

## CAMPUS REPORT

**DATE:** October 9, 2015  
**TO:** Board of Regents  
**FROM:** Donald M. Blackketter, Chancellor, Montana Tech  
**RE:** Campus Report for the November 19-20, 2015 Board of Regents' Meeting

### RESEARCH ADVANCEMENT

- In September, the Army Research Lab awarded CAMP \$2.3 million for Year 2 research under a cooperative agreement on Materials Technology: Science and Engineering Research for the Army (MT-SERA). Ten faculty, seven Ph.D. students, and numerous masters and undergraduate students are involved in the projects.
- The Montana Tech-Tsinghua University mini-symposium on energy was hosted on campus on September 30<sup>th</sup>, involving nine faculty from China (four as speakers), numerous Montana Tech faculty (six as speakers) and students. The visit was a follow-up to the Montana Tech visit to China in March.
- Jerry Downey and collaborator, Ed Rosenberg at UM, were awarded a \$495K research grant from the Montana University System Research Initiative to develop a process for recovering metal contaminants from industrial wastewater using magnetic nanocomposites in a novel continuous flow process system.

### STUDENT ACHIEVEMENT

- M&ME junior student, Molly Brockway, will represent Montana Tech at MS&T Fall Meeting at their student speaker competition. She will present a review paper on the status of critical materials pertaining to Rare Earth Elements.
- Based on proposals submitted in the spring, Montana has awarded undergraduate research grants to eight students pursuing seven faculty-mentored research projects during academic year 2015-16.
- Five new students entered Montana Tech this fall for the Materials Science Ph.D. program, bringing the enrollment on campus to nine.
- Zach Kasperick, a Montana Tech Electrical Engineering student from Butte, has been selected as a Power & Energy Society (PES) Scholarship Plus Initiative recipient for the 2015/16 academic year.

### FACULTY EFFORTS

- Dr. Waleed Al-Rawashdeh, Associate Professor of Mathematics, is the author of the peer-reviewed papers: "Weighted Composition Operators on Generalized Fock-type Spaces", *J. Math. Sci. Adv. Appl.*, Vol33(2015); and "Schatten Class Weighted Composition Operators on Generalized Fock Spaces,  $\mathcal{F}(\mathbb{C}^n)$ ", *Int. J. Math. Analysis*, Vol9(2015).
- Michael Webb, Assistant Professor of Chemistry and Geochemistry, published a manuscript in the journal Dalton Transactions titled "Albumin binding and ligand-exchange processes of the Ru(III) anticancer agent NAMI-A and its bis-DMSO analogue determined by ENDOR spectroscopy." (DOI: 10.1039/C5DT02021B) This article was selected as a "hot article" for September, making it open access until October 16<sup>th</sup>. Additionally, the cover of the 40<sup>th</sup> issue of the journal will feature artwork designed by Dr. Webb reflecting the results of the paper, at the request of the journal editor.
- Dr. Michael Webb has also been invited to submit an article for an upcoming special issue of the journal *Inorganica Chimica Acta*, highlighting "Ruthenium Coordination Chemistry." The publication date will be June 2016.
- Dr. Hilary Smith Risser was elected President of the Montana Council of Teachers of Mathematics. She will begin her term as president in June 2016 and will serve as president for two years.
- Dr. Chris Danielson, Associate Professor of Liberal Studies, gave presentations on two papers, "Origins of Activism: Lawrence Guyot and His Early Years on the Mississippi Gulf Coast," at the Thirty-Third Annual Gulf South History & Humanities Conference, October 1-3, 2015, Natchez, Mississippi; and "We Respectfully Urge You to Cancel This Morally Reprehensible Program: The Southern Baptist Convention's Campaign against Television Content," at the Popular Culture Association/American Studies Association National Conference, New Orleans, April 1-4, 2015.

- Dr. John W. Ray of Montana Tech's Liberal Studies Department published an article entitled "Parliamentary Procedure as a Means of Mending Our Broken Politics" in the latest edition of *Parliamentary Journal*.
- Dr. Ray has been accepted for membership in the International Hegel Association (*Internationale Hegel-Vereinigung*) sponsored by the Department of Philosophy at the University of Heidelberg, Germany.
- Dr. John W. Ray presented a peer reviewed paper at the international French/German Kant Society Congress held in late September at Johannes Gutenberg University in Mainz, Germany. The title of Dr. Ray's presentation was: *Kant's Philosophy of Will, Freedom and Political Obligation*.
- Dr. Ray had a peer reviewed paper accepted for publication in the *Proceedings of the Rhetoric of Evidence Conference: Epistemic Models and Rhetorical Practice in Science, Education and Culture* held at Heidelberg University under the auspices of Tübingen University, Germany. The title of Dr. Ray's paper was "An Analysis and Criticism of Ch. Perelman's Approach to Evidence and Argument as Developed in *The New Rhetoric*."

