



# Department of Earth and Environmental Sciences Newsletter

## Message from DEO David Peate

Two years on from the start of the COVID pandemic, and we are still feeling its impacts. Life around the department and in Iowa City, though, are slowly returning to 'normal', with students once more getting opportunities to do research projects and go on field trips. In this newsletter, we highlight two recent field courses: the Spring Break field trip to Hawaii, led by Kate Tierney and Shamar Chin, and the Tectonics and Basin Analysis field trip to Utah, led by Emily Finzel and Bill McClelland. Field experiences are a key part of student learning and often remain one of the most memorable aspects of a student's time in our program, but the costs involved in these courses are starting to deter some student participation and are becoming an equity issue. With this in mind, we have started a new Earth and Environmental Sciences Field Course Support Fund with the intent to partially support student costs related to attending field course experiences. I want to thank everyone who gave during the One Day For Iowa event that made this such a successful day for the department – with a special thank you to members of the EES Alumni Board for providing a \$4,000 matching challenge. The \$12,145 raised has been used to kick start the fund-raising efforts for the Earth and Environmental Sciences Field Course Support Fund.

In faculty news, we are pleased to announce Valerie Payre as our new Assistant Professor in Planetary Geoscience, who will be starting in August 2022. Valerie's research focuses on magmatism and surface processes on Mars, using a combination of rover data, orbital data, experimental petrology, and geochemical modelling. She will take over teaching Mineralogy from Mark Reagan who is retiring at the end of this semester. I'd like to take this opportunity to thank Mark, on behalf of the department, for his many years of service to the department, including a stint as department chair. Enjoy your retirement Mark!

The Oakdale Research Facility has housed research collections of EES faculty, EES teaching collections, and Paleontology Repository collections since 2000, but the building is in a very poor state. Over the last couple of years, we have been working with the college to find an alternative location for these collections, and I'm pleased to announce that we have now been allocated some high-quality space in the Sand Road Services Building. Tiffany Adrain and Matt Wortel will begin the process of arranging the move of the collections out of Oakdale and into Sand Road over the summer.

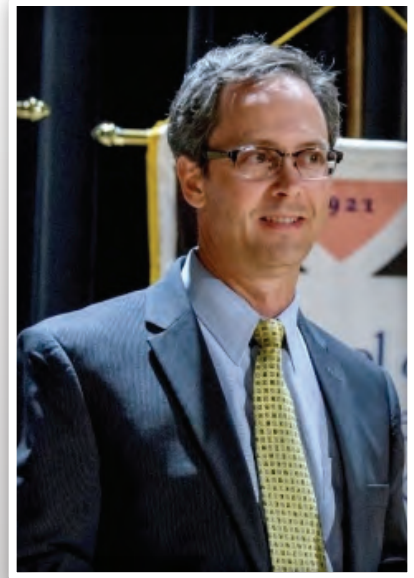
I am grateful to all alumni and friends for your continued support for the Department of Earth & Environmental Sciences, and please do stop by the department whenever you are visiting Iowa City.



## Earth & Environmental Sciences Alumni Board News Briefs

by Lee Phillips, EESB Chair

The Alumni Advisory Board for the Department of Earth and Environmental Sciences works with the DEO, other faculty members, and university administrators to help coordinate communication with alumni; engage in fundraising efforts that are aimed at promoting student learning, research, and outreach; organized alumni-based mentoring opportunities for students and alumni; and contribute to efforts that advocate for the Department. We have two regularly scheduled meetings each year, one in coordination with Homecoming and the other is typically in late March / early April. The Board has four standing committees (Alumni Outreach, Fundraising, Mentoring, and Nominating) that meet on an as needed basis. We are thrilled to be able to highlight alumni through the Iowa Geode Stars and the EES Distinguished Alumnus Award. Please feel free to submit materials and nominations that honor your favorite colleagues. We seek to have representation of the range of alumni and invite you to join us as a board member.



*Lee Phillips - Director of Undergraduate Research, Scholarship & Creativity Office at the University of North Carolina Greensboro*



### 2022 One Day for Iowa One Day for Iowa - Matching Gift - A "First" for EES

With EES DEO David Peate's support, the EES Alumni Board established a Matching Gift of \$4000 for the Earth and Environmental Science Department for the One Day for Iowa online giving day. This means that gifts made to EES were matched up to \$4000! This matching gift challenge raised money for the Earth and Environmental Sciences Field Course Support Fund.

