry, silicic volcanism, mineral deposits, ocean tracers, climate change, pollution, and human health. Halliday comes from Cornwall, in the UK. He graduated in geology followed by a doctorate in physics, both from the University of Newcastle-upon-Tyne. He spent ten years at the Scottish Universities Research and Reactor Centre, then was a professor at the University of Michigan (1986-98), ETH Zürich (1998-2004), and Oxford University (2004-2018). He has been President of the Geochemical Society, the European Association of Geochemistry, and the Volcanology, Geochemistry and Petrology Section of the American Geophysical Union. He has experience with a range of advisory and funding boards, including as a trustee of the UK's Natural Environment Research Council, the UK's Natural History Museum, the University of Oxford, and, currently, the University of Cambridge. His honours include Fellowship of the Royal Society and International Member of the US National Academy of Sciences. He is the recipient of the Murchison Medal of the Geological Society, the Urey Medal of the European Association of Geochemistry, the Oxburgh Medal of the Institute of Measurement and Control, and both the Bowen Award and the Harry H. Hess Medal of the American Geophysical Union. In 2019 he was awarded a Knighthood for services to science and innovation.

About the Lecture Series

George R. and Rosalind Helz established the George and Rosalind Helz Distinguished Lecture in Geology in 2014 to allow the Department of Geology to host world leaders in science for one or a series of lectures. While George Helz spent his career in UMD's Department of Chemistry and Biochemistry, he greatly enriched the geology program by collaborating with geologists on a variety of scientific projects and student advisement. Many of the Department of Geology's faculty have also had the pleasure of collaborating with Rosalind Helz, most notably in studies on rocks from Hawaii. Rosalind Helz spent most of her career at the U.S. Geological Survey in Reston, VA. Roz and George now live in California near their daughter.



Roz and George Helz enjoying dinner on a cruise on the Seine River, as part of the 2017 Goldschmidt Conference.

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HELZ LECTURE SERIES (2026):

BARBARA A. ROMANOWICZ

The Fall 2026 Helz Lecturer is **Barbara A. Romanowicz** a Professor in Earth and Planetary Science (EPS) at UC Berkeley. Barbara received her *Maîtrise de Mathématiques Pures* from the Université Paris (1972), her *Agrégation de Mathématiques* in Paris, France (1973), her M.S. in Applied Physics at Harvard University (1975), her *Doctorat de 3e cycle* in Astronomy, at the Université Paris 6 (1975), and her *Doctorat d'Etat, Spécialité Géophysique* at the Université Paris 7 (1979). She was the first woman appointed as a professor in EPS at Berkeley, and has been the director of the Berkeley Seismological Laboratory for over 20 years. She has received numerous accolades and is: a member of the National Academy of Sciences; received the Bowie Medal -- the highest award of the American Geophysical Union -- an award aimed at recognition of scientific and service impact; fellow of the American Academy of Arts and Sciences; recipient of the Henry Reid Medal of the Seismological Society of America; elected a member of the Polish Academy of Sciences; awarded the Wollaston Medal from the Geological Society of London; and, she received the "Wibitny Polak na Swiecie" (Outstanding Pole in the World") award, among others.

Barbara was trained in pure mathematics, and found herself in seismology by what she describes as 'a series of chance circumstances.' She established the first global network of seismometers, a system used to study both earthquakes and to image the Earth's interior. She is responsible for the training of young scientists, in part in her role as Director of CIDER for over 20 years. Her current research involves deep earth structure and dynamics using elastic and inelastic seismic tomography, waveform modelling of mantle and core phases, wave propagation in complex heterogeneous and anisotropic media, and Earth's normal modes and surface waves. She is also interested in the low-frequency 'hum' emitted by the Earth and hopes to better understand the coupling of that emission to atmosphere/ocean and solid Earth processes.



Barbara Romanowicz

For more information, contact **Ved Lekic** at lekic@umd.edu.

MARC LIPELLA MEMORIAL SCHOLARSHIPS



Representatives of the UMD community at the 2025 Lipella Golf Tournament (l-r): Lucas Andrews (current), Kathy Stepien (c), Dave Grogan (1980), Dick and Gayle Lipella, Phil Piccoli (1992), Ethan Heidtman (2024), Jacob Giles (2025), Matt Pedersen (2024, c). Not pictured: Gus Kingman.

For over 10 years, **Gayle** and **Dick Lipella** have honored their son **Marc Lipella** by providing scholarships to geology undergraduates at UMD. This very generous program has recently come to an end.

Marc Lipella graduated with a degree in Geology in 2004, having completed a senior thesis with **Roberta Rudnick**, **William McDonough**, **Richard Ash** and **Phil Piccoli**. He subsequently worked as a research assistant at the National Museum of Natural History at the Smithsonian Institution while he also pursued his love of music as lead guitarist in the group Zen Black. Tragically, Marc passed away in September of 2011 and his parents have set up the Marc Lipella Foundation in his honor to provide scholarships to worthy Geology students. Over 50 scholarships have been awarded. The student recipients of the 2025-2026 Marc Lipella Memorial Scholarships were: **Alyssa Crabill**, **Ohzmar Evardo**, **Meryn Martinchick**, **Allison Stavely**, **Samantha Toibero**, **Emani Young-Moseley**.

From the student scholarship recipients, the Department, and those of us who had the opportunity to take part in fellowship on the golf course, we offer our sincere thanks to Gayle and Dick for their generosity in providing students with opportunities through their scholarship program.

CAMPUS LIFE: CONSTRUCTION OF THE PURPLE LINE



A recent view of the campus from the air. The Purple Line extends from the bottom left, and then heads due west (toward the top of the photo) towards Stamp Union and Cole Field House. The Geology Building is located at the top-right of the intersection. The "M" has been 'moved' to accommodate a new complex travel pattern that is now controlled by a traffic light. Photo by John Consoli.

The Purple Line construction on campus is approaching completion. The surface-level tracks split the campus like a zipper. The light rail system, sponsored by the state of Maryland and not the Metro (WMATA), is a \$3.4B construction project that will connect Bethesda to New Carrollton. The rail lines in Prince Georges County are now completed and the overhead powerlines are installed. One look out of any Geology Building window and it is clear there is no going back.

