

## CAMPUS REPORT

**DATE:** August 27, 2018  
**TO:** Board of Regents  
**FROM:** Donald M. Blacketter, Chancellor, Montana Tech  
**RE:** Campus Report for the September 12-13, 2018 Board of Regents Meeting

### STUDENT ACHIEVEMENT

- Jordan Foster, Chemistry & Geochemistry Department class of 2019 undergraduate in the Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND) received a Montana Space Grant Consortium (MSGC) Summer Apprenticeship Award for his summer research project entitled "Investigating lipid uptake in thermophilic microbial mats" in the amount of \$5,000. The award enabled him to perform part of his research in the lab of Dr. Magdalena Osburn at Northwestern University.
- Shanna Law, MS in Geochemistry student in the Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND) gave an oral presentation at the international Goldschmidt Conference August 13<sup>th</sup> titled 'Using hydrothermal water-rock reaction models to indicate microbial presence'. Dr. Cox was her co-author. In addition, Shanna received a Goldschmidt Travel Award to attend the conference.

### FACULTY EFFORTS

- Dr. Courtney Young and Dr. Bev Hartline invited Dr. Senpasith Houngaloune, a Fullbright Scholar from the Department of Sustainable Resources Engineering at the National University of Laos, to come to Montana Tech for four months, Sept 2 to December 31, 2018. He and Dr. Young will collaborate on gold research projects that emphasize processing with cyanide alternatives.
- Dr. Alysia Cox gave an oral presentation at the Goldschmidt Conference August 13<sup>th</sup> titled 'Changes in geochemistry and proteins across the transition to photosynthesis in hydrothermal ecosystems'. Her coauthors were Tech MS and undergraduate students, Shanna Law and Jordan Foster, and graduated MS student, Georgia Dahlquist.
- Matt Egloff, PE, Participated in the August 9-12 Meeting of the Fundamentals of Engineering Other Disciplines Committee at Clemson, SC, for FE Exam Development
- Dr. Alysia Cox was invited and accepted a post to the Academic Editorial Board of the open access journal, PLOS ONE.
- In August, Geological Engineering grad student Nick Allin and Dr. Chris Gammons presented two talks at the 2018 V. M. Goldschmidt Geochemistry Conference in Boston.
- Dr. Alysia Cox was chosen to participate in the University-National Oceanographic Laboratory System (UNOLS) Early Career Scientist research cruise aboard the R/V Atlantis to the East Pacific Rise in December 2018. The voyage includes four Alvin dives, a manned deep sea submersible, and use of the AUV, Sentry. A public outreach event will be held in San Diego at the end of the voyage.
- Matt Egloff, PE, Took Veteran Suicide Prevention Training August 7, 2018, held at the Butte Archives. The training was organized by Mr. Mike Lawson of the local United Veteran's Council, VFW, American Legion, and Marine Corps League. Training was presented by Juliana Hallows of the Veterans Administration Office in Helena, MT.
- Dr. Alysia Cox, Assistant Professor of the Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND) in the Department of Chemistry & Geochemistry was a co-editor for a research topic, Understanding the Earth's deep carbon in 2017 that is one of 10 finalists for the 2018 Frontiers Spotlight Award. The finalists were chosen from more than 400 article collections and each

address a globally important field of research with the potential to drastically impact our future. The winner will receive \$100,000 to host a conference.

- Matt Egloff, PE, Participated in a meeting of local Veterans and Veterans Group Representatives, with the staff of U.S. Senator Jon Tester on August 21, regarding fund raising for and the building of the new Southwestern Montana Veteran's Home.
- Dr. Alysia Cox (Co-PI) and Dr. Dan Colman (PI-MSU) wrote a grant the Montana Space Grant Consortium that was selected to go forward as the next NASA EPSCoR submission for the state of Montana. Co-authors and investigators included Dr. Brian St. Clair (postdoc, CAMP) and Dr. Eric Boyd (MSU).

## **MONTANA BUREAU OF MINES AND GEOLOGY ACTIVITY**

This list covers significant MBMG activities for the 6/19/18 to 8/24/18 period.

