July 2018 news releases

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UM News

July 2018 News

07/31/2018 - UM’s Political Science Honor Society Earns National Award - Sara Rinfret

07/31/2018 - Missoula College to Host Free Application Event Aug. 8 - Emily Ferguson-Steger

07/30/2018 - UM Summer School Enrollment Jumps by 400 Students - Paula Short

07/30/2018 - Two UM Grads from Livingston Win Teaching Assistantships to Austria - Laure Pengelly Drake


07/27/2018 - UM’s Flathead Lake Bio Station to Offer Science, Fun at Annual Open House - Tom Bansak

07/26/2018 - UM Humanities & Sciences Dean to Rejoin Faculty, Interim Appointed - Paula Short

07/25/2018 - Math Camp for Middle School Girls Sees Many Returning Students in Second Year at UM - Bonnie Spence

07/25/2018 - Native Youth Attend Leadership Summit at UM This Week - University Relations

07/25/2018 - Montana Digital Academy at UM Wins Blackboard Catalyst Award - Jason Neiffer

07/25/2018 - Country Chart Toppers to Play UM’s Adams Center - Jes Partain
07/24/2018 - UM Report: Montanans Collectively Spend Billions on In-State Trips - Norma Nickerson

07/24/2018 - UM Rural Institute Awarded $4.3M Grant for Research and Training Center - Tracy Boehm Barrett

07/23/2018 - UM Bio Station Scientists Study Deep Sea Areas Targeted for Seafloor Mining - Tom Bansak

07/18/2018 - UM Professor Studies Complexities of Biodiversity, Disease Transmission - Angela Luis

07/12/2018 - Missoula College to Kick Off New IT Apprenticeship Program with Signing Day - Dylan Rogness

07/11/2018 - UM Ecology Professor Helps Map Climate Corridors - Solomon Dobrowski

07/10/2018 - UM Researchers Receive $700,000 in NIH Funding to Study Tick-Borne Lyme Disease - Sara Jestrab

07/03/2018 - UM to Host Global Leadership Summit Broadcast - Roger Maclean

07/12/2018 - UM Alumna Wins Fellowship at National Institutes of Health Research Center - Laure Pengelly Drake

07/02/2018 - UM Observatory to Host Summer Stargazing Nights - Diane Friend
UM’s Political Science Honor Society Earns National Award

July 31, 2018

MISSOULA – The political science honor society at the University of Montana recently received a national award for the second year in a row. The Epsilon Mu chapter won Best Chapter Award for 2017-18 from Pi Sigma Alpha.

“These awards are intended to recognize local chapters that are particularly active in their departments and universities and exhibit high levels of energy and creativity in furthering the goals of the honor society,” said Sean Twombly, executive director of the national Pi Sigma Alpha organization, in a letter to UM’s chapter adviser announcing the award.

Twenty-five chapters from universities with enrollments between 5,000 and 15,000 undergraduate students submitted reports to be considered for the award. Eight finalists were selected, and the UM chapter was one of four to receive the Best Chapter Award.

Pi Sigma Alpha serves as the honorary society for political science undergraduate and graduate students. The goal of the organization is to engender civic engagement and political participation more broadly by hosting public speaker forums and campuswide Milkshake Mondays with political trivia. Epsilon Mu has won a variety of grants and
UM’s Political Science Honor Society Earns National Award - UM News - University Of Montana

received the Best Chapter Award 10 times from Pi Sigma Alpha’s national office.

“Our students are truly remarkable and committed public servants,” said Sara Rinfret, Pi Sigma Alpha adviser. “It was an honor to work with them and all the credit is theirs.”


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Contact: Sara Rinfret, UM Master of Public Administration director, Pi Sigma Alpha adviser, 406-243-4702, sara.rinfret@umontana.edu.

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MISSOULA – Missoula College at the University of Montana invites prospective students to attend the Application Assistance Event from 2 to 6 p.m. Wednesday, Aug. 8, at 1205 E. Broadway in Missoula.