To accommodate the line, the traffic circle with the M – a fixture on campus since the early 1970s – had to be moved (read: destroyed, and a new 'mound' built). Four of the twenty-one stations along the 16.2 mile track are located on or adjacent to campus. Top speed of the purple – yes, purple – cars will be 55 mph. Construction on campus started during the summer of 2019. The system is slated to open in late 2027, marking the end of the multi-decade-long conceptualization and building of the light rail system. Whew! It is almost done.

MINERALOGICAL SOCIETY OF AMERICA: UMD STUDENT CHAPTER

By KATHY STEPIEN, KATE BICKERSTAFF,
MERYN MARTINCHICK

Spring 2025 was the inaugural semester of the Mineralogical Society of America (MSA) student chapter at the University of Maryland (UMD). The University of Maryland is one of only two universities in the country to have a student chapter. The chapter was led by student leaders **Kathryn Bickerstaff** (President), **Kathleen Stepien** (Vice President), and **Meryn Martinchick** (Secretary-Treasurer). Faculty advisors included **Phil Piccoli** and **Sarah Penniston-Dorland**. There were 25 additional members, including a mixture of undergraduate, graduate, and post-doctoral associates.

Throughout the 2026 academic year, at least one meeting and one event was hosted each month. Activities included field trips, mine tours, and talks from students and individuals from the local and broad mineral community. In the past year, guest speakers included the **Gem Cutters Guild of Baltimore**, **Gabriella Farfan** (head curator at the Smithsonian Gem and Mineral exhibit), UMD alum **Greg Polley** (2012, Smithsonian), and **Ann Wylie** (UMD). In the spring we visited the **Savage Stone Quarry** in Jessup, MD, and went on a camping trip near Charlottesville, VA, where we visited the **Boxley Roseland Anorthosite Quarry**, the **Virginia Department of Energy Rock Garden**, and also hiked the Blue Ridge Tunnel with UMD alum **Callan Bentley** (M.S. 2004).



Members of the MSA club at the Savage Quarry, Laurel, MD.

NEW FACULTY HIGHLIGHT

CECILIA BROOKE SANDERS

By
CECILIA BROOKE SANDERS

Thank you, GeoGram Editorial Team, for letting me introduce myself here! My name is **Cecilia B. Sanders**, and I joined the UMD Department of Geology faculty as an Assistant Professor in July 2025.

I actually grew up locally in Southern Maryland — Prince George's and Calvert Counties. I attended pre-K at a Montessori school deep in the woods of Bowie, wherein 3-to-7-year-olds were given reckless license to dress themselves, pack their own lunches, and plan their own days. In practice this meant that, dressed in harlequin pants and sequins, I divided my time conscientiously between drawing fairies and collecting specimens from the rain of oakworms which fell constantly out of the treetops into our Lunchable trays. All children, everywhere in the world and probably since prehistoric times, are enthralled by the miniature and the magical. But the wild indulgence of my parents, teachers, and friends for this incorrigible whimsy was, I think, exceptional. I will carry it with me as long as I live.

My transition to a more structured educational setting (grade school) was accompanied by shock and dismay, a new and debilitating fear of insects, an obsession with grade point averages, and an eating disorder. I was not athletic, and I did not enjoy the outdoors. I played bass, snare, and tenor drums in the marching band. I was a Tudor reenactor at the Maryland Renaissance Festival. I was a mock trial lawyer. I was a violist in the theater department pit orchestra.

I like to mention these things when asked to discuss my professional journey, to dispel any misconceptions that scientists must be cultivated from a young age to solve Rubix Cubes and work a slide rule. Rather, I think the common denominator among all the scientists I've ever met is a notorious personal history of dabbling — with great enthusiasm and many spectacular failures — in as many different interests as our circumstances allowed. And I dabbled extremely.

During my summer breaks in high school, I was able to participate in a couple of 8-to-10-week-long paid internship programs at NASA Goddard Space Flight Center, learning about the spectroscopy of lunar and planetary surfaces. This was where I became determined that I would pursue astrobiology, the study of how life in the universe came to be and how it leaves its mark on the chemistry and geology of worlds. I would pivot from synthetic chemistry to observational astronomy to paleontology and back again many times in the coming years, as I learned that “astrobiology” was not a single subject but a set of questions and problems that no one field was equipped to answer.



Field fashions in the Karatau Mountains,
Kazakhstan (2023).



A young me (c. 2000) on Vancouver Island, encountering
phylum cnidaria for the first time.

After high school in Calvert County, I attended Harvard University where I graduated with a dual concentration in Earth & Planetary Sciences and Astrophysics (2016). I completed junior and senior thesis projects involving the modeling of (a) Earth-like planetary atmospheres around M-dwarf stars and (b) the influence of meteor impacts on prebiotic chemistry in the subsurface of Mars, but I was also able to contribute in a small way to research in low-temperature biogeochemistry and solar system formation through paid summer research positions. I also had an incredible range of field experiences through my courses and departmental trips: sampling benthic fauna and sediment aboard a tallship in the Gulf of Maine, geologic mapping in Death Valley, stratigraphic columns in the canyon walls of the San Juan River, lava tubes in Hawai'i, observational astronomy at Kitt Peak in Arizona... And this is far from an exhaustive list. I overcame my fear of insects and much of my fear of failure to discover that I loved field work, and that I loved biology as much as I loved rocks and stars.

So, I went directly from my undergraduate program to the graduate program in Geological and Planetary Sciences at Caltech, where I earned my Masters' Degree in Planetary Science (2018) and my PhD in Geobiology (2023).

My graduate work, supported by indulgent senior faculty, was something of a return to my free-form, exploratory preschool experience. I undertook a great deal of coursework in microbial metabolism, isotope geochemistry, analytical methods, et cetera, and I went to the field at every opportunity. I was able

to re-access my childhood love of all things tiny and intricate, discovering an aptitude for thin section microscopy and outcrop- and hand-sample-scale observation and interpretation. I also had the opportunity to work with preK-12 students and their teachers and administrators, drawing inspiration from my research to help develop and implement a hands-on science curriculum in the Pasadena Unified School District. I worked independently on my art: painting, technical drawing, weaving, sculpting, and digital illustration. I read hundreds of works of fantasy and science fiction, probably matching page for page the scientific journal articles I was reading for my classes and research projects. I was radically stubborn about maintaining my ideal balance between work and play, and I relied heavily on afternoon naps.

