



This newsletter represents the second in a series of communications written by and for alums and friends of the Department of Geology at the University of Maryland. It is our hope to enhance the lines of communication, build new relations, and engage the students, alums, faculty, and friends in Departmental matters. We are interested in any feedback you have.

Tailgating, GeoTERP Style



Evan McMullen (B.S. 2012) had to be a Terp fan. His grandfather started buying tickets to Terrapin games over 55 years ago. That interest in the Terps still exists and his family currently has 10 tickets to all football games. Upon graduating, Evan started to work at Environmental Alliance where GeoTERP **Bill Smith (1981)** is CEO. He would make the trip back to College Park for games and was tailgating out of the back of a friend's pickup truck, continuing a tradition that started with his parents when he was a young boy. At the end of the 2012 season, Evan decided to have a tailgating trailer built in honor of his grandmother, a Terp fan who recently passed away. She had taken him to games as a young boy. Evan commissioned a custom trailer company out of Georgia to build a tailgating trailer. The trailer is 18 feet long, and includes a 55 inch TV with satellite dish, a grill, a sound system, and a fridge. It even has a bathroom equipped with a toilet, sink and a hot water heater. This past Fall, the UMD Homecoming Committee awarded Evan the best tailgating setup at the game against Big 10 opponent Iowa (a 38-31 victory). Keep your eyes open for the trailer at football games, Maryland Day and other university events.

News From Around the Department

Addition by Subtraction: Some New Facilities for Geology

For over 20 years, Geology has occupied all or part of three buildings on campus (Geology, Chemistry and Computer and Space Sciences [CSS]). Over the Winter Break, geology students, staff and faculty occupying CSS space moved into the Chemistry Building. As part of this move, space on the ground, 1st and 2nd floors of the Chemistry Building was renovated. The last of the boxes is about to be unpacked. If you are on campus, stop by and see the new space.

American Association of Petroleum Geologists

James Dottin, a second year graduate student in the department, spearheaded an effort to bring an AAPG student chapter back to College Park. At a recent AAPG student expo, James spoke with recruiters who were surprised that students from Maryland were interested in oil and gas. Several recent graduates gained employment in the oil and gas industry, and James thought AAPG might help to serve a critical role in fostering more direct ties with the industry. As part of this reinstatement, AAPG provided funds to initiate a library for the club. James, along with fellow club officers and current grad students **Mark Larson** and **Erin Cunningham**, are excited to bring the chapter to the students at Maryland, and hopefully create diversity in career paths throughout the Department.

The 3-D Geological Printing Laboratory

Led by faculty members **Nick Schmerr** and **Laurent Montesi**, and students **Kevin Miller** and **James Dottin**, the Department was successful in raising funds to develop a 3-D printing facility. As part of the crowdsourcing effort, 73 donors contributed to the project. Acquisition of this new technology to the department will aid in the ability of students to understand and interpret complex 3-D geological objects. Thanks to all our friends and alums who contributed to the project.

Photo Contest Winner: John Hnat



A photo contest was announced in the 2014 GeoGram. The winner of our 1st photo contest is **John Hnat (B.S.1977)** of the Wisconsin Department of Natural Resources. John submitted several field photos from outings in the late 70's. The photo at left shows students during a festive moment at UMD's field camp. Some former and current students might recognize the building in the background as one at Camp Singewald in the Bear Pond Mountains of Washington County, MD, something the department has used as recently as 2013. Professor **Charlie Onasch** is in the Maryland t-shirt with his foot on a student.

Alum Spotlight: Matt Hall - The Ultimate Lab Rat

Matt Hall (M.S., 1999) began his research career exploring experimental mineralogy in a little building adjacent to the M in College Park. Today, he is building one of the world's premiere gem grading laboratories in Mumbai, India.

At Maryland, Matt's experiments were designed to understand the role of sulfate alteration in geothermal systems. The experiments involved reactions between sulfate-bearing brines, and feldspar-tremolite-apatite-quartz assemblages, and were performed under the direction of Drs. Phil Candela and Phil Piccoli. During his time in that research program, he mastered a variety of analytical tools, developed proper techniques of data collection, and learned to interpret data in light of appropriate statistics.

