

## August 2014 News Notes

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### Alumni Change Lives

Every summer since 1947, a group of OSU students leaves Columbus for an education adventure in the geological wonderland of Utah. It is an experience like no other in the geology major – a ‘capstone course’ designed to take the concepts learned in a multitude of classes, integrate them and apply them to geological problems with all the complexities that Nature serves up. It is remarkable to see the transformation from the tentative first steps in the field, to the confidant and robust debate of experienced observers after 6 weeks have passed – newly minted geologists! Living in Ephraim for 6 weeks, travel to Utah, purchase of field gear... all are substantial expenses for each field camp student. Every year, a large number of our students receive funds to defray these expenses from SES endowment funds. SES alumni enable student participation in field camp by contributing funds to reduce the cost to students. In recent years, the endowment funds supporting field camp students have included the Edmund Spieker Memorial Scholarship Fund, the School of Earth Sciences Field Experience Travel Fund and the Kenneth “K. O.” Stanley Field Travel Endowment Fund in Geology. All of our field geology students who have received funds, including the 2014 group pictured below, give a hearty thank you to the generous alumni that contribute! We plan a drive to increase our field endowment funds as we approach the 70th anniversary of field camp in Ephraim in 2017 – stay tuned for fund profiles in future newsletter issues...

At right: 2014 field camp scholarship and aid awardees, Dry Canyon, Gunnison Plateau in the background. Left-to-Right: Connor Gallagher, Ken Peterman, Connor Bloomfield, Neill Schweiterman, Katie Bechtel, Jacqueline Mills, Derek Foley (kneeling), Andrew Burchwell, Amber Huston, Brittany Van Wagenen, Taylor Warren.



# Shell Undergraduate Research Experience 2014

The 2014 Shell Undergraduate Research Experience program concluded on July 24, 2014 with a poster session which showcased the summer research projects of the thirteen Earth Sciences undergraduate majors participating in the program. Most of the projects will serve as the basis of students' senior theses. In addition to dozens of SES faculty, students and staff who talked with the students about their research, in attendance were Shell geoscientists Pat Jackson and Ted Godo (Ohio State BS & MS), and Natural and Mathematical Sciences divisional dean Christopher Hadad, and the parents of several students.



Student	Research Project	Faculty Research Mentor
Scott Aleshire	Structural origin of clastic intrusions in the AND-2A drill core, southern McMurdo Sound, Antarctica	Terry Wilson
Hanna Brourman	Noble gas geochemistry of the Marcellus Shale: A prospecting tool for hydrocarbon gas migration	Joachim Moortgat and Tom Darrah
Zach Cotter	Geopolymers in an oxidant doped filtration system for the remediation of urban runoff	Frank Schwartz
Zach Dobey	Geochemical variation of the Reykjanes Ridge	Michael Barton
Ben Holt	Hard rock fracking and heavy metal brines: Trace element analysis of produced waters from black shales	John Olesik
Erin Lathrop	Sediment composition in the Gulf of Cádiz contourites during the Pleistocene	Larry Krissek
Erica Maletic	Noble findings: The volatile geochemistry of the southwestern United States	Tom Darrah
Sean O'Brien	Gulf of Cádiz contourite laboratory: Variability in sediment composition over the last 200 ky	Larry Krissek
Michael Rutana	CT analyses of the internal morphology of trilobites	Loren Babcock
Case Saup	Physiological responses of the coral <i>Stylophora pistillata</i> to future coastal ocean conditions	Andréa Grottoli
Jordan Scheuermann	Equilibrium geochemical and kinetic modeling of major ion chemistry in McMurdo Dry Valley ephemeral streams	Berry Lyons
Lienne Sethna	Examining organic carbon found in Utica shale—Reading density data isn't so black and white	Ann Cook
Brian Vargo	Analysis of cinder cones and volcanic ridge in the Adare Basin, Antarctica	Terry Wilson

# AAPG Chapter Update

The AAPG Chapter at OSU is proud to introduce this coming year's chairs, who will be involved with the E-Board to work on improving the chapter and providing the activities this year.

Program/Publicity Chair: *Andrew Collins*

Field Trip Chair: *Sean O'Brien*

Fundraising/Grant Chair: *Laura Miller*

Community Chair: *Lienne Sethna*

## Member Highlight: *Sean O'Brien*

My time spent with OSU's AAPG chapter has been one of the highlights of my college experience, and this past year was no exception. The year's climax was our attendance at AAPG's Annual Convention in Houston, TX. This whirlwind experience is a great way for us to begin contact with graduate schools, future employers, and seasoned professionals. Speaking with Shell employees at the Convention led to my position at their Drilling & Production Camp. In the Shell Undergraduate Research Experience, I spent the summer working with Dr. Lawrence Krissek characterizing the sedimentology of contourite deposits. The results will be presented at AAPG's Student Expo in early September. Through contacts made at this past AAPG Convention, I was chosen to attend Schlumberger's F.I.E.L.D. Camp in Tulsa, OK. When I cross the stage at Commencement this December, I will have many people to thank: my parents, my friends, my professors, and all those across the department and AAPG who have made my educational and professional experience inspiring, exciting, and productive. (*Sean is pictured on the left side of the photo at right*).



