

CAMPUS REPORT

DATE: October 30, 2019
TO: Board of Regents
FROM: Les P. Cook, Chancellor, Montana Technological University
RE: Campus Report for November, 2019 Board of Regents Meeting

STUDENT ACHIEVEMENT

- Nathan Carpenter, MS in Geochemistry student in the Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND) in the Chemistry & Geochemistry Department received a Sigma Xi Grant in Aid of Research for his project titled, "Limitations to mycorrhizal assisted metal and metalloid uptake of native plants". Dr. Cox and Dr. Pal are his co-advisors.
- Nathan Carpenter, MS in Geochemistry student of the LEGEND in the Chemistry & Geochemistry Department received a Society for Ecological Restoration Grant for his project titled, "Mycorrhizae assisted metal and metalloid uptake of native plants". Dr. Cox and Dr. Pal are his co-advisors.
- Kyle Nacey, MS in Geochemistry student of the LEGEND in the Chemistry & Geochemistry Department was chosen by the Chief Scientist, Dr. Sheri White, and participated at sea aboard the R/V Neil Armstrong in a research cruise to the Pioneer Array off of the East Coast as part of the Ocean Observatories Initiative (OOI) program at the Woods Hole Oceanographic Institution (WHOI) in late September. The team deployed and recovered 2 types of moorings in the Pioneer Array ~150 miles south of Woods Hole and deployed gliders and ran AUV missions. The team also performed water sampling as part of the Northeast U.S. Shelf Long-Term Ecological Research (LTER) project.
- Montana Tech alumni Clay Dean receives Dr. Leroy Walker Award. This award recognizes a junior or senior student-athlete who displays the NAIA Champions of Character five core values, demonstrates outstanding academic achievement, campus and community leadership, athletic achievement and has a strong future ambition. He is the first Oredigger to receive this national award.

FACULTY EFFORTS

- Dr. Robert Pal, Associate Professor, Biological Science collaborated in an oral presentation at the 104th Annual Meeting of the Ecological Society of America in Louisville, Kentucky entitled: Co-limitation by nitrogen and phosphorus in metal(loid)-Contaminated soil following 100 years of smelter aerosol inputs in Southwest Montana. August 11-16, 2019.
- Dr. Robert Pal, Associate Professor, Biological Science was invited for a session and delivered two oral presentations at the 8th World Conference of the Society of Ecological Restoration in

Cape Town, South Africa entitled: 1.) Public resistance against ecological restoration: Possible reasons and feasible solutions AND 2.) Can translational research be used to engage and hear stakeholders, rather than another mechanism to get others to agree with us? September 24-28, 2019.

- Dr. Courtney Young of Metallurgical & Materials Engineering accepted an invitation to be an honorary chair and organizer for a conference on *Flotation 2020* which will cover 4 major themes and be held in Lima, Peru, June 3-5, 2020. He will help solicit and review abstracts, help organize the accepted abstracts into at least 6 sessions, and give at least one presentation, a plenary.
- Dr. Robert Pal, Associate Professor, Biological Science organized and led a short course entitled: Restoration and Clean-up Techniques for Superfund Sites, at the PNWIS (Pacific Northwest Air & Waste Management International Section) 59th Annual Conference in Butte, Montana October 22, 2019.
- Dr. Alysia Cox of the Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND) in the Chemistry & Geochemistry Department was a collaborator on a grant to the Joint Genome Institute with PI Dr. Rika Anderson from Carleton College and Co-PI's Dr. Karthik Anantharaman from UW-Madison and Dr. Elizabeth Trembath-Reichert from Arizona State University. The project is titled, 'Microbial and viral mediation of biogeochemical cycles from source to sink in hydrothermal vent systems'. The sequencing provided by JGI is equivalent to \$53,186.

MONTANA BUREAU OF MINES AND GEOLOGY ACTIVITY

- Hydrogeologist J. LaFave and Research Division Chief M. Gotkowitz attended the Geological Society of America Annual Meeting, September 22 – 25 and presented "Baseline Water-quality Characterization of an Alpine Watershed, South Central Montana" and "Identifying sources of groundwater recharge in semi-arid, irrigated landscapes in the northern Rocky Mountains," respectively.
- Staff from MBMG attended the American Water Resources Association, Montana Section Annual Meeting, October 10-22, in Red Lodge, and presented the following talks and posters:
 - Hydrogeologist A. Bobst, with co-authors R. Payn, R., and R. Pal presented "Changes in riparian evapotranspiration following beaver-mimicry stream restoration"
 - Hydrogeologist R. Breitmeyer presented "Immediate Post-wildfire Soil Hydrologic Changes in a Sagebrush Steppe Ecosystem"
 - Hydrogeologist J. LaFave gave an invited plenary talk: "Assessing groundwater at the state scale from the MBMG perspective"
 - Data Manager L. Buckley presented "Data Center Evolution: Building a Water Communication System through Collaboration and Networking"
 - Hydrogeology Jim Berglund presented a poster: "You Con-Duit! Modeling Conduit Flow and Geometry using High-resolution Temperature Monitoring and Dye Tracing"