Stupendous job EES Hawks - this year your generosity was unmatched! EES ended up as the #4 out of 25 departments in terms of total dollars, #2 for CLAS departments, and #15 out of all the 99 programs, colleges, and departments participating! And you all raised an amazing \$12,145! That's more than double compared to last year!

Thank you for making such a big difference. These funds will be a tremendous benefit for many students who participate in our field trips and field courses.

A big thank you to the Earth and Environmental Sciences Alumni Advisory Board for putting together the matching challenge! What a boost that provided!



# EES:3160 Spring Break Field Trip - Hawaii

Dr. Kate Tierney and Dr. Shamar Chin

March 11-13: Hawaii Volcanoes National Park, Keanakākoʻi Hike and Petroglyphs, Kilauea Iki Lava Lake

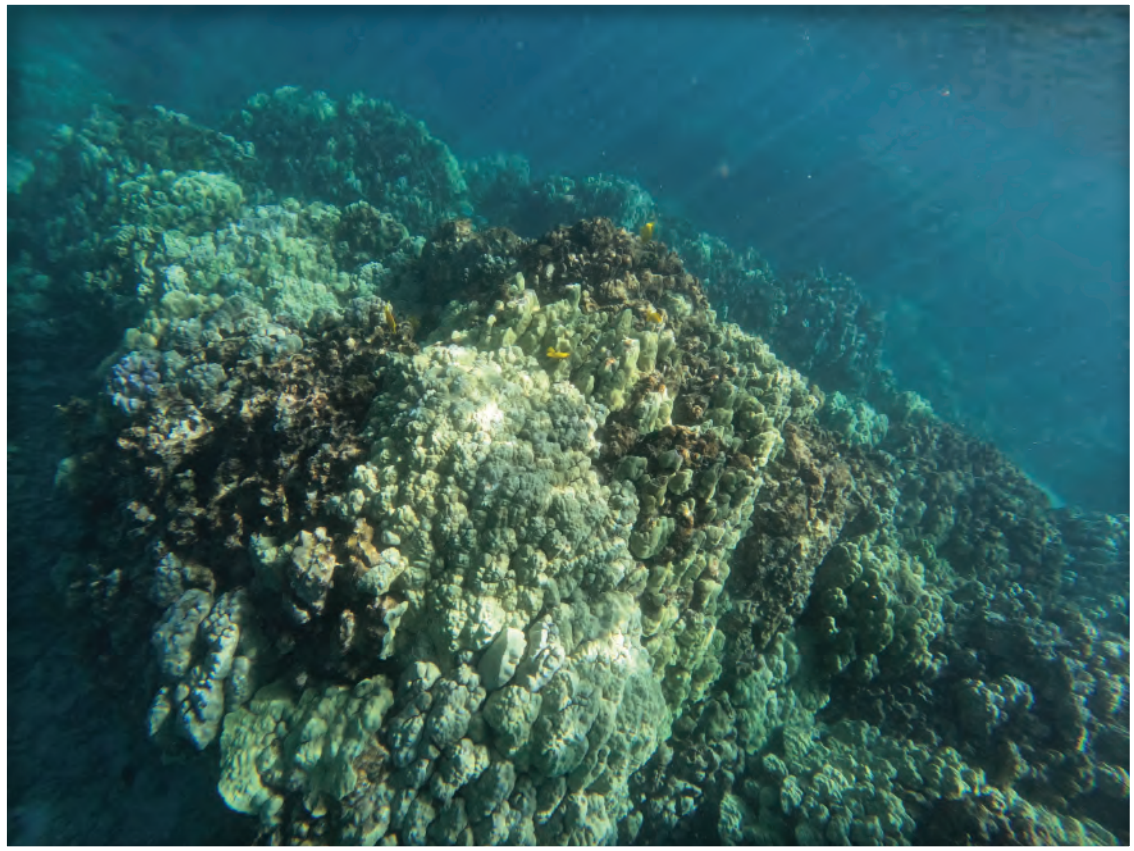




**March 14:** South Point, Green Sand Beach Hike and Bisected Strombolian Volcano



**March 15:** Kona, Snorkeling near Captain Cook and Catamaran Tour



**March 16:** Kona, Coffee Plantation Tour, Kanaloa Octopus Farm Tour



## March 17: Mameki Forest Tour



## 2021-2022 External Grants

### Faculty

**Dr. Brad Cramer, Dr. Jessica Meyer:** RII Track-2 FEC: Critical Resource Availability for the Future of the Renewable Energy Industry: Critical Minerals and Ground Water Resources in Iowa and Kansas (National Science Foundation)

