

July 2013 News Notes

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Field Camp Update

Hard to believe that the first half of field camp is over! We have had some adapting to do with our large number this year (32 students, 4 TAs and 3 instructors), but all has gone well so far. The first 2 weeks were focused on developing mapping and visualization skills, learning to identify sedimentary structures and depositional environments, interpret structure and reconstruct the geologic evolution of relatively simple field areas. During a one-day trip to the Utah Core Research Facility in Salt Lake City, the students learned to describe core, specifically core from the Covenant field discovery well from the Sanpete-Sevier structure. This week we took a camping trip to observe the regional stratigraphy and structure of beautiful Capitol Reef National Park and the diverse volcanic rocks of the Marysvale volcanic field. We are now in the midst of the next challenge – creating a regional structural cross section across the southern Sanpete Valley. We will incorporate well data from the Providence oil & gas field just to the south of our section to integrate surface and subsurface structural interpretation. Having seen the subsurface units both in outcrop at Capitol Reef and in the Covenant core, this is a great ‘exploration’ activity. Hopefully the coming weeks will be less ‘eventful’ in the sense of avoiding the host of minor injuries we have had – including stitches in various body parts, scrapes, blisters, and Terry Wilson’s broken ankle!



Description of core from the Covenant Field discovery well from Sevier Valley, Utah. At Utah Core Research Facility, Utah Geological Survey, Salt Lake City.



Left: Measuring section at Temple Hill, Manti. Examining the Moenkopi Formation and the Shinarump Member of the Chinle Formation, Twin Rocks, Capitol Reef National Park.



Field class at Goosenecks overlook, Capitol Reef National Park. *Back row:* Brian Vargo, Cristina Millan (instructor), Mike Rutana, Evan Blau, Tom Phetteplace, Rachel Koons, Billy Eymold, Loren Rosenbeck (TA), Zach Cotter, Edwin Buchwalter, Tyler Liston, Scott Aleshire, Jordan Scheurmann, Ben Grove, Dan Enriquez, Andrew Thompson, Colin Gearing, Mark Fitzsimmons, Sam Darland. *Middle group:* Joel Main (TA), Hanna Brouman, Casey Saup, Zach Dobey, Terry Wilson (Instructor), Sean O'Brien, Colin White, Chad Clendenin, Samyra Ismail, Andrew Yahle, Caroline Seyler, Shelley Judge (Instructor), Danielle Bower, Erin Lathrop. *Front Row:* Dan Barr (TA), Will Blocher (TA), Matt Rine, Erica Maletic, Jake Harrington, Zachariah Cowan.

Shell Undergraduate Research Experience 2013

The ten Earth Sciences student majors participating in the 2013 Shell Undergraduate Research Experience (SURE) are now halfway through their summer internships. On June 3 the students began working on their projects which range from studies of pyrite and organic matter distribution in the Utica and Eagleford Shales to determinations of crystallization pressures in magma beneath the East Pacific Rise to soil development post-mining reclamation at The Wilds in east central Ohio to determination of sediment compaction in cratonic sedimentary basins.

In addition to their research, the students have participated in workshops organized both by the university's Undergraduate Research Office (URO) and by SES. Professional development workshops sponsored by the URO thus far have included Strategies for Finding Scientific Literature, Resumes and Cover Letter Writing, and Scientific Abstract Writing. Technical workshops sponsored by SES have included Introduction to Use of Library Databases, Analytical Facilities in SES, Scientific Poster Making, and What Can XCT Do for You? On Thursday, July 25, 1–4 p.m., the students will present the results of their research in a poster session in 291 Mendenhall Laboratory. All alumni and alumnae are invited to visit SES that afternoon and to see the students' posters and learn about their research.

The 2013 SURE interns are working under the direction of Professors Barton, Bevis, Carey, Cole, Cook, Daniels, Krissek, Panero and Saltzman, with the assistance of senior staff members Julie Sheets, Sue Welch, and Dana Caccamise. Pictured below at their June 28 cookout are the students who meet weekly to give updates on their research after the cookout. First row, L to R, GTA and senior Ph.D. student Deb Leslie, Joe Lonsert, Mario Gutierrez, Mackenzie Scharenberg; upper row, L to R, Harold Elston, Christian Gomes, Amber Huston, Amy Wiley, Michael Kellum, and Chrissy Zerda. Not pictured is Daniel Ardrey who was in the field sampling.



Brevia

Prof Lonnie Thompson has just returned from a month-long expedition to west central Tibet. He and colleagues had a great expedition and got back before the onset of the monsoons. The samples have recently arrived, so will be a few weeks to have a idea of the type of record preserved.

Prof David Cole gave a talk at the 14th International Symposium on Water-rock Interaction in Avignon France. His talk was "Carbon-bearing fluids at nanoscale interfaces". Prof Cole also chaired a session on "The role of mineral surfaces in the kinetics of water-mineral reactions"

Chair Berry Lyons gave the prestigious invited Ingerson lecture at the Avignon Water-rock Interaction Symposium on "Water-rock interaction in Antarctica".

Prof David Cole's group has received word from the Alfred P. Sloan Foundation that our proposal for \$1.25 million over 2 years (2013-2015) on "Reduced carbon in Earth: Origin and distribution of abiotic hydrocarbons" will be funded. Congratulations, Dave!

PhD student Alex Swift spent about a week conducting neutron scattering experiments on the pore features of the Utica formation at the Center for Neutron Research at NIST in Gaithersburg MD.

I2M Associates (Houston and Seattle) has contributed a chapter to the recently-released AAPG-EMD Memoir 101, entitled *Energy Resources for Human Settlement in the Solar System and Earth's Future in Space*. Michael D. Campbell, P.G., P.H. (OSU '66) is Chief Geologist/ Hydrogeologist at I2M, and served as Senior Author on this chapter. For the Table of Contents and Book Preface, see [here](#). For more information, contact Michael Campbell at mdc@I2MAssociates.com