- MBMG Data Scientist, Luke Buckley, Ground Water Assessment Program Manager, John LaFave, Hydrogeologists, James Madison, Jeremy Crowley, Kirk Waren, Todd Myse, and Ground Water Investigation Program Manager, Ginette Abdo, attended the Groundwater Assessment Program Steering Committee Meeting held in Butte, Montana on June 6, 2018.
- MBMG Geologist, Dr. Colleen Elliott, conducted the Montana State Mapping Advisory Board Meeting in Butte, Montana on June 19, 2018.
- MBMG Hydrogeologist, Jeremy Crowley, presented **Commercial Use of UAV's – the Sky (and the "Rules") are the Limit** at the Treasure State Resources Association Annual Meeting in Butte, Montana on June 21, 2018.
- MBMG Geologist Dr. Kaleb Scarberry, presented **Talking Rocks** at the Butte Silver Bow Library in Butte, Montana on June 21, 2018.
- MBMG Economic Geologist, Stan Korzeb, presented **Silver mineralization of the Oro Fino mining district, Deer Lodge County, Montana** to the Butte Mineral Club in Butte, Montana, on June 26, 2018.
- MBMG Hydrogeologist, Alan English, published **Geology and Thermal Features of the Gardiner Basin, park County, Montana**: Northwest Geology, vol. 47, July 2018.
- MBMG Hydrogeologists, Kirk Waren and James Rose, published **Geology of Big Sky, Montana, Road Log**: Northwest Geology, vol. 47, July 2018.
- MBMG Hydrogeologist, Jeremy Crowley, attended the ESRI International User Conference in San Diego, California on July 9-13, 2018.
- MBMG Hydrogeologist, Jon Reiten, led a geology field trip of southern Richland County and northern Dawson County, Montana for the State Conservation District Youth Range Camp, west of Savage, Montana on July 11, 2018.

- MBMG Director of Earthquake Studies, Michael Stickney, and Ground Water Investigation Program Manager, Ginette Abdo, presented **Getting Dirty Field Science- A Panel of MBMG Scientists** at Montana Tech in Butte, Montana on July 12, 2018.
- MBMG Director and State Geologist, Dr. John Metesh, GIS Specialist, Yiwen Li, Geologists, Dr. Colleen Elliott, Petr Yakovlev, Phyllis Hargrave, Hydrogeologist, Kirk Waren, Museum Assistant John Foley, Computer Support Specialist III, Jeff Johnson, volunteered at the Montana Bureau of Mines and Geology Booth at the Folk Festival held in Butte, Montana on July 14-15, 2018.
- MBMG Geologist Dr. Kaleb Scarberry, and Hydrogeologist Alan English volunteered at the Montana Learning Center in Canyon Ferry on July 17<sup>th</sup> and 31<sup>st</sup> to work with science students. We all took a pontoon boat ride to White Earth and collected opal and agate samples.
- MBMG Hydrogeologist, Alan English, attended the Black Butte Mine Field Trip in White Sulphur, Montana on July 21, 2018.
- MBMG Director of Earthquake Studies, Michael Stickney, conducted a live phone interview **Grand Teton National Park Fissure and Seismic Activity in Montana** with John King at KGVO Radio Station in Missoula, Montana on July 23, 2018.
- MBMG Hydrogeologists Dr. Elizabeth Meredith and Jon Reiten, conducted educational outreach on flowing wells to Petroleum County in Winnett, Montana on July 26, 2018.
- MBMG Director of Earthquake Studies, Michael Stickney, Geologists, Dr. Jesse Mosolf, Dr. Colleen Elliott, Katie McDonald, Phyllis Hargrave, Hydrogeologists, James Rose, Kirk Waren, and Alan English, attended the Tobacco Root Geological Survey Field Conference in Bozeman, Montana on July 27-29, 2018.
- MBMG Hydrogeologists, Kirk Waren and James Rose, led a geological and hydrogeological field trip at Big Sky, Montana for the Tobacco Root Geological 2018 Conference on July 28, 2018.
- MBMG Hydrogeologist Connie Thomson and retired MT DEQ Joe Griffin, presented **Geochemistry of the Berkeley Pit** to 100 members of the National Speleological Society in Butte, Montana on July 29, 2018.
- MBMG Hydrogeologist, Andy Bobst, presented **Plans for the Ennis Groundwater Investigation** at the Madison County Planning Board in Virginia City, Montana on July 30, 2018.
- MBMG Geologist Susan Vuke, volunteered for the Butte Literacy Program in Butte, Montana on July 31, 2018.
- MBMG Geologist, Dick Berg and Nathan Renfro, Aaron Palke, published **Gemological Characterization of Sapphires from Yogo Gulch, Montana**: Gems and Gemology, Summer 2018, vol. 54, no. 2, p. 184 – 201.
- MBMG Hydrogeologists, Ali Gebril, Camela Carstarphen, and Montana Tech Geophysical Engineering Department Akpofure Orubu, Mohamed Khalil, Bradley Rutherford, Glenn Shaw,