My PhD thesis, which yielded my first peer-reviewed research publications, examined an Ediacaran carbonate platform with a phosphate-enriched interval in Eastern Brazil — describing its kilometer-scale geologic context, its meter-scale stratigraphy, its centimeter- to micro-scale sedimentology and paleontology, its carbon and oxygen isotope geochemistry, and its clumped isotope paleotemperature records. Through this work, I became acquainted with the biogeochemistry of phosphate mineralization: the processes, biological and abiological, that cause phosphate minerals to grow and preserve information about living things and their interactions.

I followed this phosphatic thread through the Blaustein Postdoctoral Fellowship at Johns Hopkins University and Deep Time Peter Buck Postdoctoral Fellowship at the Smithsonian National Museum of Natural History (NMNH), where I worked on Cambrian, Permian, Triassic, Jurassic, Cretaceous, Paleogene, Neogene, and Quaternary phosphate-enriched sedimentary rocks and fossils. I searched for commonalities in the mechanisms and micro-environmental context of their formation using optical microscopy, Raman and fluorescence spectroscopy, and laser-ablation mass spectrometry. I got to travel to Mongolia and Kazakhstan for field work, eat a great deal of delicious food, and learn new techniques and ideas from many, many people.

Which brings me back to the present at UMD. This new position in College Park is the dream of my lifetime, returning to teach in the place where I was taught and indulge dreamy, arty students in the places where I was indulged. So many academics have to spend their careers at a great distance from their hometowns and communities because of the limited distribution of opportunities. I have been incredibly lucky to return here to Maryland, to the place that helped make me. And even luckier to return loud and unafraid as my queer, Black, disabled, arty farty self.

At the University of Maryland, I am conceptualizing and building out a laboratory for the study of Sedimentary processes, biological Activity, and Neogenesis effecting the Destruction and Survival Of Fossil records through Time: the SAND(er)S OF Time Laboratory (sandersoftimelab.com). In our lab, we illuminate the miraculous world of microtextures within fossils and sedimentary rocks from across Earth history, place them in their larger spatial contexts, and subject them to high-resolution optical spectroscopy and mass spectrometry to test hypotheses about their origins and diagenetic histories. Our network of collaborators includes researchers at UMD, NASA Goddard, and the Smithsonian NMNH, as well as artists, landscape historians, anthropologist-archaeologists, and K-12 and Continuing Education professionals. I hope to share all of our work soon in many forms: peer-reviewed scientific literature, open-source virtual teaching materials, and art installations. In Spring of 2026, I will be teaching GEOL 789Z, How to Live Forever: The Making of the Geologic Record of Life, open to graduate students and upper-level undergraduates with some background in cell biology, redox chemistry, and Earth history. Beyond that, I hope to teach Stratigraphy and Sedimentology and Geoscience Communications, and eventually more of the courses required by undergraduate Geology Majors.

My husband Eduardo and I live on the west side of Baltimore City, with our beloved dog Ponyo, in a colorful row home full of art and half-finished projects. We are continually hosting friends, family, and neighbors for meals, movies, tabletop gaming, and community organizing around labor and housing justice. Hopefully, one day, we will also host meetings for our neighborhood science and art education program, tentatively known as The Geo Scouts.

Thank you, UMD Department of Geology, for giving me the chance to spread out, take up some space, and grow as a scientist and educator.



Assistant to the assistant professor, Miss Ponyo, at UMD (2025).

GRADUATE STUDENT HIGHLIGHT

MATTHEW PEDERSEN

By
DUP ALAN JAY KAUFMAN

The Stable Isotope

Developing expertise in gas, plasma, and thermal ionization techniques for his deep time studies, **Matt Pedersen** is certainly the most *ambispectral* of our current Department graduate students. After completing an associate's degree in engineering at Baltimore Community College, Matt (who grew up in nearby Mt. Airy) and his ubiquitous baseball caps (+40 and counting) joined the department as an undergraduate major. In his junior year he started working as a Laboratory Assistant in my laboratory on a new suite of carbonate samples from central Siberia that preserve evidence of one of the greatest carbon cycle anomalies in Earth history – known as the Ediacaran Period Shuram Excursion. Matt has carried the project into his wildly successful senior thesis, the BS/MS program (notably defended after only one year), and now into his PhD studies.

To address the enigmatic Shuram event, Matt worked tirelessly in the laboratory facilities at UMD and George Mason University (working with collaborator and Affiliate UMD Faculty Prof. **Geoff Gilleaudeau**) to isolate uranium from these ~570-million-year-old rocks for the measurement of its isotopic composition on the Neptune plasma source mass spectrometer. Uranium isotope compositions have been developed as a proxy for the oxidation state of ancient oceans, and his senior thesis work revealed that their isotopic compositions were as anomalous as those of carbon, initially suggesting widespread ventilation of previously anoxic seawater. Insofar as the rise of oxygen in the ocean and atmosphere was the product of photosynthesis, Matt and UMD post-doctoral fellow **Tian Gan** similarly interrogated the Siberian carbonates for their lithium isotope compositions, again using plasma techniques. In this regard, lithium isotopes have been developed as a proxy for



Photo courtesy of Affiliate Prof. Geoff Gilleaudeau.

continental weathering intensity. They found that middle Ediacaran tectonic traffic coupled with high atmospheric $p\text{CO}_2$ resulted in an equally profound lithium isotope anomaly in Shuram equivalent strata of both Siberia and South China. This research suggested that intense middle Ediacaran weathering of the continents delivered vast amounts of nutrients that stimulated photosynthesis along with thick blankets of sediments that buried resulting organic matter – potentially allowing molecular oxygen to rise along with the carbonate saturation state of the oceans. Matt's measurements of carbonate carbon and oxygen isotope abundances with an Isoprime gas source mass spectrometer were consistent with the idea of an elevated saturation state, which resulted in a suite of unique sedimentary features in deep water environments, including rapid lithification and the growth of unusual of aragonite carpets on the seafloor.