The event will include assistance completing a Missoula College application and the Free Application for Federal Student Aid form. Participants also can explore Missoula College's programs, take a tour of the new building and learn about student services including tutoring, Career Services, the veterans office, Curry Health Center and more. Free refreshments will be served.

Attendees should bring a high school transcript, GED/HiSET score or college transcript. Missoula College will waive the $30 application fee and admit prospective students on the spot who submit an online application during the event.

Missoula College provides outstanding occupational and technical education covering 40 programs. Areas of study include business and health care professions, applied computing and electronics, and energy and industrial technologies. An Associate of Arts general education program also is available to students desiring a transfer...
degree for a baccalaureate degree program. Most programs begin in the fall, with some programs offering spring entry.

Fall semester at Missoula College begins Monday, Aug. 27, and there is still time to receive financial aid and register for classes. Learn more about the college’s academic programs at http://mc.umt.edu/.

For more information call Emily Ferguson-Steger, UM Undergraduate Admissions Office director, at 406-243-6268 or email emily.steger@mso.umt.edu.

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**Contact:** Emily Ferguson-Steger, director, UM Undergraduate Admissions Office, 406-243-6268, emily.steger@mso.umt.edu.
UM Summer School Enrollment Jumps by 400 Students

July 30, 2018

MISSOULA – Summer semester enrollment at the University of Montana grew 17 percent from a year ago, with 2,932 students compared to 2,493 last year. Summer enrollment in 2018 was the highest at UM since 2014.

Students use summer courses to shorten their time to graduation, take advantage of unique experiential learning opportunities and learn in accelerated course formats.

Cathy Cole, UM’s new vice president for enrollment management and strategic communications, praised the work of the Office of the Provost for growing the summer sessions.

“They worked very hard to provide a mix of required courses that students need for their degrees and some interesting electives that are unique to the summer experience in Missoula,” she said.

Several campus committees worked throughout the spring and summer to enhance summer offerings, led by Linda Shook, the summer programs coordinator.
UM also increased its online courses to a record 185 offerings. About half of the students attending summer school courses did so online. Students chose from a wide range of educational requirement courses and experiential learning opportunities, such as sustainable farming and watershed science.

“The increase in summer enrollment is a reflection of the commitment of our University’s faculty and staff, who worked to make the summer experience beneficial for our students,” said Nathan Lindsay, UM associate provost for dynamic learning. “For the first time in recent years, students also were able to use their Pell Grants for summer classes.”

Despite strong summer enrollment, officials at the University anticipate and have prepared for decreased enrollment in the fall.

“We graduated 1,772 students last spring and expect 463 more to graduate this summer,” Cole said. “We’ll need a bigger-than-expected incoming class for our enrollment to increase overall.”

Cole said students continue to apply for admission to UM every day, and there’s still time to enroll before classes begin Aug. 27. Learn more at http://admissions.umt.edu.

“We welcome students right up to the start of classes, and we invite anyone who is still considering UM this fall to contact us,” Cole said. “We’re happy to arrange tours, meetings with faculty, students or staff or to connect prospective students with assistance from admissions or financial aid. It is a great time to be a Grizzly.”

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**Contact:** Paula Short, director of communications, UM Office of the President, 406-243-2311, paula.short@mos.umt.edu.
UM Summer School Enrollment Jumps by 400 Students - UM News - University Of Montana
MISSOULA – Two University of Montana alumnae, both from Livingston, will teach English during the upcoming school year in Austria.

Natalia Boise studied German and linguistic anthropology at UM. She said her studies helped prepare her to become a private German tutor, and she hopes she can apply the same skills in the beautiful alpine town of Gmunden, Austria.

“The job is still daunting, though, since some dialects of Austrian German are more different from German than Spanish is from Italian,” she said. “But I hope it will be a fun challenge to take on and that the students will teach me as much as I teach them.”
After Boise’s year in the Austrian school ends, she hopes to find work in the international aid sector, ideally working with refugees in community development. She is the daughter of Steven and Laura Boise.