#### **HIGHLANDS COLLEGE INNOVATION**

- A Highlands College interdisciplinary team of a Network Technology student and a group of construction/carpentry students programmed and installed a state-of-the-art interactive touch screen TV to provide visitors with a visual map and information about the location of faculty, staff, computer labs, departments, and bathrooms at Highlands College.
- A four year project at Highlands College was completed this semester. Metals Fabrication students led by faculty member Dennis Noel have worked to replace the existing chain link fence at Highlands College with a new fence, designed and fabricated by the students. The students also designed and fabricated two gates and two large headframes for the Highlands College main entrance.
- Led by faculty member Dr. Elyse Lovell and Dean Doug Coe, a group of Highlands College and Montana Tech faculty and staff have submitted a grant proposal to the National Science Foundation. The Highlands Two-Year College PEAK (Promoting Education Access and Knowledge) S-STEM Grant, if funded, will award fifteen \$6,500 renewable scholarships to academically-talented, low-income Associate of Science students and give them maximum support to help them succeed.
- Highlands College will host a meeting of Montana University System leaders, Montana Department of Labor leaders, and community leaders to discuss a "Rapid Response" effort aimed at developing a coordinated response to the Barrick Golden Sunlight Mine layoffs.
- The Highlands College Advisory Board met to discuss an initial draft of a possible new Mission, Vision and Statement of Pride developed by the Mission/Vision Committee of faculty and staff at Highlands under the leadership of Associate Dean Bill Ryan.
- Highlands College has reorganized a classroom to be the 3-D Printing Lab. Students are already busy preparing research projects for the annual Student Research Day for Two-Year Colleges. One such project is hydrogen cell vehicles.
- Highlands College students in 3-D Printing classes and Machining classes, in an interdisciplinary research project, have designed Montana Tech belt buckles on the 3-D printers. The machining students will use CNC routers to fabricate the finished belt buckles in aluminum.
- Through the leadership of faculty member Denise Elakovich, Highlands College will use its Perkins Grant this year to create a Microsoft Office IT Academy. The IT Academy is designed to teach Microsoft office software and allows proctoring of the certification exams to students. Students will have the opportunity to take the required exams to become a certified Microsoft Office Specialist. The grant will pay for the exam vouchers for students and instructors and Big Sky Pathway partners.
- The Highlands College/Montana Tech Montana history film series "In the Crucible of Change," about the dramatic period of progressive change between 1965 and 1980, is nearing completion after a year of intensive activity. Supported by grants from Humanities Montana, Montana History Foundation, Greater Montana Foundation and the Lee & Donna Metcalf Charitable Trust, the effort by Evan Barrett of Highlands has completed 35 one-hour episodes which have played statewide on Cable TV and over-the-air PBS and is streamable from Montana Tech's Digital Commons. Eight more episodes are in the works and should be completed soon. A permanent website in Digital Commons will host the complete 43-hour series as a teaching and history source, including searchable transcripts, biographies, links to films, photos and historical context. A digital book is being planned.

- Under the leadership of faculty member Alice McDonough, Highlands College is continuing its Baltimore Model writing class. In this class, 10 developmental writing students are combined with 10 writing-prepared students in the WRIT 101 College Writing course. The developmental students receive extra support and complete two courses in one semester.
- Faculty member Alice McDonough is experimenting with MindTap software from Cengage Publishing. This software, designed for today's students, provides the mobility and flexibility to make any time study time. The MindTap software also allows for varying learning style needs, including styles for students needing accommodations, and guides students on their phones, tablets, laptops, and I-pads, to help them understand and review their writing.