For his PhD research Matt ambitiously developed clean laboratory and thermal ionization mass spectrometric techniques for the extraction and isotopic characterization of cadmium isotopes in carbonates. Given that cadmium has a nutrient-style distribution in modern seawater due to its uptake by phytoplankton that imparts a notable redistribution of its isotope abundances, Matt hypothesized that Shuram carbonates should reveal significant enrichments in the heavy ^{115}Cd isotope due to the weathering-enhanced delivery of nutrients to seawater that stimulated photosynthesis. To learn the TIMS techniques Matt travelled to Copenhagen last spring to work with Prof. **Robert Frei** in the world-class laboratory that first developed the cadmium isotope measurements, and he successfully transferred the technology to

UMD (working with Prof. **Richard Walker**) where he spectacularly demonstrated an inter-laboratory comparison using a Triton thermal ionization mass spectrometer.

To further broaden his studies and strengthen his advisory base, Matt has developed collaborations with UMD Prof. **Mike Evans** (for computer modeling of the Shuram Excursion) and with Stanford University Department of Earth and Planetary Sciences Prof. **Erik Sperling**. Sperling invited Gilleaudeau and Pedersen to join him with his student and colleagues in the remote Yukon Territories of Canada last summer to collect Carboniferous black shales and carbonates (not to mention hundreds of mosquito bites) affected by the rise of land plants and the delivery of nutrients and organic to seawater. Matt plans on using his arsenal of mass spectrometric techniques to characterize the samples, and especially, use his newly minted expertise in cadmium isotope measurements to evaluate teleconnections between Carboniferous forests and primary productivity in the marine realm.

Pedersen is an exceptional team player in the laboratory and the Department. He has worked closely with his laboratory peers and supervised the laboratory activities of **Alyssa Knott**, a practicum student from nearby Eleanor Roosevelt High School, UMD undergraduate **Aiden Hathaway** in a GEOL 499 project, and UMD undergraduate major **Brenna Henderson** who recently completed her senior thesis project. Furthermore, Matt has been a highly coveted Teaching Assistant for the department having been assigned multiple upper-level courses, including *Sedimentation and Stratigraphy*, *Low Temperature Geochemistry*, and *Petrology* over the course of two years. Matt is hard working, self-motivated, and clearly ambitious; while he is a loud talker, he is also an attentive listener. He has presented the results of his research at annual meetings of the GSA (Pittsburgh), which was supported by a SEPM travel grant and at AGU (Washington D.C.). He is a co-author on several manuscripts in review or in preparation, including his first-authored manuscript aimed at *Geology* that proposes an alternative interpretation of the uranium isotope proxy during times of extreme carbonate saturation in the world oceans.

The future looks bright for this multi-talented stable isotope graduate student who recently defended his PhD proposal. We wish him success passing over this minor hurdle and moving rapidly on towards his degree and beyond.

ALUMNI SPOTLIGHT

CARMIE GARZIONE

By
RICHARD WALKER
PHIL PICCOLI

Carmala Garzione was among the first crop undergraduate students in the Department of Geology to conduct a 393/394 project utilizing the newly created Isotope Geochemistry Laboratory. The lab was constructed by Profs. **Krogstad** and **Walker** beginning in 1991, with the renovation of separate chemistry and mass spectrometry laboratories in the oldest part of the Chemistry Building, Wing 2, where we are still hanging on today. As an undergraduate major, Carmie was a top student excelling in all the classes she took. In her senior year Carmie began a project entitled “An Isotopic Study of the Origins of a Lithium-rich Pegmatite”, just after a new commercial multi-collector thermal ionization mass spectrometer arrived. The idea of the study was to try to date the Lithium Corporation of America pegmatite mine located near Kings Mountain, North Carolina, using the rubidium-strontium isotope system. We were also hoping to assess whether the pegmatite could be related to a spatially associated granite (the Cherryville Granite) by comparing strontium isotopic data for the two bodies.

Looking back on the now 32-year-old thesis (an honors thesis!), the results are pretty impressive! With data for “whole rock” and mineral samples,



Carmie generated an isochron for the pegmatite defining an age of 272 ± 13 million years. More interesting was the discovery that the pegmatite formed from a water-rich melt that had a very high initial strontium isotopic ratio. This means it was likely derived from much older crust. The result was very different from the isotopic composition of the spatially associated granite, and so it was concluded that the intrusions were not related. The project gave Carmie her first taste of isotope geochemistry. The taste was evidently sufficiently motivating that she has spent her subsequent career generating and utilizing isotopic data (although sadly, she abandoned the rubidium-strontium system forever).

Given the solid foundation in isotope geochemistry, Carmie matriculated from Maryland and found herself at the University of Arizona, where she completed studies of sedimentary rock

Paul Tomascak (1995), Carmie Garzione (1994), and Damian Hodkinson (1994) in the King's Quarry, North Carolina.

provenance using Nd isotope geochemistry (MS) and the tectonic and paleo-elevation history of the Tibetan Plateau (PhD). She was hired during the 3rd year of her PhD, at the University of Rochester as an Assistant Professor, an appointment that she held only briefly as she made her way to Professor, and the Director of the Center for Energy and the Environment. During that time she was named the Distinguished Alumnus in our department, and simultaneously at the University of Arizona. In 2019, she was named the Associate Provost for Faculty Affairs at the Rochester Institute of Technology, and in 2021 was named the Dean of the College of Science at the University of Arizona, a position she holds today. She has won numerous awards, including being elected a Fellow of the Geological Society of America (GSA), and being the recipient of the GSA Donath Medal, the Blavatnik Award for Young Scientists, and the Society for Sedimentary Geology William R. Dickinson Medal. We believe these accolades would not have been possible without her stellar undergraduate education. We are proud to call her a fellow Terp.

CHAIR'S LETTER (CONT.)

..... continued from page 1

Laboratory and UC Berkeley, and a faculty position at the University of Wyoming.. Welcome Cecilia, and Mike! We have also had two faculty promotions: **Ricardo Arevalo** was promoted to Professor and **Megan Newcombe** was promoted to Associate Professor. Other faculty accomplishments (detailed on page 12) include the awarding of the title of Distinguished University Professor to **Mike Brown** and **Jay Kaufman**. Jay also received the prestigious Francis J. Pettijohn Medal for Sedimentology from the Society for Sedimentary Geology. Professor Emerita **Ann Wylie** and Professor **James Farquhar** were honored as Fellows of the American Association for the Advancement of Science. **Sujay Kaushal** was recognized as the F. Earl Ingersol Lecturer at the Goldschmidt Conference, just this past week. Sujay was also selected as a Fellow of the International Association of Geochemistry. I had the honor of serving as the President of the Mineralogical Society of America in 2025. Several faculty have retired, including Professors **Mike Brown** and **Bill McDonough**.