Since leaving Maryland, Matt has spent his career with GIA (the Gemological Institute of America), the organization that is credited with defining and making a mainstay of the '4 C' classification of diamonds (Cut, Color, Clarity & Carat Weight), now the universal standard. Matt originally worked at the GIA lab in New York City, and eventually became the Manager of Identification Services. In 2008, when GIA considered opening more labs to meet demand, they tapped him for his expertise and he now serves as the Director of Laboratory Operations, in Mumbai, India.

Matt's experience at Maryland, where he was encouraged to 'play in the lab', served him well for his future career. He now holds several patents including one involving the evaluation of the properties of gems at cryogenic temperatures. This forensic technique is especially useful when determining the origin of color in diamonds and for detecting possible tampering with the color of gems by processes such as annealing, or irradiation with nuclear or x-ray beams...and returned him to his roots in experimenting with minerals!



News from Alums

David Weinstein (B.S. 2008) transferred into Geology from Electrical Engineering. Although fascinated with science, Dave felt that engineering was not his true calling. Conversations with a childhood friend, followed by a meeting with the geology department undergraduate advisor, helped him develop his interests into the natural world. He credits the tight-knit community of likeminded scientists with a passion for working outdoors for his successes. He credits the senior thesis program (for which he won the J. R. Dorfman Prize for the best undergraduate research project in the College) for the basis for his scientific cornerstone, and "to some great faculty members at the University of Maryland who helped me find my true calling, utilizing my strengths while studying my true passions." Dave recently received his Ph.D. from the University of Miami, and is about to start a post-doc in Japan.

Bruce Marshall (B.S. 1985) is a Principal Environmental Geochemist for Engineering Analytics, Inc. and manager of their Denver, Colorado office. He has 30 years of consulting experience on a wide range of mining, energy, and water resources projects. He served as the Project Manager for large Abandoned Mine Land (AML) reclamation projects throughout the Rocky Mountains, mine permitting projects in the U.S. and Canada, Use Attainability Analyses (UAA) to modify stream water quality standards in areas of natural mineralization, and on numerous water resource projects. He also served as the Project Geochemist on projects involving the fate and transport of metals, inorganic parameters, organic compounds, natural gas and radionuclides in soil, surface water, groundwater, lacustrine, and estuarine settings.

Tom Coghlan (B.S. 1977) recently retired after 36 years working for the National Geospatial-Intelligence Agency (formerly the Defense Mapping Agency, formerly the National Imagery and Mapping Agency) as a senior executive. After Maryland, he attended Virginia Tech and earned an MBA. Tom describes himself as *semi-retired*. He and his wife work together as Realtors and enjoy traveling and playing golf.

Matthew J. Costinett (B.S. 1993) is an attorney for Dufford & Brown, P.C.. He is in private practice focused on representing oil and gas companies in their exploration and production activities throughout the Rocky Mountain West.

Paul F. Pedone (B.S. 1971) has been working for NRCS (formerly the Soil Conservation Service) of the USDA for over 42 years. He has been a geologist with the agency since 1974 and has worked as a geologist in Indiana, Arizona, New Mexico, Colorado, Utah, Oregon, Idaho, Washington, California, Alaska, Hawaii, Guam, Nicaragua, and New York. His specialties in geology include engineering geology, erosion and sedimentation studies, hydrogeology, fluvial geomorphology and soils. He is currently a mentor for the Portland State University chapter of *Engineers Without Borders* for projects in Ethiopia and Nicaragua.