**Dr. Brad Cramer, Dr. Kate Tierney, Dr. Jessica Meyer, Dr. Benjamin Swanson, Stephanie Tassier-Surine:** GP-GO: Iowa Environmental Internship Pathways Program (National Science Foundation)

**Dr. Emily Finzel:** Single-grain, multi-parameter characterization of detrital zircon grains to test for the influence of sample processing and sedimentologic processes (National Science Foundation)

**Dr. Emily Finzel:** Improving stratigraphic partitioning and correlation in an ancient fluvial-to-marine transition zone using facies analysis, carbon:sulfur, and biostratigraphy (American Chemical Society)

**Dr. Bill McClelland:** Bedrock Geologic Mapping of the Arctic D-1 SW Quadrangle, Brooks Range, Alaska (Department of the Interior, US Geological Survey)

### Students

**Sam Hudziak (PhD):** Building A Terrestrial-Based Terrain Materials Analog Library for Terrain Relative Navigation and Hazard Detection Applications on the Lunar Surface (NASA – Goddard Space Flight Center )

**Zach Vig (BS):** Planetary Geologic Mapping Workshop 2022 in Flagstaff, AZ (NASA-Topical Workshops, Symposia, and Conferences Program)

**Talia Hill (BS):** Funding to travel to Alabama and research the impacts geology and agriculture has had on the demographics of Alabama's Black Belt region (University of Iowa History Department)

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## 2021-2022 Faculty Awards

**Dr. Mark Reagan:** AGU 2021 Editors' Citation for Excellence in Refereeing - Geochemistry, Geophysics, Geosystems

**Dr. Emily Finzel:** 2021-2022 UI Office of the Vice President for Research Innovation in Safety Award  
2021-2022 UI CLAS Teaching Award

## 2021-2022 Student Awards

<b>Zach Vig (BS)</b>	Matt Blanche Memorial Scholarship
<b>Matthew Braun (PhD)</b>	Best Homecoming Poster Presentation
<b>Shaffer Finney (BS)</b>	Michael G. and Barbara L. Cook Scholarship
<b>Emily Copple (BS)</b>	Bill Vosper - Outstanding Geology undergraduate
<b>Taylor Cantrill (BS)</b>	Cornelia C. Cameron - Outstanding Environmental Science undergraduate
<b>Riley Kniptash</b>	A.C. Trowbridge - Outstanding MS student
<b>Matt Braun</b>	Samuel Calvin - Outstanding PhD student

## 2021-2022 Internal Student Grants

### Max and Lorraine Littlefield Geology Fund

<b>Alex Bradley</b>	GSA Annual Meeting
<b>Matt Braun</b>	GSA Annual Meeting
<b>Thomas Doyle</b>	GSA Annual Meeting
<b>Riley Kniptash</b>	GSA Annual Meeting
<b>Hanna Konavaluk</b>	GSA Annual Meeting
<b>Daniel Leaphart</b>	Research travel
<b>Ryan Shanks</b>	Research supplies

### Aaron and Joyce Liesch Geoscience Fund

<b>Hanna Konavaluk</b>	GSA Section Meeting
<b>Dustin Northrup</b>	Research analyses
<b>Zach Vig</b>	GSA Section Meeting

### John Swade Memorial Fund

<b>Cameron Parrelly</b>	Research travel
<b>Nathan Platt</b>	Research travel

### Sullivan-Smith Graduate Fund

<b>Shay Ridl</b>	Research travel/reearch analyses/GSA Section Meeting
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## 2021 Distinguished Alumni Awardee