Our department has had a big loss - just under a year ago, our first department chair, Professor Emeritus **Galt Siegrist**, passed away. For more details, see page 2. Our most sincere condolences to his friends, family, and former students. We recognize and appreciate his early efforts in forming the department, and the initiation of both the undergraduate and graduate programs.

There are lots of exciting things going on in the department! If you find yourself in the College Park area, we encourage you to drop by and say hello. And if you are farther away, drop us an email or give us a call. It would be great to be reacquainted.



Sarah, taking a break from fieldwork, in the western Alps.

UNDERGRADUATE STUDENT HIGHLIGHT

YUVAL RAVINSKY-GRAY

By
PHIL PICCOLI

Yuval Ravinsky-Gray has taken a circuitous, lengthy path to study geology. The straight path was not interesting enough for him. A life-long Marylander, Yuval has spent his time exploring the world, taking in its breathtaking sights, and contemplating its complex geology.

A circuitous path: Yuval started his collegiate journey at Saint John's College (Annapolis) where he studied Classics, a journey he completed at College Park. Upon graduation, he worked as a teacher and taught Classics at a charter school in Prince George's Country. As an adept violinist, he started a student orchestra at the school. Teaching, a profession that sometimes allows for an extended break in the summer, was viewed by Yuval as an opportunity to pursue his desire for knowledge and scratch his itch for adventure by travelling the World. Yuval utilized summers to optimize his linguistics skills by immersing himself in Rusticatio full immersion Latin (in West Virginia) and Living Ancient Greek (in Greece) programs. Yuval is now proficient in English, French, Latin and Ancient Greek, and he has also studied Arabic. Yuval continues to explore ancient cultures and the history of science, and varied geographies.



A lengthy path: While on a summer sojourn in Europe, inspired by the writings of Patrick Lee Fermor, Yuval found adventure in Long Distance Hiking. Without knowing it, Yuval walked in the footsteps of John Wesley Powell who was rumored to have walked across Wisconsin as a young man because ... well, he could. And with that knowledge, he started on a long-distance hike of his own, from the Rhone

River and headed to Rome, partly along the Via Francigena – the Pilgrim Route. National Parks..... Now that he had the bug for the experience, he undertook other long-distance hikes in France, Italy, and even Romania (specifically, Transylvania). After he left the public school in PG County, he found himself teaching English in Morocco. It is there that he picked up an introductory geology text, and his long path changed directions.

So, where does geology fit into all of this? When Yuval returned to the States, he took a course in geology at Montgomery Community College (during the pandemic), and quickly found that his knowledge set him up well for further studies. He ended up enrolling at Maryland, and things changed when he took classes from **Mong-Han Huang** and **Ved Lekić** – and he was hooked. He was on his way, working toward a degree in Geophysics. In a provocative study largely conceived by him, Yuval performed a study entitled *The Faults in our State: An investigation of earthquakes in Maryland* (he describes this as ‘math wizardry’) under the direction of **Ved Lekić**, a study that he eventually presented at the international American Geophysical Union Annual Meeting. Yuval describes the study as follows: looking for the origin of small earthquakes in Maryland, and which requires some mathematical wizardry (inversions). The difficulty was in determining if the modeling was correct and how to gain trust in the model. And with the recent seismicity in Howard County (October 28, 2025), maybe the long, circuitous route work was more timely than he originally thought.

MARYLAND DAY 2027

The Department of Geological, Environmental, and Planetary Sciences (Geology) continues to have an important impact on the university's annual open house: **Maryland Day**.

Save the date for next year's event: April 24, 2027!

SCENES FROM THE DEPARTMENT FIELD TRIP: CORRIDOR H (WEST VIRGINIA)



Distinguished University Professor **Jay Kaufman** led a field trip through a cross section of the Appalachian Mountains along Corridor H in West Virginia. The multi-day trip was met with great weather, warm during the days and cool at night. Attendees were treated to a multitude of well-exposed outcrops of Cambrian through Mississippian sedimentary rocks that accumulated in the response to the Taconic and Acadian orogenies, which were spectacularly folded during the Alleghenian (Appalachian) mountain-building event. Participants were presented with ample opportunity to collect fossils and rock specimens along the way. And to have fun.....



RECOGNITION & AWARDS

Faculty

Ricardo Arévalo – Promoted to Professor
Michael Brown – Distinguished University Professor
Sarah Pennsiston-Dorland – President of the Mineralogical Society of America
Alan Jay Kaufman – Distinguished University Professor
Alan Jay Kaufman – Francis J. Pettijohn Medal for Sedimentology (SEPM)
Sujay Kaushal – Goldschmidt Conference F. Earl Ingersol Lecturer
Megan Newcombe – Promoted to Associate Professor
Ann Wylie – Fellow of the American Association for the Advancement of Science (AAAS)