Sonia McLain graduated from UM in 2017 with a degree in German and a certificate in teaching English. While at UM, she studied abroad in Germany to further her knowledge of the language, culture and history. She also enjoyed taking dance classes and performing.

After graduating, she worked as an English tutor and in the Office of International Programs at Montana State University. She also dances with the Raison D’etre Dance Project.

For her English teaching assignment, McLain will move to Lower Austria to work as a high school English assistant in the small towns of Tuernitz and Lilienfeld.

“Studying language inspired me to travel and make international connections, and I realized how valuable it is as a second language learner to have the opportunity to practice conversation with native speakers of the language,” she said. “I think that experience will teach me all the important components of having my own language classroom someday.”

McLain’s long-term plan is to teach English abroad or in the U.S. to ensure all refugees and immigrants feel welcome and supported, as well as to pursue a graduate degree in speech-language pathology. Her parents are Caroline and Frank McLain.

Each year, more than 140 college graduates from the United States teach in the Austrian Federal Ministry of
Education Foreign Language Teaching Assistantship Program. The program draws teaching assistants from the English-speaking world, France, Italy, Russia and Spain into the classrooms of secondary schools in communities all over Austria.

Although Fulbright Austria manages the program, participants in the U.S. Teaching Assistantship Program are not grantees of the Fulbright Program.

U.S. teaching assistants are employed during the school year from Oct. 1 to May 31. Teaching assistants with a superior performance record may apply to have their assistantships extended for a second year. UM alumnus Eric Bush will take advantage of that opportunity to teach again in the program.

For more information on U.S. Teaching Assistantship Program in Austria, visit https://www.usta-austria.at/.

Contact: Laure Pengelly Drake, UM coordinator for writing center programs, external scholarships and advising, 406-243-6140, laure.pengellydrake@umontana.edu; Natalia Boise, U.S. teaching assistant, nlboise@gmail.com; Sonia McLain, U.S. teaching assistant, smclain532@gmail.com.
UM to Host NSF-Funded Workshop on Food-Energy-Water Systems

July 27, 2018

MISSOULA – The University of Montana BRIDGES graduate training program – in collaboration with the University of Iowa and University of California, Berkeley – will host a National Science Foundation-funded workshop at UM July 30-Aug. 1.

The workshop will focus on identifying best practices for training leaders and scientists in Innovations at the Nexus of Food-Energy-Water Systems (INFEWS). Titled “Building a collaborative vision and diverse community to support the emerging FEWS workforce,” the event will bring together faculty and graduate students from universities across the nation that host NSF National Research Traineeships.

The goals of the workshop include identifying best practices in training INFEWS leaders to conduct actionable science and to pursue a range of career paths that transform FEW systems. Participants in the workshop also will draft a blueprint for building a nationwide community of INFEWS leaders to share knowledge and experiences across institutions.

Keynote speakers include Sandra Begay, principal member of the Technical Staff at Sandia National Laboratories.
for Tribal Technologies; and Ryan Shelby, foreign service engineering officer from the U.S. Agency for International Development. Faculty and graduate students from the University of Iowa; UC, Berkeley; University of South Florida; University of the Virgin Islands; University of Nebraska-Lincoln; University of Arizona; UC, Los Angeles, Purdue University, University of Chicago and Florida A&M University also will attend.

“This is the first-ever workshop of its kind, bringing more than 100 faculty and graduate students together to think deeply about how we retool graduate education to meet the grand challenges of systems critical to human well-being: food, energy and water systems,” said Alisa Wade, UM BRIDGES program coordinator.

“The interdisciplinary and cross-institutional nature of INFEWS research highlights the ways that we are moving past disciplinary silos to train a cadre of leaders who can connect science and practice to transform food, energy and water systems,” said Laurie Yung, UM BRIDGES program director.