### Dr. Ron Blakey

Ronald C. Blakey is Professor Emeritus in Geology at Northern Arizona University where he taught graduate courses in sedimentation, sedimentary petrology, regional tectonics, and stratigraphy and undergraduate courses in stratigraphy sedimentation, oceanography, and historical geology. Research interests past and present are sedimentary processes, sedimentary tectonics, environmental reconstruction, and stratigraphic analysis and computer applications to geological education. Most recent research focuses on relations of ancient sedimentary environments and their tectonic setting. This has generated numerous paleogeographic maps of regional to global scale, that are in textbooks, scientific journals, museums, park displays and are widely used as teaching aids. Rocks of fluvial, eolian, lacustrine, and shallow marine origin, as well as global and regional paleogeography, are subjects of recent publications.

#### Education:

Ph.D. in Geology, University of Iowa, Iowa City, 1973

M.S. in Geology, University of Utah, Salt Lake City, 1970

B.S. in Geology University of Wisconsin, Madison, 1967



*Ronald Blakey, President of Deep Time Maps Inc.™ and Northern Arizona University Professor Emeritus in Geology has spent over 30 years creating paleogeographic maps.*

*Home Page: <http://deeptimemaps.com>*



*Deep Time Maps paleogeographic maps are now available on the University of Iowa Libraries website: <https://libres.lib.uiowa.edu/paleo/>*

#### Professional History:

President, Colorado Plateau Geosystems – Deep Time Maps, 2009-present

Professor of Geology, Northern Arizona University, 1988-2009

Chair, Department of Geology, Northern Arizona University, 1990-1994

Associate Professor of Geology, Northern Arizona University, 1981-1988

Assistant Professor of Geology, Northern Arizona University, 1975-1981

Utah Geological and Mineral Survey (part time), 1972, 73, 78

Assistant Professor of Geology, Fort Hays, Kansas State University, 1973-1975

#### Recognition:

2011 – AAPG Geoscience in the media award for web sites

2013 – Arizona Library Award

2013 – 2014 – AAPG Distinguished Lecturer

2016 – John W. Shelton Search and Discovery Award

2017 – Outstanding Alumni Award, University of Wisconsin

2021 – John D. Haun Landmark Publication Award



# EES:4280 Tectonics and Basin Analysis Field Trip - Utah

Dr. Emily Finzel and Dr. Bill McClelland

**April 3:** Black Dragon Canyon - Paleozoic and Mesozoic Stratigraphy of the Colorado Plateau and mapping of the San Rafael Swell



**April 4:** Onion Creek - mapping a salt diapir in the northern Permian Basin



April 5: Henry Mountains - anatomy of a laccolith, and Goblin Valley State Park



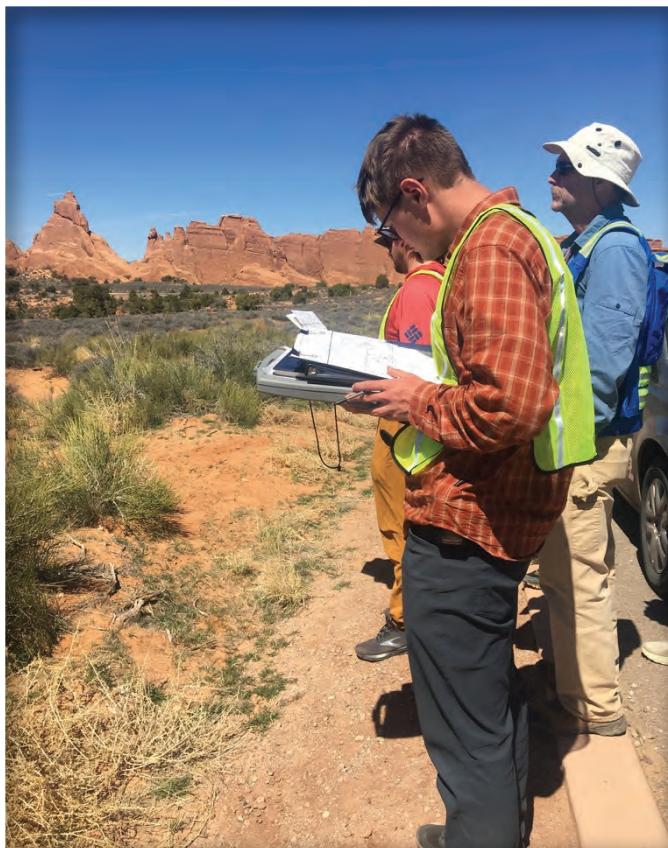
**April 6:** Book Cliffs - Cretaceous foreland basin depositional systems