Graduate Students

Kiran Almas – Dean's Fellowship, ESSIC Travel Award (2023)
James Bader – Graduate School's Outstanding Teaching Assistant Award (2023)
Kathryn Bickerstaff – GSA Graduate Student Research Award (2025)
Emily Chiappe – Dean's Fellowship (2023)
Ashley Dann – UMD President's Fellowship (2023), Green Fellowship (2024), ORISE EPA Fellowship (2025)
Sumedha Desikamani – Dean's Fellowship (2023), Outstanding Research Assistant Award (2026)
Andrew Doerrler – Dean's Fellowship (2023)
Tytrice Faison – Dean's Fellowship (2023) Honorable Mention for her presentation at the campus-wide Three-Minute Thesis competition (2024)
Julia Famiglietti – Dean's Fellowship (2023), Green Fellowship (2024, 2025)
Maria Fitzgerald – NASA FINNIST (2025)
Kathryn Gansler – Department Graduate Award for Excellence in Outreach (2023), 2nd place for her talk in the Student Oral and Poster Competitions at the NASA Exploration Science Forum (2025)
Ashley Hanna – Scholarship to attend the 2023 NASA/ESA Josep Comas i Solà International Astrobiology Summer School in Santander, Spain (2023), Outstanding Student Presentation Award (AGU) (2025)
Christiana Hoff – Department of Geology, Best Graduate Student Talk, Ph.D. Candidate (2023)
Elizabeth Huang – UMD President's Fellowship (2025)
Elaine Jaross – AGU Outstanding Student Presentation (2023), Goldhaber Travel Award, ESSIC Travel Award (2023)
Alexander Lastner – Dean's Fellowship (2023), ORISE Fellowship (USACE) (2023), Green Fellowship (2024)
Benjamin Moyer – Dean's Fellowship (2023), U.S. Department of Energy Computational Science Graduate Fellowship (2023)
Mariam Naseem – Clark Field Scholar in Astrobiology (American Philosophical Society and the NASA Astrobiology Program) (2025)
Karla Nuñez – Outstanding Graduate Assistant Award (2025)
Matthew Pedersen – Dean's Fellowship (2023, 2024), MPOWER (2026)
Liam Peterson – Dean's Fellowship (2023), Department of Geology, Best Graduate Student Talk, Ph.D. Candidate (2023)
Madeline Raith – Dean's Fellowship (2023, 2024), Mars Exploration Program Student Travel Grant, NASA FINESST (2024)
Megan Ryan – Dean's Fellowship (2025)
Sydney Shelton – EPA ORISE Fellowship (2023), UMD Green Fellowship (2023), Best Graduate Student Talk, Ph.D. Pre-Candidate (2023)
Kathleen Stepien – Lincoln S. and Sarah W. Hollister Research Award (Geological Society of America) (2025), Jacob K. Goldhaber Travel Grant (2025), International Conference Student Support Award (ICSSA) (2025)
Jiayang Sun – ESSIC Travel Award (2023), Ann G. Wylie Dissertation Fellowship (2024)
Sourabh Shubham – LPSC Ambassador (2023)
Alexander Taylor – Winner of the UMD Three-Minute Thesis competition. (2023)
Zachary Vig – Dean's Fellowship (2023), Best Student Talk, NASA Exploration Science Forum (2024)
Mikayla Williams – Dean's Fellowship (2024), Green Fellowship (2025), AGU Travel Grant (2025)

Alumni

Adam Simon (2003) – Daly Lecture for Recognition of outstanding contributions to Volcanology, Geochemistry and Petrology, AGU
Fang-Zhen Teng (2005) – UMD Alumni Excellence Award for Research (geol.umd.edu/fzt)
Fang-Zhen Teng (2005) – American Geophysical Union Fellow
Lori Willhite (2025) – (CSEDI) Recipient of the Study of the Earth's Deep Interior Section Award for Graduate Research
Chris Yakymchuk (2014) – Geological Society of America's Mineralogy, Geochemistry, Volcanology, and Petrology Division Early Geological Career Award

CONGRATULATIONS TO OUR RECENT GRADUATES!



Doctoral Graduates

James Bader. Quantification of melt distribution, melt connectivity, and anisotropic permeability of deformed partially molten rocks using x-ray microtomography, Advisor: Zhu, Montési, Fall 2024.

Christiana Hoff. Natural and Experimental Constraints on Lithium Incorporation and Diffusion in Garnet as an Indicator of Fluid Rock Interaction, Advisors: Penniston-Dorland, Piccoli, Fall 2024.

Heidi Myers. Safer Grounds: A Study of Landmine Detection Using UAV-Based Multi-Modal Geophysics, Advisors: Lekić, Lathrop, Spring 2024.

Karla Nuñez. Morphological Characterization of Quasi-Circular Features Across the Solar System, Advisor: Montési, Spring 2025.

Liam Peterson. The Concentration of H in Incompletely and Wholly Melted Terrestrial Building Blocks. Advisor: Newcombe, Spring 2024.

Jiayang Sun. Methane Source Apportionment using Clumped Isotopologues, Advisor: Farquhar, Spring 2025.

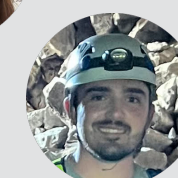
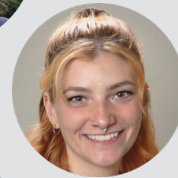
Aisha Khatib. Newly-Identified Events and Signals of Astronaut Exploration Activities in the Apollo Seismic Data Advisor: Schmerr, Spring 2026.

Sydney Shelton. Tracking anthropogenic signatures along streams: using downstream trends in solute geochemistry to assess watershed degradation, conservation, and restoration Advisor: Kaushal, Spring 2026.

Lori Willhite. Exploration of Earth's interior through tungsten isotope geochemistry of the Hawaiian mantle plume, Advisor: Walker, Spring 2025.

Edward Williams. Detection and Characterization of Lava Tubes from Surface Signatures: Two New Approaches, Advisor: Montési, Spring 2025.

Zachary Zega, Chemical and Physical Effects of Pore Fluids on Porous Rocks Advisor: Zhu, Fall 2025.



Masters Graduates

Kathryn Bickerstaff. In situ hydrogen measurements in garnet. Advisor: Penniston-Dorland, Spring 2026.

Casey Braccia. Experimental Constraints on Physical Properties of Volcanic Rocks with Implications for Lunar Exploration. Advisor, Schmerr, Spring 2024.

Andrew Doerrler. Geochemical Indicators of Redox and Weathering Across the Ediacaran-Cambrian Transition in Siberia. Advisor, Kaufman, Summer 2024.

Tytrice Faison. Thermal & Shock Metamorphism Effects on Siderophile Element Distribution and Hf-W Chronology in H Chondrites. Advisor: Ash, Spring 2026.

Julia Famiglietti. Source Attribution of Methane Using Clumped Isotopologues, Advisor: Farquhar, Summer 2025.

Jacob Giles. Imaging The Shallow Subsurface for Lunar Exploration Using Seismic Surface Waves, Advisor: Schmerr, Spring 2025.