UM BRIDGES is an interdisciplinary, cross-campus initiative that is co-led by faculty in the W.A. Franke College of Forestry and Conservation, and the College of Humanities and Sciences. Learn more at http://www.umt.edu/bridges/.

Contact: Alisa Wade, program coordinator, UM BRIDGES, 406-529-9722, alisa.wade@umontana.edu; Laurie Yung, program director, UM BRIDGES, 406-370-7335, laurie.yung@umontana.edu.

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UM’s Flathead Lake Bio Station to Offer Science, Fun at Annual Open House

July 27, 2018

YELLOW BAY – The University of Montana’s Flathead Lake Biological Station invites the public to a free open house from 1 to 5 p.m. Friday, Aug. 3.

The station is located 17.5 miles north of Polson and 14 miles south of Bigfork along Highway 35, on the east shore of Flathead Lake just north of the Yellow Bay State Park.

Attendees will explore the Bio Station and learn about its cutting-edge research and immersive education programs. Presentations and displays will focus on Flathead Lake and its watershed; stream, pond and lake creatures; animal hides and skulls; and aquatic invasive species. Station staff also will give boat tours aboard the 30-foot research vessel “Jessie B.” at 1:10 p.m., 1:45 p.m., 2:20 p.m., 2:55 p.m., 3:30 p.m. and 4:05 p.m. Tickets for boat tours are available at the open house.

“This is an excellent opportunity to meet and talk with FLBS researchers and scientists about their work, all while enjoying an afternoon of sunshine and fun on the shores of Flathead Lake,” said FLBS Assistant Director Tom Bansak.
UM mascot Monte will entertain all with his acrobatic antics from 1 to 2 p.m., and invasive species detection dogs that serve at Montana’s watercraft Inspection stations will show off their impressive sniffing skills. Nature walks and guided tours of the station take place at 1:45 p.m. and 4 p.m.

FLBS Director and Bierman Professor of Ecology Jim Elser will give his “State of the Lake” address at 3:30 p.m., and FLBS stream ecologist Bob Hall will give a presentation titled “Rivers, Chemistry and Beer” at 2:15 p.m.

Light refreshments will be provided.

For more information about the Flathead Lake Biological Station, visit http://flbs.umt.edu or https://www.facebook.com/UMFLBS or call 406-982-3301.

Contact: Tom Bansak, assistant director, Flathead Lake Biological Station, 406-982-3301 ext. 229, tom.bansak@flbs.umt.edu; Ian Withrow, Flathead Lake Biological Station media/information specialist, ian.withrow@flbs.umt.edu.
MISSOULA – Christopher Comer, dean of the College of Humanities & Sciences at the University of Montana for nearly a decade, will rejoin the UM faculty for the start of the fall semester.

Dr. Comer, who also is a professor of biology and neuroscience, had led UM’s largest college since 2009. Jenny McNulty, the current associate dean of the humanities and sciences college, will take over as interim dean on Aug. 15.

“I look forward to continuing to teach and pursue the scholarly work that has been my passion professionally,” Comer said. “I’m confident that Interim Dean Jenny McNulty’s knowledge, experience and deep commitment to serving our students will make this transition a smooth one and keep the college moving forward in exciting ways. She is smart and committed to the value of the liberal arts and sciences as a core of the UM experience.”

Highlights of Comer’s tenure as dean include renaming the college, creating the Humanities Institute, helping launch the Elouise Cobell Land and Culture Institute and Planetarium, overseeing extensive renovations to the Liberal Arts Building and the establishment of Eck Hall, boosting classroom technology, and helping create two endowed
Comer also led many searches for high-level positions at UM, including those that resulted in the hiring of new Provost Jon Harbor and current Vice President for Research and Creative Scholarship Scott Whittenburg.

“Leading our largest college at UM is a huge undertaking, and Chris has been an impactful leader at this institution for more than a decade,” UM President Seth Bodnar said. “He has a passion for our students and, despite the demands of leading our largest and most complex college, he always found time to connect with students in the classroom and through his research.