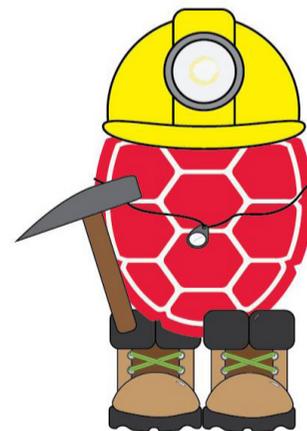


Image from Todd Reitz (B.S. 2014)

Staying in Touch: Mail Forwarding (@TerpAlum.umd.edu, @umd.edu)

Did you know that as a graduate of the University of Maryland you can continue your affiliation with the University with an email forwarding service? Graduates from the class of May 2005 and after can continue to use their @umd.edu accounts (you will need to log into Testudo and set up your mail forward). Graduates from the class of May 2005 and before are eligible for mail forwarding using the TerpAlum system (for example GeoTerp@terpalum.umd.edu). Details about how to activate these mail forwards are available through the FAQs page accessible from <http://alumni.umd.edu>, or by sending email to geo-aluminfo@umd.edu

Student Publications

Undergraduate and graduate students in the department are performing high-caliber research on a wide variety of topics. The expectation of the students and faculty is that the research makes its way into the literature. What follows is a selection of work published since the last GeoTERP News in Fall of 2014, where students were the first authors on the studies.

Brian Tattitch et al. (2015) Copper partitioning between felsic melt and CO₂-H₂O bearing saline fluids. *Geochimica et Cosmochimica Acta* 148, 81-99.

Chris Yakymchuk et al. (2015) Decoding polyphase migmatites using geochronology and phase equilibria modelling. *Journal of metamorphic Geology* 33, 203-230.

Michael Antonelli et al. (2014) Early inner solar system origin for anomalous sulfur isotopes in differentiated protoplanets. *Proceedings of the National Academy of Sciences* 111, 17749-17754

Ming Tang et al. (2014) Sedimentary input to the source of Lesser Antilles lavas: A Li perspective. *Geochimica et Cosmochimica Acta* 144, 43-58.

Xiao-Ming Liu et al. (2014) Processes controlling $\delta^7\text{Li}$ in rivers illuminated by study of streams and groundwaters draining basalts. *Earth and Planetary Science Letters* 409, 212-214.

Yadviga Zhelezinskaya et al (2014) Large sulfur isotope fractionations associated with Neoproterozoic microbial sulfate reduction. *Science* 346, 742-747.

Photo Contest Runner Up: Mark Everett



Cairns marking the trail in the Chicago Basin below the 14,000+ peaks Sunlight and Windom in the Needles Range of the San Juan Mountains, Colorado. The photo was submitted by **Mark Everett (B.S. 1991)**. Mark has spent most of his career in the southwest, and pointed out that he does not miss the vegetation-covered rocks back in Maryland.

How can you help?

The Alumni Council feels that the alumni are in a position to be very helpful in assisting geology graduates in the following manner: 1. Assist in placing students in meaningful jobs. 2. Identify and promote specific networks that can assist graduating geologists in identifying job opportunities. 3. Encourage fellow alumni to participate in the Department of Geology functions and interests, where appropriate.

Save the dates for the following Department and University Events: 1. Maryland (MD) Day (April 26, 2015, 10:00 a.m.-4:00 p.m.), 2. Mark Lipella Memorial Golf Tournament (June 12, 2015). We would love to see you at those events.

We would be happy to consider other gatherings: behind the scenes tour at the Smithsonian; fossil collecting along the shore of the Chesapeake with an alum and curator of the Calvert Marine Museum; tailgate at a MD Big 10 football game, are just a few possibilities. Do you have something to offer? If you have other ideas, we would love to hear them. We want and need your input.

The alumni web page is available from the web site <http://www.geol.umd.edu>. Updates to contact information can be made online through the alumni link on that page. Direct queries about department alumni issues can be made at: geo-aluminfo@umd.edu or through the Departmental Office (301-405-4065).

For up to date news about the department as it occurs, like our Facebook Page: <https://www.facebook.com/UMDGeology>

Send comments, ideas, and feedback about the GeoTERPNews to geo-aluminfo@umd.edu.

If this newsletter is not for you, and you would no longer like to receive them, please send a request to: geo-aluminfo@umd.edu.