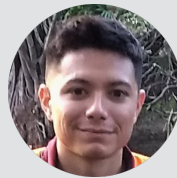
John Harris. Geomorphic and hydrologic characteristics of small urbanized tributaries to a Fall Zone stream, Advisor: Prestegard, Fall 2024.

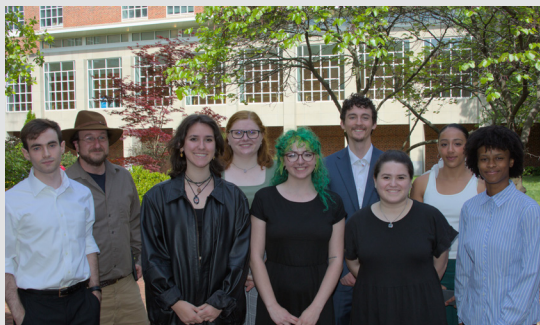
Alexander Lastner. Development and evaluation of techniques for hydroclimatological characterization, Advisor: Prestegard, Fall 2025.

Matthew Pedersen. Integrated Geochemical Studies of the Shuram Excursion in Siberia and South China. Advisor, Kaufman, Summer 2024.

Saffat Shahid. Using Bayesian Electrical Resistivity Inversion to Reveal Hillslope Dry-up Process in a Mediterranean Climate, Advisor: Huang, Fall 2024.

Linden Wike. Predicting the Seismic Signature of Lava Tubes for the Earth, the Moon, and Mars. Advisor: Schmerr, Spring 2024.





Spring 2024 Senior Thesis students (l-r): Robert Stutzke, Yuval Ravinsky-Gray, Charlotte Norris, Helen Hutchison, Cate Ondrusek, Ethan Heidtman, Hannah Nechin, Meridian McCall, Alana Dixon.



Spring 2025 Senior Thesis students (l-r): Brenna Henderson, Audrey Graham, Kiki Papageorgiou, Donovan Cunion, Sami Toibero, Nick Salanitri, Katie Hickey, Ross Clark.

Fall 2023

Kathryn Bickerstaff The Relationship Between Hydrogen and Other Elements in Garnets from two Contact Metamorphic Localities (Advisors: Drs. Sarah Penniston-Dorland and Megan Newcombe, Kathleen Stepien)

Ian Jones Differences Between Ratios of Reworked to Preexisting Material in European Bands (Advisors: Dr. Laurent Montési, Karla Núñez, Sophia Zipparo)

Andrew Simat Runoff, Infiltration, and Erosion Potential Along an Urban Headwater Stream (Advisor: Dr. Karen Prestegard).

Spring 2024

Alana Dixon Morphological Characteristics and Sediment Transport in an Engineered Tidal Freshwater Marsh System (Advisor: Dr. Karen Prestegard)

Ethan Heidtman Investigation of High-Elevation Drivers of Snowpack and Streamflow Characteristics in the American West (Advisor: Dr. Karen Prestegard)

Hannah Nechin Tungsten (W) Fractionation in Enstatite Chondrites (Advisors: Drs. Richard Ash, Philip Piccoli)

Charlotte Norris Trace Element Geochemistry of Chatanika Eclogites and Accompanying Potential Protoliths (Advisor: Dr. Sarah Penniston-Dorland)

Cate Ondrusek Understanding the Material Properties of the Ice-Bed Interface of the Greenland Ice Sheet: Subglacial Lakes or Pools of Sediment (Advisor: Dr. Nicholas Schmerr)

Robert Stutzke Water in Plagioclase Phenocrysts from the 2009 Eruption of Redoubt Volcano, Alaska (Advisors: Dr. Megan Newcombe, Sumedha Desikamani)

Fall 2024

Helen Hutchinson Determination of Metamorphic Temperatures of the Raspas Complex, Ecuador, Using Zr-in-Rutile Thermometry (Advisor: Dr. Sarah Penniston-Dorland)

Meridian McCall The Influence of Salts on the Detection of Organics from Ocean Worlds via Laser Desorption Mass Spectrometry (Advisors: Dr. Ricardo Arevalo Jr., Madeline Raith, Lucas Andrews)

Yuval Ravinsky-Gray The Faults in our State: An investigation of earthquakes in Maryland (Dr. Vedran Lekić)

Spring 2025

Donovan Cunion Investigating the Intrinsic Attenuation of Large Low Velocity Provinces (Advisor: Dr. Vedran Lekić)

Audrey Graham Temperatures of Ancient Eclogites Estimated Using Zirconium-in Rutile Geothermometry (Advisor: Sarah Penniston-Dorland)

Kathleen Hickey Characterizing Organic Matter from Biotic and Abiotic Sources via Laser Desorption Mass Spectrometry (Advisors: Lucas Andrews, and Drs. Ricardo Arevalo, Jay Kaufman)

Kyriaki Papageorgiou Examining the Chromophoric Geochemistry of Red Beryl from the Three Known Localities (Advisors: Drs. Philip Piccoli, Richard Ash)

Nicholas Salanitri Analysis of Biochemical Oxygen Demand and Organic Matter after Stream Restoration (Advisor: Dr. Sujay Kaushal)

Samantha Toibero Analyzing Water in Plagioclase to Estimate Pre-Eruptive Relative Storage Depths of Mount Spurr Magma (Advisor: Dr. Megan Newcombe)

SENIOR THESIS (CONT.)

Fall 2025

Ross Clark Critical Elements in Magnet Cove Carbonatites (Advisors: Drs. Phil Piccoli, Richard Ash)

Brenna Henderson Evaluating Ocean Oxygenation: A Redox Study of Middle Ordovician Carbonates (Advisor: Dr. A. Jay Kaufman)

Allison Stavelly Response of Small Stream Morphology to Urbanization and Intense Storms in Suburban Maryland (Advisors: Dr. Karen Prestegard, Jennie-Jin Mullen).

Spring 2026

Kalman Bass. Lithium Diffusion Experiments on Grossular Garnet Critical Elements (Advisors: Christiana Hoff, Drs. Sarah Penniston-Dorland and Philip Piccoli).

Katherine Cox. Assessing the feasibility of NDVI as a tool for slow-moving landslide identification along the Creeping San Andreas Fault (Advisors: Dr. Mong-Han Huang, Gimena Chaves Fitzgerald).