**April 7:** Arches National Park - mapping the Moab Fault Zone



**April 8:** Arches National Park - constructing a cross-section through the national park



# Earth & Environmental Sciences Publications

Since January 2021

Azzara, B., Boschian, G., **Brochu, C. A.**, Delfino, M., Iurino, D. A., Kimambo, J. S., Manzi, G., Masao, F. T., Menconero, S., Njau, J. K., and Cherin, M., 2021, A new cranium of *Crocodylus anthropofagus* from Olduvai Gorge, northern Tanzania: *Rivista Italiana Di Paleontologia E Stratigrafia*, v. 127, no. 2, p. 275-295.

**Biebesheimer, E. J., Cramer, B. D.**, Calner, M., Barnett, B. A., **Oborny, S. C., and Bancroft, A. M.**, 2021, Asynchronous delta C-13(carb) and delta C-13(org) records during the onset of the Mulde (Silurian) positive carbon isotope excursion from the Altajme core, Gotland, Sweden: *Chemical Geology*, v. 576.

**Braun, M. G.**, Daoust, P., and Desrochers, A., 2021, A sequential record of the Llandoverly delta C-13(-carb) excursions paired with time-specific facies: Anticosti Island, eastern Canada: *Palaeogeography Palaeoclimatology Palaeoecology*, v. 578.

**Brengman, C. M. J.**, and Barnhart, W. D., 2021, Identification of Surface Deformation in InSAR Using Machine Learning: *Geochemistry Geophysics Geosystems*, v. 22, no. 3.

Brounce, M., **Reagan, M. K.**, Kelley, K. A., Cottrell, E., Shimizu, K., and Almeev, R., 2021, Covariation of Slab Tracers, Volatiles, and Oxidation During Subduction Initiation: *Geochemistry Geophysics Geosystems*, v. 22, no. 6.

**Caswell, B., Gilotti, J. A.**, Webb, L. E., **McClelland, W. C.**, Kosminska, K., Piepjohn, K., and von Gosen, W., 2021, Ar-40/Ar-39 dating of Paleoproterozoic shear zones in the Ellesmere-Devon crystalline terrane, Nunavut, Canadian Arctic: *Canadian Journal of Earth Sciences*, v. 58, no. 10, p. 1073-1084.

**Cheng, G.**, and Barnhart, W. D., 2021, Permanent Co-Seismic Deformation of the 2013 Mw7.7 Baluchistan, Pakistan Earthquake From High-Resolution Surface Strain Analysis: *Journal of Geophysical Research-Solid Earth*, v. 126, no. 3.

**Coulthard, D. A., Reagan, M. K.**, Shimizu, K., Bindeman, I. N., Brounce, M., Almeev, R. R., Ryan, J., Chapman, T., Shervais, J., and Pearce, J. A., 2021, Magma Source Evolution Following Subduction Initiation: Evidence From the Element Concentrations, Stable Isotope Ratios, and Water Contents of Volcanic Glasses From the Bonin Forearc (IODP Expedition 352): *Geochemistry Geophysics Geosystems*, v. 22, no. 1.

Faehnrich, K., **McClelland, W. C.**, Colpron, M., Nutt, C. L., Miller, R. S., Trembath, M., and Strauss, J. V., 2021, Pre-Mississippian Stratigraphic Architecture of the Porcupine Shear Zone, Yukon and Alaska, and Significance in the Evolution of Northern Laurentia: *Lithosphere*, v. 2021, no. 1.

**Finzel, E. S.**, and **Rosenblume, J. A.**, 2021, Dating lacustrine carbonate strata with detrital zircon U-Pb geochronology: *Geology*, v. 49, no. 3, p. 294-298.

Gibson, T. M., Faehnrich, K., Busch, J. F., **McClelland, W. C.**, Schmitz, M. D., and Strauss, J. V., 2021, A detrital zircon test of large-scale terrane displacement along the Arctic margin of North America: *Geology*, v. 49, no. 5, p. 545-550.