published **Geophysical Investigation of Dewatering in Lolo Creek, Southwest Missoula, Montana, USA**: Journal of Applied Geophysics, vol. 155, August 2018, pp. 149-161.

- MBMG Chief Analytical Lab Chemist Jackie Timmer and Chemist Ashley Huft both participated in an instructional tour of the lab and its equipment abilities to Glenn Shaw's Hydrogeology Field Class on August 13, 2018.
- MBMG Hydrogeologist, James Rose conducted four well drillings for the Montana Tech Hydrogeology Field Camp in Butte, Montana on August 16, 2018.
- MBMG Ground Water Assessment Program Manager, John LaFave, Hydrogeologists, Todd Myse, Mary Sutherland, Andy Bobst, Director and State Geologist, Dr. John Metesh, Research Division Chief, Madeline Gotkowitz and Ground Water Investigation Program Manager, Ginette Abdo, attended the Groundwater Investigation Program Nomination Meeting held in Butte, Montana on August 21, 2018.
- MBMG Director of Earthquake Studies, Michael Stickney, assisted Dr. Hilary Martens of the UM Geosciences Department and two of her students to deploy seven portable broadband seismograph stations in the region between Augusta and Avon in Montana from August 21-24, 2018. These stations bring the total to 10 temporary seismographs monitoring late aftershocks of the July 6, 2017 Lincoln earthquake and surrounding regional seismicity.
- MBMG Museum Assistant John Foley, conducted a live interview **Billings Man Donates Family Heirloom, nearly 3-ounce Gold Nugget, to Mineral Museum in Butte**, by Annie Pentilla with the Montana Standard in Butte, Montana, on August 22, 2018.
- MBMG Geologist Dr. Kaleb Scarberry, and Professor Christopher Gammons worked with two MTech M.S. students and two Brixton Metals Co. project geologists at their Hog Heaven project site near Elmo, Montana from August 23 – 25, 2018.
- The Montana Bureau of Mines and Geology released Open-File Report 641: Butte Mine Flooding Operable Unit water-level monitoring and water-quality sampling 2012 consent decree update, Butte, Montana, 1982-2012 by Terence E. Duaine, Nicholas J. Tucci and Garrett Smith; Open-File Report 650: Butte Mine Flooding Operable Unit water-level monitoring and water-quality sampling 2013 consent decree update. Butte, Montana, 1982-2013 by Terence E. Duaine, Nicholas J. Tucci and Garrett Smith; Open-File Report 705: History and Hydrogeology of the Berkeley Pit, 1955-2017 by Terence E. Duaine, and Susan M. Smith; Report of Investigation 24: Investigation of Late Quaternary Fault Scarps along the Bitterroot Fault in Western Montana by Michael Stickney and Jeff Lonn; Report of Investigation 25: Coal resources of the Late Cretaceous Judith River and Eagle Formations, north-central Montana by Jay A. Gunderson.