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

- On August 6, 2015 Montana Bureau of Mines and Geology (MBMG) hydrogeologist, Alan English and geologist, Dr. Kaleb Scarberry, presented a teaching session at the Montana Learning Center (STEM Program) at Canyon Ferry, Montana, on "What Geologists Do", Identifying Rocks and Minerals", and "Map Making".
- The MBMG hosted the Montana StateMap Advisory Committee's annual meeting in Butte, Montana, on August 7, 2015. The committee met to discuss future geologic mapping efforts by the MBMG. Committee members represent state agencies, the extractive mineral industry, and the university system.
- On August 9, 2015 MBMG hydrogeologist Alan English and economic geologist Stan Korzeb hosted a field trip to Yellowstone National Park for visiting professors and students from Sun Yat-sen University in China. The MBMG geoscientists provided an overview of the geology of southwest Montana and of Yellowstone National Park.
- MBMG hydrogeologists Ted Duime and Matthew Berzel provided assistance to Montana Tech's Hydrogeology Field Camp during the week of August 9, 2015. The MBMG arranged for a monitoring well to be drilled at Butte's Hibernian Cemetery and provided casing, screen, and annular seal materials. Eleven graduate students assisted with the well construction and conducted an aquifer test.
- On August 26, 2015 Dr. Gary Icopini demonstrated poor groundwater quality from wells completed in Butte at Montana's Parrot Tailings to Governor Steve Bullock, members of the Montana Legislature, and Butte-Silver Bow County representatives. The demonstration included plating out copper from the water onto iron nails.
- Ginette Abdo, the MBMG's Ground Water Investigations Program leader, discussed potential groundwater investigations with the Madison County Planning Board in Virginia City, Montana, on August 31, 2015.
- On September 2, 2015 MBMG Hydrogeologists Jon Reiten and Shawn Kuzara presented *Ground water monitoring: pre and post oil development* to the annual meetings of the Soil and Water Conservation Society and the Society for Range Management in Miles City, Montana.
- MBMG hydrogeologists Kevin Chandler and Jon Reiten participated in an outdoor classroom on September 15 and 16, 2015 for eighth graders from schools in northeast Montana. The workshop was held at Kane's Grove between Sidney and Culbertson, Montana, and covered topics including Fort Union Formation sandstone outcrops, terrace gravels, and glacial erratics.
- Montana Tech hosted a reception for the September 16, 2015 meeting of the Montana Board of Regents in the MBMG-operated Mineral Museum. The regents and guests could view a new exhibit on the geology and history of the Stillwater Complex, the only source for platinum and palladium minerals in the United States.
- Thomas Patton, the MBMG's Research Division Chief, presented: *Climate 2015: still reaping the benefit!* to the Governor's Drought and Water Supply Advisory Committee in Helena, Montana, on September 17, 2015.
- John LaFave, Program Manager for the MBMG Ground Water Assessment Program, presented: *Tracking Montana's Groundwater* at the 2015 National Ground Water Association's Upper Great Plains Groundwater Conference, September 22, 2015, in Cheyenne, Wyoming.
- On September 22, 2015 the MBMG announced the release of its new Data Center, an easy to use central access point for the agency's growing collection of online databases. The Data Center is at <http://www.mbmgs.mtech.edu/datacenter/datacenter.asp>.

- On September 24, 2015 MBMG Hydrogeologists Jon Reiten and Mark Wolfram presented an update on the Richland County Flowing wells inventory and water-level declines in the Fox Hills-Hell Creek aquifer to the Area 2 Conservation Districts Annual meeting in Sidney, Montana.
- The Montana Ground Water Assessment Steering Committee, consisting of members from state agencies and appointees by Governor Bullock, met on October 2, 2015 to consider 11 nominations for new Ground Water Investigations Program projects. The committee selected the *Virginia City Municipal Supply* nominated by the Ruby Valley Conservation District and the *Lolo Creek Watershed Study* nominated by the Lolo Watershed Group to begin in 2016.
- The Montana Bureau of Mines and Geology released Open File Report 663: *Geologic Map of the Mitchell Mountain 7.5' Quadrangle West-central Montana* by Martin L Bregman.

#### **ATHLETIC PRIDE**

- Montana Tech was selected a Champions of Character Five-Star Institution by the National Association of Intercollegiate Athletics (NAIA). The Champions of Character Scorecard measures commitment in five key areas including conduct in competition and training for students and coaches.

#### **GIVING BACK**

- The Women of Montana Tech hosted a purse auction and champagne brunch on Saturday, October 3, 2015 from 10:00 am to 12:00 pm in the HPER Complex. The event, called "Purse Strings," was a benefit for Safe Space in Butte. A variety of filled purses were available during the silent and live auction. The event, through the donations of Butte women, raised about \$8,000 for the women's shelter. In an editorial, the *Montana Standard* stated, "The refreshing thing is the interaction between town and gown on the event, masterminded by Vicki Blackketter and put on by the Women of Tech."