“Our students will benefit from even more from Chris’s talents as he returns to the faculty,” Bodnar said. “I’m also excited that Jenny McNulty will serve as interim dean and I look forward to working with her.”

While dean, Comer still found time to teach one of UM’s Global Leadership Initiative courses, as well as other courses. He also did research in Ireland on neuroscience and literature. His past work in neuroscience focused on sensorimotor integration – the process by which sensory information in the brain is translated into motor programs that determine the form of a behavioral response.

Comer holds a Ph.D. in biology/neuroscience from the University of Chicago and completed postdoctoral work at Cornell University. His extensive academic career included a series of faculty and administrative positions at the University of Illinois at Chicago, and he also was director of the behavioral neuroscience program at the National Science Foundation. He has had great success in earning grants and has published extensively.

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Contact: Paula Short, director of communications, UM Office of the President, 406-243-2311, paula.short@mso.umt.edu.
MISSOULA – Twenty middle school girls are spending four days at the University of Montana Girls Interested in Math camp solving challenging number, topology and statistics problems – and half of the attendees are returning students from last year.

The problems posed during the camp encourage students to interact with one another, move about the room, explain their ideas and develop their own questions. Camp Director Bonnie Spence said the camp allows the girls to spend more time exploring mathematics than a regular school day can.

“It’s so incredible when they share their reasoning and what patterns they’re seeing,” Spence said. “There’s no timeline that we have to keep, so it just gives it a whole different feel and environment.”

Spence created the camp last year after a parent inquiry who said her daughter was not interested in the existing
STEM and coding camps, she simply liked math and wanted to attend a math camp.

In its inaugural year, 15 campers attended. Nine students returned this year. Maximum enrollment increased to 20 students, with six students on a waiting list. Missoula’s Advanced Technology Group awarded several scholarships to cover registration costs for students.

The camp, which began Monday, runs through Thursday, July 26.

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**Contact:** Bonnie Spence, director, UM Girls Interested in Math camp, 406-240-2802, bonnie.spence@mso.umt.edu.
Native Youth Attend Leadership Summit at UM This Week

July 25, 2018

MISSOULA – More than 80 Native youth and chaperones from the lower 48, Alaska, Hawai‘i and the Pacific Islands are attending a leadership summit at the University of Montana this week.

The Administration for Native Americans, an agency with the U.S. Department of Health and Human Services, developed the Native Youth Initiative for Leadership, Empowerment and Development, or I-LEAD initiative to support local community projects that foster Native youth resiliency and empower Native youths. UM’s American Indian Business
Leaders student group is one of the 13 I-LEAD grantees.

The I-LEAD Youth Summit supports Native communities by bringing together youth project participants to learn from one another, and to providing skills and resources to help them to be effective community leaders. Youth attendees are ages 14-24.

Summit sessions include leadership panels on civic engagement; team building exercises; tools for success in the areas of health and wellness, financial literacy, entrepreneurship and mentoring; cultural night in UM’s Payne Family Native American Center; group workbook seminars; and more.

ANA promotes the goal of self-sufficiency and cultural preservation for Native Americans by providing social and economic development opportunities through financial assistance, training, and technical assistance to eligible tribes and Native American communities. Learn more about ANA at https://www.acf.hhs.gov/ana.

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Contact: University Relations, University of Montana, 406-243-4878, news@umontana.edu.
Native Youth Attend Leadership Summit at UM This Week - UM News - University Of Montana
MISSOULA – Three staff members from the Montana Digital Academy at the University of Montana have been named winners of a Blackboard Inc. Catalyst Award in the Teaching and Learning category.

Founded in 2005, the annual Catalyst Awards recognize and honor innovation and excellence in the Blackboard global community of practice, where millions of educators and
Montana Digital Academy at UM Wins Blackboard Catalyst Award - UM News - University Of Montana

learners work every day to redefine what is possible when leveraging technology. Winners are selected by a cross-functional team of Blackboard experts.