Ever Gonzalez-Interiano. Does osmium isotopic composition correlate with oxygen fugacity in abyssal peridotites? (Advisor: Dr. Richard Walker).

Stephen Groff. A Phylogenetic Analysis of the Newly Described Odontocete Enigmatocetus posidoni, from the Miocene of Maryland and Virginia, USA with Comments on a Possible New Species (Advisor: Dr. Thomas Holtz).

Lydia Kendzierski. Method Development for the Measurement of Water in Plagioclase by Fourier Transform Infrared Spectroscopy (Advisors: Dr. Megan Newcombe, Madelyn Site, Sumedha Desikamani).

Meryn Martinchick. Porosity and Transport Property Relationships in Fractured Yates Amphibolite (Advisors: Drs. Wenlu Zhu, Tommaso Mandolini and Travis Hager).

Neha Narayan. Comparing Piedmont and Coastal Plain near-surface substructures using P-wave refraction and surface wave dispersion (Advisor: Dr. Mong-Han Huang).

Thank you to our annual fund donors!

We are grateful for the generosity and continued commitment of our donors during the past several years, and we salute those of you who make annual gifts to support the department. We acknowledge the importance of each contribution in support of our education and research missions. Making opportunities available for students to be involved in the excitement of advancing knowledge is critical to the development of the next generation of scientists who will solve problems of societal relevance. In addition, for many of our undergraduates our ability to help with the costs of field camp and senior thesis research is critical to their success. Your generosity benefits our students in many ways. Therefore, once again, we ask for your support. Tax-deductible gifts to the department can be made online through the UMCP Foundation website:

geol.umd.edu/giving in your browser's address field to be taken directly to the GEPS Department's gift giving site. If you are writing a check, please be sure to include "GEPS (and information where gift should be allocated)" in the notes section.

BENEFACTORS (SINCE FALL 2023)

Guillermo M. Accame, Richard Ash and Margaret Carruthers, Eliot A. Atekwana, Laura Bilenker, Michael Brown, Kang Chen, Huan Cui and Yiheng Wu, Anonymous Graduate Students, Sharon A. Dudek and Robert Najewicz, Michael N. Evans, James Farquhar and Lisa Tuit, Robert and Judith Finkelman, John H. Fournelle, Amitava Gangopadhyay and Poulomi Gangopadhyay, Chao Gao and Xizheng Wang, Robert M. Glazier, Steven L. Goldstein, The Green Fund, Dave and Denise Grogan, Richard Harder and Susan Kadel, Andrew S. Hartten and Katherine Davis, Craig L. Hebert and Laura Hebert, Thomas R. Holtz, Jr. and Suzanne C. Shambaugh, Mong-Han Huang, Yu Huang, Margaret A. Karwoski, Alan J. and Karen Kaufman, Carol Kendall, Rachel and Michael Kirkman, Vedran Lekic, Su Li, Jingao Liu and Liping Liu, Xiaoming Liu, Ruth and William Lodder, Louise and Peter Lovell, Irene and Roger Lukoff, Phillip and Katherine Manger, The Marc Lipella Foundation Inc., B. Suzanne and Jerry Martin, Angela G. Marusiak-Schools, Andrew and Julia Masterson, John W. Merck, Jr. and Betty Siegel, Jeffrey K. Miller, Paul C. and Laura Miller, William Minarik and Nathalie Marchildon, Michelle Montero, Laurent Montesi, Paula M. Murphy, The National Philanthropic Trust DAF, Megan E. Newcombe and Pratyush Tiwary, Sarah C. Penniston-Dorland, Philip and Anne Piccoli, Karen L. Prestegard, Igor S. and Valentina Puchtel, John L. Reagan, Giuseppe and Tara Salanitri, Nicholas C. Schmerr and Amy McAdam, James R. Schmidt, Alicia W. Siegrist, Henry G. Siegrist, William Smith, Charles Edward Stoner, IV, Ming Tang and Jianying Wang, Jinmei Tian and Dawei Wang, U.S. Charitable Gift Trust, John and Billie Varndell, Richard J. Walker and Mary Horan, Marshall Woodworth, Ann G. and John Wylie, Marc I. Yalom, Wenlu Zhu and Laurent Montesi.

A special thanks to Bill Smith for providing major support for an endowed fund as part of the 50th anniversary celebration of the Department.



COLLEGE OF COMPUTER, MATHEMATICAL & NATURAL SCIENCES

Department of Geological, Environmental,
and Planetary Sciences

8000 Regents Drive
University of Maryland
College Park, MD 20742



Kneeling in front, (l-r): Michael Evans, Vedran Lekic

Front Row, (l-r): Alan Jay Kaufman, John Merck, Richard Ash, Karen Prestegaard, Mengqiang "Mike" Zhu, Ricardo Arevalo, Igor Puchtel, James Farquhar, Michael Brown, Nicholas Schmerr, Laurent Montesi, Philip Piccoli, Wenlu Zhu, Cedric Magen, Megan Newcombe, Richard Walker

Second Row, (l-r): Gimena Fitzgerald, Madeline Raith, Christiana Hoff, Sourabh Shubham, Jennie-Jin Mullen, Karla Nunez, Kyle Kim, Aisha Khatib, Saffat Shahid, Jenna Wollney, Tian Gan, Kathrine Udell Lopez, Tommaso Mandolini, Mikayla Williams, James Bader, Sumedha Desikamani, Jaclyn Clark, Hannes Bernhardt

Third Row, (l-r): Alex Lastner, Lucas Andrews, Hongfei Liu, Kathryn Bickerstaff, Yewon Lee, Tytrice Faison, Kathleen Stepien, Austin Turner, Madelyn Sita, Travis Hager

Fourth Row, (l-r): Zachary Vig, Edward Williams, Mariam Naseem, Jacob Giles, Dorothy Brown, Todd Karwoski

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The GeoGram is a publication of the University of Maryland, Department of Geological, Environmental and Planetary Sciences. We welcome your comments and feedback.

For address changes and personal updates, please visit
www.geol.umd.edu/alumni-reg

Acknowledgments: We would like to acknowledge Jay Kaufman, Todd Karwoski, Michelle Montero, and Richard Walker for their efforts on this year's GeoGram.