- Hydrogeologist J. Crowley presented “Insights into seasonal geothermal spring and river interactions using unmanned aerial vehicle photogrammetry and thermal data, LaDuke Hot Springs, MT”
- Hydrogeologist C. Carstarphen presented “Montana’s Precipitation Isotope Network (MTPIN): data and a year’s worth of lessons Montana Bureau of Mines and Geology’s (MBMG) Ground Water Assessment Program (GWAP)”
- Hydrogeologist G. Abdo presented “Domestic Wells – Just how big a piece of the pie?”
- Hydrogeologist J. Rose presented “Assessing anomalous nitrate and chloride concentrations in groundwater and surface water at Meadow Village, Big, Sky, Montana.”
- Hydrogeologist S. Kuzara presented a poster “Groundwater Recharge in Flood to Pivot Irrigation Conversions”
- Hydrogeologist A. Gebril presented “Applying geophysical methods to estimate hydraulic parameters in saturated zones – Lolo Creek, Montana.”
- Hydrogeologist J. Reiten presented “The Tale of Two Aquifers: A Study in Aquifer Sustainability”
- Hydrogeologist K. Chandler presented “Great View, But Where’s the Water?” and was invited to sit on a panel discussion about the West Billings Aquifer “Land use change and consequences to groundwater resources in the West Billings Aquifer”
- Hydrogeologists J. Reiten and K. Chandler presented “Groundwater in Action, A Virtual Hydrogeologic Field Trip of the Rock Creek Benches”.
- Accountant S. Lester attended Basic Procurement Methods and Issues with the State of Montana Procurement Bureau October 2, Helena.
- Geologist S. Korzeb attended the Denver Gem and Mineral show and won First Place for Best Educational Exhibit, Informed Audience Category for “Precious and base metal minerals generated in epithermal or hot springs systems” Sept. 9 – 13, Denver CO.
- Hydrogeologist A. Bobst presented “Hydrologic effects of beaver-mimicry stream restoration.” at the Montana Tech Restoration Seminar, October 16, Butte

MBMG educational outreach efforts:

- Geologists K. Scarberry and S. Korzeb hosted the 5th Annual Mining and Mineral Symposium for 80 registrants, including students, professors, and professionals. S. Korzeb presented “New studies on the Oro Fino mining district, Deer Lodge County, Montana,” Oct. 9-11, Butte
- MBMG staff hosted open houses at offices at Montana Tech (approx. 125 visitors) and Billings (approx.. 50 visitors) to celebrate the MBMG Centennial, 1919 -2019, Oct. 24
- Hydrogeologist Dan Blythe presented “Finding well logs and groundwater information from the Ground Water Information Center” to the Gallatin Realtors Association continuing education course, with about 100 people in attendance, October 4, Bozeman
- Geologist M. Stickney presented “Recent and Historic Earthquake Activity near Manhattan” at the Gallatin County Conservation District’s workshop on seismic hazards, Oct 23, Manhattan
- Hydrogeologist G. Icopini provided a tour of the Berkeley Pit area and Butte Superfund Remediation efforts to a visiting class from China, August 1, Butte

- Hydrogeologist John LaFave gave two presentations at the Montana Environmental Health Association Annual Meeting, “Hydrogeology 101” and “Tracking Montana’s Groundwater: 20 years of Lessons Learned,” Sept. 17, Bozeman

MBMG committee and public meeting participation:

- Geologists K. Scarberry and S. Korzeb attended the U.S. Geological Survey’s Earth-MRI (Mineral Resource Initiative), Sept. 16 - 20 Fort Collins, CO.
- Data Preservationists P. Hargrave and T. Roth attended the 2019 AASG/USGS NGGDPP (National Geological and Geophysical Data Preservation Program) Workshop in Golden Colorado, September 24th-26th. T. Roth presented “Merging Historical Data with Google Earth and ArcGIS”.

Publications by MBMB scientists including those published by the MBMG:

Pankow, K.L., M. Stickney, J. Y. Ben-Horin, M. Litherland, S. Payne, K. D. Koper, S.L. Bilek, and K. Bogolub, 2019. Regional Seismic Network Monitoring in the Eastern Intermountain West, *Seismological Research Letters*, 25-09-2019; <https://doi.org/10.31905/OT10VW75>.