MTDA’s Mike Agostinelli, Robert Currie and Jason Neiffer received the honor for redesigning their credit recovery program using advanced communication and design tools available in the Blackboard MoodleRooms platform.

With seed money from the SHAPE P-20 grant program from the Dennis and Phyllis Washington Foundation, the UM-based team reviewed data and gathered information to design a more rigorous and responsive user experience. The result was a new learner-focused credit recovery program that has resulted in more than 5,000 semester credits recovered by Montana students, a 91 percent satisfaction rating among participating students and a positive impact on graduation rates across the state.

“I’m proud to recognize this year’s Catalyst Award winners for their dedication to using technology to enhance the learning experience and sharing their best practices with the larger community,” said Bill Ballhaus, chairman, CEO and president of Blackboard. “We look forward to continuing to partner with the winners and their institutions to support learner success.”

The UM team was honored alongside other Blackboard Catalyst Award winners during BbWorld 2018, Blackboard’s annual user conference July 16-19 in Orlando. Other award categories included leading change, community engagement, inclusive education, optimizing student experience, training and professional development, student success and exemplary course.

Blackboard is the leading provider of learner success-focused technology solutions and services. Its product portfolio is unmatched in the marketplace, spanning teaching and learning, analytics, community engagement, campus transactions and security solutions, as well as student services.

For more information on the Blackboard Catalyst Awards, visit https://community.blackboard.com/groups/catalystawards.

Created in 2009 by the Montana Legislature, MTDA provides unique online educational opportunities to Montana
Montana Digital Academy at UM Wins Blackboard Catalyst Award - UM News - University Of Montana

students and schools. To learn more, visit http://montanadigitalacademy.org/.

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**Contact:** Jason Neiffer, assistant director/curriculum director, Montana Digital Academy at UM, 406-203-1812, jason.neiffer@montanadigitalacademy.org; Shawnee Cohn, public relations manager, Blackboard, 240-888-5687, shawnee.cohn@blackboard.com.
MISSOULA – Cole Swindell and Dustin Lynch, two country artists who continually top the charts, will perform at the University of Montana Adams Center on Thursday, Oct. 25, as part of the “Reason to Drink Another Tour.”

Special guest Lauren Alaina also will perform. Tickets for the concert go on sale at 10 a.m. Friday, July 27, at all GrizTix locations and online at http://www.griztix.com.

In just over three years since he made his debut on Warner Bros. Records,
Swindell has racked up seven career No. 1 singles. The latest, “Flatliner,” features his mentor and friend Dierks Bentley.

Lynch’s “Small Town Boy” earned his first-ever Billboard Music Awards nomination in the Top Country Song category earlier this year.

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**Contact:** Jes Partain, program coordinator, UM Adams Center Box Office, 406-243-4889, jessica.partain@mso.umt.edu.
UM Report: Montanans Collectively Spend Billions on In-State Trips

MISSOULA – Montana residents spent nearly $2.87 billion on trips within the state during 2017, according to a new report from the Institute for Tourism and Recreation Research at the University of Montana.

State residents collectively took 13.5 million daytrips and 4 million overnight trips at least 50 miles away from their home in 2017 for leisure, business or other purposes.
Resident daytrips represented more than three times the number of overnight trips, and subsequently more total dollars are spent on daytrips. About $1.66 billion was spent on daytrips and $1.21 billion on overnight trips.

Business daytrips and leisure overnight trips by residents resulted in the highest spending of all trip types. Daytrips and overnight business trips contributed $1.36 billion to travel spending. Leisure trips contributed $1.13 billion to the economy, while other types of trips such as medical, shopping and so forth contributed $374 million.

The highest percentage of all travel dollars were expended in the Glacier and Southwest Montana travel regions, as they represent 50 percent of all resident daytrips and 48 percent of all overnight travel dollars.