**Hartke, E. R., Cramer, B. D.,** Calner, M., Melchin, M. J., Barnett, B. A., **Oborny, S. C., and Bancroft, A. M.,** 2021, Decoupling delta C-13(carb) and delta C-13(org) at the onset of the Ireviken Carbon Isotope Excursion: Delta C-13 and organic carbon burial (f(org)) during a Silurian oceanic anoxic event: *Global and Planetary Change*, v. 196.

**Heath, M. N., Cramer, B. D., Stolfus, B. M., Barnes, G. L., Clark, R. J.,** Day, J. E., Barnett, B. A., Witzke, B. J., Hogancamp, N. J., and **Tassier-Surine, S.,** 2021, Chemoautotrophy as the driver of decoupled organic and carbonate carbon isotope records at the onset of the Hangenberg (Devonian-Carboniferous Boundary) Oceanic Anoxic Event: *Palaeogeography Palaeoclimatology Palaeoecology*, v. 577.

Hughes, N. C., **Adrain, J. M.,** Holmes, J. D., Hong, P. S., Hopkins, M. J., Hou, J. B., Minelli, A., Park, T. Y. S., Paterson, J. R., Peng, J., Webster, M., Zhang, X. G., Zhang, X. L., and Fusco, G., 2021, Articulated trilobite ontogeny: suggestions for a methodological standard: *Journal of Paleontology*, v. 95, no. 2, p. 298-304.

Karim, T. S., and **Adrain, J. M.,** 2022, The phylogenetic affinity of the Ordovician trilobites *Agerina*, *Forteyaspis* gen. nov., and related genera, with new and revised species from Canada and the United States: *Canadian Journal of Earth Sciences*, v. 59, no. 3, p. 156-179.

**Kerr, P. J., Tassier-Surine, S. A., Kilgore, S. M., Bettis, E. A., Dorale, J. A., and Cramer, B. D.,** 2021, Timing, provenance, and implications of two MIS 3 advances of the Laurentide Ice Sheet into the Upper Mississippi River Basin, USA: *Quaternary Science Reviews*, v. 261.

Majka, J., **Kosminska, K.,** Bazarnik, J., and **McClelland, W. C.,** 2021, The Ordovician Thores volcanic island arc of the Pearya Terrane from northern Ellesmere Island formed on Precambrian continental crust: *Lithos*, v. 386.

McGee, L., **Reagan, M.,** Turner, S., Sparks, R. S., Handley, H., Didonna, R., Berlo, K., Hansen, S., and Barclay, J., 2021, U-series histories of magmatic volatile phase and enclave development at Soufriere Hills Volcano, Montserrat: *Chemical Geology*, v. 559.

Parsons, A. J., **McClelland, W. C.,** Zagorevski, A., Ryan, J. J., Coleman, M. J., Cleven, N., and van Staal, C. R., 2022, U-Pb Zircon Geochronology From the Northern Cordillera, Central Yukon, With Implications for Its Tectonic Assembly: *Tectonics*, v. 41, no. 2.

Pearce, J. A., Ernst, R. E., **Peate, D. W.,** and Rogers, C., 2021, LIP printing: Use of immobile element proxies to characterize Large Igneous Provinces in the geologic record: *Lithos*, v. 392.

**Rosenblume, J. A., Finzel, E. S.,** and Pearson, D. M., 2021, Early Cretaceous Provenance, Sediment Dispersal, and Foreland Basin Development in Southwestern Montana, North American Cordillera: *Tectonics*, v. 40, no. 4.

**Rosenblume, J. A., Finzel, E. S.,** Pearson, D. M., and **Gardner, C. T.,** 2022, Middle Albian provenance, sediment dispersal and foreland basin dynamics in southwestern Montana, North American Cordillera: *Basin Research*, v. 34, no. 2, p. 913-937.

Schwarz, E., **Finzel, E. S.,** Veiga, G. D., Rapela, C. W., Echevarria, C., and Spalletti, L. A., 2021, U-Pb

geochronology and paleogeography of the Valanginian- Hauterivian Neuquen Basin: Implications for Gondwana-scale source areas: *Geosphere*, v. 17, no. 1, p. 244-270.