## Member Activity

Andrew Collins finished a four-month internship with the National Parks Service focused on cataloguing, assessing and mitigating activity of mass movement, in addition to mapping park geology and restoration of old mining areas in Denali National Park, Alaska.

Andrew Burchwell started research internship with CO<sub>2</sub> Sequestration group at the Battelle Memorial Institute in Columbus, Ohio.

Mario Gutierrez (pictured at left) visited Dr. Andres Mora and Isaid Quintero at the basic petrophysics and biostratigraphy laboratories at the Colombian Petroleum Institute in Colombia.

## Upcoming Events

- OSU AAPG Chapter Cook Out – August 29 on South Oval.
- First Chapter Meeting – September 2 at the School of Earth Sciences at Ohio State.
- AAPG/SEG Student Expo – September 8-9 in Houston, TX.

Contact us at [aapg@osu.edu](mailto:aapg@osu.edu) for all things AAPG at Ohio State. Stayed tuned and GO BUCKS !!!

## Celebrating Anita Harris

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SES alumna Anita Harris, Ph.D (1970) and Bownocker Medalist died the weekend of July 13 in Ft. Lauderdale, FL following a long battle with Alzheimers Disease. She was 77 years old. Anita was a long-time member of the Paleontology and Stratigraphy Branch of the U.S.G.S. in Washington and a world-renowned expert on conodonts. She developed a method for relating the degree of color alteration of conodonts to the depth of burial of their enclosing rocks. In honor of her outstanding work with conodonts she was awarded the Pander Society's Gold Medal in 1991. Anita was not only exceptionally competent in the laboratory but also in the field, where she worked in eastern and western United States and in Mexico. She led John McPhee on the geologic travels he describes so colorfully in his classic book *In Suspect Terrain*. In that book McPhee also paints a wonderful picture of Anita that is recommended reading for all her friends and admirers. Anita kept close contact with her coworkers at OSU and served as mentor not only to many Ohio State graduate students working with conodonts but also to micropaleontologists from many different countries who were working with those fossils. She will be missed. *Contributed by Prof Emeritus Walter Sweet.*



## Orton Museum discovers lost specimens

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A [recent story](#) in the Columbus Dispatch featuring Dale Gnidovec, curator of Orton Geological Museum, and Prof Emeritus Bill Ausich described the recent discovery of a large number of specimens, many of which originally belonged to Edward Orton, professor of Geology, and the first president of Ohio State. Many of the specimens are ore samples, and had been officially missing for decades; they were discovered in the basement of Mendenhall Laboratory. The photo at right from the Dispatch shows Dale with some of the recovered specimens. From the Dispatch article: "There are specimens here that are from quarries and mines that no longer exist," said William Ausich, director of the Orton Geological Museum. "It's like Christmas when you get all this material that has been thought to be unavailable." See the [story](#) for more photos and a video.



## Brevia

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The Summer Course Program at OSU's Stone Laboratory recently announced that Larry Krissek was selected as its Outstanding Professor for Summer 2013. Three Earth Science courses were taught at Stone Lab in Summer 2013: Field-based Introduction to Oceanography (Earth Sciences 1107), Principles of Oceanography for Educators (Earth Sciences 5584), and Field Geology for Educators: Geologic Setting of Lake Erie (Earth Sciences 5189.05). Congratulations, Larry!

Prof. Steven Lower has been awarded a \$3 million dollar grant (\$3,002,203) from the National Institutes of Health (NIH) to continue his innovative, cross-disciplinary research on a potentially deadly blood infection caused by bacterial cells that attach to implanted cardiac devices. Further information regarding this grant and Dr. Lower's research can be found [here](#). Congratulations, Steven!

PhD student Melissa Wrzesien (adviser: Michael Durand) was notified that she would receive a NASA Earth and Space Science Fellowship. The fellowship covers student stipend and other expenses for three years. Congratulations, Melissa!

In July 2014, Geodetic Science alumnus Kyle Snow (PhD 2012) presented his recent joint work with Prof Burkhard Schaffrin at the SIAM (Soc. for Industrial and Applied Math.) Annual Meeting in Chicago. The work was concerned with fitting a line in 3D space to noisy data by performing a Total Least-Squares adjustment within a Gauss-Helmert Model. The work focused on a minimum parameterization for the problem, estimating only four parameters for the 3D line. Those interested in a copy of the SIAM presentation may [contact Kyle Snow](#).

Michael D. Campbell, P.G., P.H. (OSU BA-66; Rice MA-76) was senior author on Chapter 9 published by the EMD-AAPG titled: Nuclear Power and Associated Environmental Issues in the Transition of Exploration and Mining on Earth to the Development of Off-World Natural Resources in the 21st Century ([link](#)) in the text titled: Energy Resources for Human Settlement in the Solar System and Earth's Future in Space; EMD-AAPG Memoir 101, p. 163 –213.

The Orton Museum has recently acquired a new set of powerful ultraviolet lights for our fluorescent mineral booth thanks to the Richland Lithic & Lapidary Society, a group of "rock hounds" based in Mansfield, Ohio. The lights retail for about \$1800 but the Society was able to get them at wholesale prices.