“What is interesting is that the western part of the state receives the most dollars from residents traveling there, but Yellowstone County captures 13.2 percent of all resident travel spending, the highest of all counties,” said ITRR Director Norma Nickerson. “Billings accounts for 97 percent of the traveler dollars spent in that county.”

Missoula County, with 503,900 overnight trips and $153,976,000 in spending, is the next highest recipient county of resident travel dollars, followed by Gallatin and Lewis & Clark counties.

“Restaurant and bars make up the highest spending category in each county, outspending gasoline and lodging,” Nickerson said. “Apparently eating out and visiting local breweries is a great excuse to travel at least 50 miles from home.”

Results of the ITRR study show that residents’ county of origin to other counties reflects the Montana population. The most-populated counties – Yellowstone, Missoula,
Cascade, Gallatin, Lewis & Clark and Flathead – represent the highest percent of visitation to all other counties.

The report looks in detail at the top six counties where residents spent overnights, which also are the most populated counties. If the top outdoor activities from each (scenic driving, day hiking and wildlife watching) are removed, there are interesting differences.

Yellowstone and Cascade counties show the highest percentage of their visitors enjoying recreational shopping, while special dining tops the other four counties.

Going to museums landed in the top eight activities for Gallatin County, viewing art exhibits was in the top eight for Lewis & Clark County, and motor boating emerged in Flathead County.

All six counties also had participation in going to local breweries, with Missoula County having the highest percentage of visitors who indicated a desire to taste the local brews.

Total travel industry spending in Montana was $6.23 billion in 2017. Of that, 54 percent was contributed by nonresidents and 46 percent by resident travel within the state. Nickerson said nonresidents provide economic impact to the state by bringing in new dollars. Residents provide their impact to counties outside their current residence.

The ITRR study surveyed 10,795 Montanans ages 18 and older who were intercepted at gas stations and rest areas throughout the state during 2017 to assess overall trip types and numbers. An additional survey was completed by 1,341 residents who provided more detail into a specific trip within the past month.

More information on the study is available at https://scholarworks.umt.edu/itrr_pubs/369/. All information and reports published by ITRR are available online at http://www.itrr.umt.edu.

Contact: Norma Nickerson, director, UM Institute for Tourism and Recreation Research, 406-243-2328, norma.nickerson@umontana.edu; Jeremy Sage, assistant director, 406-243-5552, jeremy.sage@umontana.edu; ITRR’s Kara Grau or Megan Schultz, 406-243-5685,
UM Rural Institute Awarded $4.3M Grant for Research and Training Center

July 24, 2018

MISSOULA – The University of Montana Rural Institute for Inclusive Communities has earned a five-year, $4.3 million grant to support its Research and Training Center on Disability in Rural Communities.

The grant was awarded by the National Institute on Disability Independent Living and Rehabilitation Research, and will be led by Dr. Catherine Ipsen, the project’s principal investigator. The award continues 30 years of RTC:Rural research and training to improve the lives of rural people with disabilities.

Ipsen said strong collaborations with the disability community are the foundation of their work at RTC:Rural. These partnerships ensure that research findings are relevant to people with disabilities and fit within rural contexts. Health, community living and employment barriers often stem from limited resources in rural environments. To address these barriers, RTC:Rural projects will:

- Create partnerships between rural hospitals and local agencies serving people with disabilities to increase the reach of RTC:Rural’s Living Well with a Disability health promotion program.
• Build personal assistance service capacity for rural people with disabilities.

• Assess accessible transportation options in rural communities to inform policy and service delivery decision-making.

• Partner with tribal vocational rehabilitation agencies to create a tribal adaptation of RTC:Rural’s Vocational Rehabilitation Self-Employment Guide.

• Conduct rural analyses of existing large data sets to inform advocates, service providers, researchers and policymakers about emerging trends, hypotheses and policy impacts.

Together, these projects contribute to expanded opportunities for people with disabilities to fully engage in their rural communities.