Shervais, J. W., **Reagan, M. K.**, Godard, M., Prytulak, J., Ryan, J. G., Pearce, J. A., Almeev, R. R., Li, H. Y., Haugen, E., Chapman, T., Kurz, W., Nelson, W. R., Heaton, D. E., Kirchenbaur, M., Shimizu, K., Sakuyama, T., Vetter, S. K., Li, Y. B., and Whattam, S., 2021, Magmatic Response to Subduction Initiation, Part II: Boninites and Related Rocks of the Izu-Bonin Arc From IOPD Expedition 352: *Geochemistry Geophysics Geosystems*, v. 22, no. 1.

**Thines, J. E.**, Ukstins, I. A., Wall, C., and Schmitz, M., 2021, Volumetric extrusive rates of silicic supereruptions from the Afro-Arabian large igneous province: *Nature Communications*, v. 12, no. 1.

Tholt, A., Mulcahy, S. R., **McClelland, W. C.**, Roeske, S. M., Meira, V. T., Webber, P., Houlihan, E., Coble, M. A., and Vervoort, J. D., 2021, Metamorphism of the Sierra de Maz and implications for the tectonic evolution of the MARA terrane: *Geosphere*, v. 17, no. 6, p. 1786-1806.

Wala, V. T., Ziemniak, G., Majka, J., Faehnrich, K., **McClelland, W. C.**, Meyer, E. E., Manecki, M., Bazarnik, J., and Strauss, J. V., 2021, Neoproterozoic stratigraphy of the Southwestern Basement Province, Svalbard (Norway): Constraints on the Proterozoic-Paleozoic evolution of the North Atlantic-Arctic Caledonides: *Precambrian Research*, v. 358.

## **Earth & Environmental Sciences Conference Presentations**

### **AGU Fall 2021 Meeting at New Orleans**

**Guo Cheng** (PhD) - Power-law Viscoelastic Flow of the Lower Makran Accretionary Prism Following the 2013 Baluchistan Earthquake

### **GSA Joint Cordilleran and Rocky Mountain Section Meeting**

**Shay Ridl** (PhD) - New Chronostratigraphic Constraint on Late Jurassic (?) – Early Cretaceous Sedimentation in The Distal Cordilleran Foreland Basin in Northern New Mexico (Poster)

**Shay Ridl** (PhD) - Detrital Zircon Provenance Trends from Plio-Pleistocene, Axial-Fluvial Strata of the Rio Grande Rift: A ~4 m.y. History of The Ancestral Rio Grande Fluvial System, New Mexico (Talk)

**Zach Vig** (BS) - Geochemical provenance analysis of conglomerate clasts in the Cretaceous Beaverhead Group of southwestern Montana, aided by machine learning.

### **GSA North-Central/South-Central Joint Online Section Meeting**

**Matt Braun** (PhD) - The search for KOBE: Locating the Kinderhook-Osage Boundary Excursion in the Iowa, Illinois, and Missouri Tri-State Area

### **GSA Connects Annual Meeting**

**Riley Kniptash** (MS) - Characterizing Dissolved Iron Concentrations and Groundwater Fluxes in an Aquifer Discharging to a Ferruginous, Meromictic Lake

**Thomas Doyle** (MS) - High frequency monitoring of detailed and depth-discrete head profiles to characterize variability in hydrogeologic properties in the Silurian-Devonian Aquifer in Eastern Iowa

**Dr. Jessi Meyer** - Using multiple lines of evidence to evaluate aquitard integrity for a contaminated

sedimentary rock aquifer system

**Zach Vig (BS)** - Using a camsizer to optimize grain size-based hydraulic conductivity estimation for ice-marginal sediments

**Matt Braun (PhD)** - Chasing the Hangenberg and Kinderhook-Osage Boundary Excursions in the U.S. Midcontinent: “dumbbell stratigraphy” and the sub-Burlington unconformity

### **Society of Vertebrate Paleontolog**

**Dr. Chris Brochu** - If Dr Seuss made an animal with a woodwind instrument coming out of its head – the systematics and paleoecological significance of the hyper-tube-snouted osteolaemine crocodylid *Euthecodon* from the late Cenozoic of Africa.