Yakovlev, P., 2019, Geologic map of the Glen 7.5' quadrangle, southwestern Montana: Montana Bureau of Mines and Geology Geologic Map 74, 1 sheet, scale 1:24,000.

Lonn, J.D., Elliott, C.G., Lewis, R.S., Burmester, R.F., McFaddan, M.D., Stanford, L.R., and Jänecke, S.U., 2019, Geologic map of the Montana part of the Salmon 30' x 60' quadrangle, southwestern Montana: Montana Bureau of Mines and Geology Geologic Map 75, 28 p., 1 sheet, scale 1:100,000.

Meredith, E., 2019, A recommended organic analyte sample set for groundwater sampling around oil and gas development: Montana Bureau of Mines and Geology Report of Investigation 26, 28 p.

Li, Y., and Stickney, M., Montana's seismic hazards: A story map: Montana Bureau of Mines and Geology Digital Publication 2, <https://mbmg.mtech.edu/storymaps/seismichazards.html>

Meredith, E., Wheaton, J., Kuzara, S., and Bierbach, S., 2019, 2018 Annual coalbed-methane regional groundwater monitoring report: Powder River Basin, Montana: Montana Bureau of Mines and Geology Open-File Report 719, 1 sheet.

Scarberry, K. (ed.), 2019, Geology of the Deer Lodge and Boulder areas: Tobacco Root Geological Society Northwest Geology 48, 108 p.

CAMPUS HAPPENINGS

- Trisha Southergill, Grant Support and E-Thesis Manager, presented two concurrent sessions at the Region VI/VII Annual meeting in Seattle, WA, October 27-30. Finding the Elusive Jackalope: A Trail Guide of Helpful Tools and Resources to Solving Common Challenges in Research Administration with Tracey Trujillo (Colorado State University) and Natalie Buys (University of

Colorado, Denver- Anschutz). Let's get it started in here: Pre-Award from Proposal Development to Institutional Routing with Erika Blossom (University of California – Irvine.)

- On September 18, 2019, Montana Tech had the 20th Annual Career Fair in the HPER with 123 companies in attendance between 8:00am-2:30pm.
- Montana Tech hosted their annual Hall of Fame weekend September 20-21, 2019. The 2019 Hall of Fame Class is Dan Mahoney, Laura (Stout) Mortensen, David "Maynerd" Barrick, and the men's basketball teams from 1982-83, and 1984-85. Montana Tech Football beat Southern Oregon in a score of 17-14 on September 21, 2019.
- Montana Tech had its homecoming the week of October 6-12, 2019 which included campus events such as window mural painting, bowling tournament at Star Lanes, race to the M, bed races, alumni recognition banquet, and the Montana Tech vs. Western football game.
- On Saturday, October 12, 2019 Montana Tech dedicated its new Student Success Center on campus. The SSC is a \$24 million building, which is roughly 100,000 square feet. \$9 million of the money for this building came from donors. The first two floors of the building are residence halls that houses over 160 students and the top floor of the building is administrative offices, tutoring areas and a place for students to socialize on campus.
- The Writing Program hosted its first Digger Integrity Day on October 16, 2019, in Montana Tech's Student Union Building. This campus education and outreach event coincided with the International Day of Action against Contract Cheating (ICAI), which is sponsored by the International Center for Academic Integrity. Digger Integrity Day featured interactive activities that encouraged participants to consider academic integrity from a variety of angles. Dr. Dawn Atkinson, Dr. Glen Southergill, Stacey Corbitt, Matthew Haynes, Luke Buckley, and Cheyenne Crooker from the Writing Program partnered with Ulana Holtz, Montana Tech's Reference Librarian, to facilitate these activities. Students, faculty, and staff from across campus stopped by the event to participate in the activities.
- Montana's first DOE National Lab Day was hosted by Montana Technological University on October 8-9, organized by a planning committee representing all the 4-year MUS campuses, OCHE, and several DOE National Labs. Stimulating and energizing presentations and discussions focused on opportunities for collaborations and partnerships and on connecting Montana students and faculty with research and internship opportunities as well as scientific user facility capabilities at the Labs. Attendance was about 170, including representatives from 13 of the 17 DOE National Labs, Montana's Congressional delegation, MUS campuses, OCHE, students, and industry. Distributed follow up is underway.
- Montana Tech hosted PNWIS conference on October 23-25, 2019. The 59th annual conference of the Air and Waste Management Association's Pacific Northwest International Section was held at Fairmont Hot Springs Resort.