### **Virtual KGS Midcontinent Carbonate Symposium**

**Matt Braun (PhD)** - Geometry of the Burlington Shelf during the early Mississippian: Thickening both Shoreward and Basinward away from the Starved (Shaved?) Central Middle Shelf

### **NGWA Conference on Advances in Groundwater Data Management and Conceptual Site Models**

**Dr. Jessi Meyer** - Improving geologic data capture to support site conceptual model development for multigenerational sites

## **Western Carpathian Transect, Central Europe**

**Dr. Bill McClelland and Dr. Jane Gilotti**

Prof. Bill McClelland and Prof. Jane Gilotti recently participated in a Trans-Carpathian field trip organized by Dr. Jarek Majka from AGH University of Science and Technology (Poland) and Uppsala University (Sweden) for a group of Ph.D. students and researchers from AGH and the Polish Academy of Sciences. The trip extended from the salt mines of the Miocene foreland of the Western Carpathians in Poland, south across the Cretaceous-Paleogene Alpine and Jurassic pre-Alpine deformation belts in Slovakia and into Miocene volcanic rocks in Hungary. Majka covered stops in Poland and Dr. Marian Janák (Slovak Academy of Sciences) and Dr. Dušan Plašienka, Dr. Marína Molčan Matejová and Dr. Tomáš Potočný (Comenius University in Bratislava) lead the field trip in Slovakia. Gilotti currently has a Fulbright Scholar position at AGH hosted by Dr. Karolina Košmińska and focused on Arctic tectonics.



*Karolina Košmińska (EES post-doc, 2019), and Drs. Gilotti and McClelland at the Bochnia salt mine. Mining started here in 1248.*



*Participants of the 2022 Trans-Carpathian field trip.*



# EES:2001:0001 Second-Year Field Trip

Dr. Kate Tierney and Dr. Ben Swanson

April 20-24: Johnson's Shut-Ins, Tiemann's Shut-Ins, Elephant Rocks, Devil's Honeycomb, Buick Mine





## GSA Field Camp Excellence Award

**EES-2831: Field Methods and EES-4832: Field Analysis**

The University of Iowa Field Camp has been named the 2022 GSA Field Camp Excellence Award recipient! Dr. Mark Little, GSA President-Elect stated, “There was strong competition for this award based on technical excellence, diversity, safety and the final question describing key attributes and/or support for your field camp. The University of Iowa’s program and aspirations, as described by you in your application for this recognition, rose to the top. Those of us engaged in the evaluations looked closely at your descriptions of the key criteria (technical, diversity, and safety) and were impressed by all aspects of the field mapping and educational program.”



The 2022 GSA Field Camp Excellence Award will be announced in the July issue of *GSA Today*. In addition, the award will be recognized at the Presidential Awards Ceremony at the GSA Connects 2022 Meeting, to be held in Denver, Colorado, October 9-12.

Over the last 10 years, the primary instructors for field camp have been Dr. Emily Finzel, Dr. Bill McClelland, Dr. Jane Gilotti, and Dr. Jeff Dorale. In the EES:2831 Field Methods course, the goal is to acquire the basic skills needed to examine, characterize, and interpret Earth materials in their natural setting. Students who take this course are early in their academic career and exercises focus on learning to identify and describe bedrock and surficial deposits, and make stratigraphic columns, geologic maps and cross-sections. These skills will provide the basis for formulating interpretations regarding Earth processes.

In the EES:4832 Field Analysis course, which is taken in a subsequent year, the main goals are to develop the ability to use detailed problem solving to address region relationships and gain an understanding of stratigraphic, structural and regional analysis of geology as applied to the Rocky Mountains of Montana. This course emphasizes problem solving rather than method development. The first two weeks involve mapping projects in the vicinity of Dillon, Montana. The third week involves a capstone experience dedicated to synthesizing the geology of the fold-and-thrust belt south of Glacier National Park. Exercises build toward a regional cross-section and synthesis, as well as a deeper understanding of foreland basin systems. Students are required to synthesize the depositional, stratigraphic, and structural history of the field area based on their field observations and interpretations.





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EARTH & ENVIRONMENTAL SCIENCES

SPRING 2022

*Anything you would like to see in the newsletter? Please send an email with any suggestions or requests to [geology@uiowa.edu](mailto:geology@uiowa.edu)!*