The mission of the Rural Institute is to enhance the quality of life for people with disabilities, including those living in Montana and other rural areas across the country. The Rural Institute is part of the national network of University Centers for Excellence in Developmental Disabilities. NIDILRR, the funding agent for this grant award, is part of the U.S. Department of Health and Human Services Administration on Community Living.

For more information on this project and others, visit http://ruralinstitute.umt.edu/ or http://rtc.ruralinstitute.umt.edu/.

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Contact: Tracy Boehm Barrett, director of knowledge translation, UM Research and Training Center on Disability in Rural Communities, 406-243-5741, tracy.boehm@mso.umt.edu.
July 23, 2018

**FLATHEAD LAKE** – Two researchers from the University of Montana’s Flathead Lake Biological Station spent 34 days this past spring navigating the Pacific Ocean south of Hawaii as part of a research cruise to gather environmental data.

Associate Professor Matthew Church and FLBS Postdoctoral Scholar Emma Wear were aboard the University of Hawai’i research vessel Kilo Moana to participate in the DeepCCZ Project. The researchers were exploring the mysterious deep water ecosystem known as Clarion-Clipperton Zone, or CCZ, to gather deep-sea microbial samples from the ocean floor.

The international mining community continues to develop a deep-sea mining industry, and the CCZ is a targeted spot. More than 1 million square kilometers of the abyssal Pacific seafloor have been identified for possible seafloor nodule mining. Manganese nodules are a potential source of copper, nickel, cobalt, iron, manganese and rare earth elements – metals used in electrical systems and for electronics like rechargeable batteries and touch screens.

Deep-sea nodule mining is expected to result in the destruction of marine life and seabed habitats over large areas.
This destruction has the potential to occur within sites directly mined as well as in adjoining areas impacted by sediment plumes created by mining activities.

The aim of DeepCCZ Project is to learn as much about the biodiversity and species ranges across the region to develop a baseline of environmental data before mining begins. The search for this baseline drew Church and Wear into the alien realm of deep-sea microbes.

“It’s hard to fathom what it’s like to live in the abyssal sea, miles below the sunlit world we experience,” Church wrote in a mission log while on the Kilo Moana. “The darkness, cold temperatures and unrelenting high pressure make it a habitat that is completely foreign to our own. Yet lurking in this deep-sea realm is a world of microorganisms that are directly coupled to the life we know.”

Microorganisms, or microbes, are enormously diverse, ranging in size from submicron to a few microns. A human hair is, on average, about 100 microns in diameter, so hundreds of microbes lined up end-to-end might still not cross the width of a human hair. They also are the most abundant deep-sea organism, the oldest inhabitants of our planet, and over the past billion years have played a major role in shaping the habitability of our planet.

But despite their vast numbers and ecological significance, little is known about these tiny organisms. Big questions remain about what they do, how quickly they reproduce and how they interact with other organisms in the vast CCZ ecosystem. Church and Wear boarded the Kilo Moana in Hawaii in search of answers to these questions.

“We were fortunate to collaborate with an interdisciplinary group of hard-working and smart scientists during this cruise,” said Church, who heads the Church Lab for Microbial Biogeochemistry and Ecology at FLBS. “This enabled us to place our measurements on microorganism biodiversity in broader context of the biology of this unique habitat. The samples we collected represent some of the only samples of their type to be retrieved from this region of the world’s oceans.”

In many ways, their work is exploratory. While previous research focused on microorganisms living in the seawater, this was their first experience working with deep-sea sediment. During the cruise, they used a special instrument package that measured temperature, salinity and the depth of the water. It was also equipped with 24 10-liter sampling bottles that could be closed independently, giving the ability to collect samples at 24 different depths. The instrument was deployed from the ship on a conducting wire, which provided real-time data that allowed them to examine the physical and chemical structure of the water from the surface to the seabed. For sampling sediments, researchers used small coring tubes that were pushed by a remotely operated vehicle into the soft sediments, retrieving a vertical section of the mud.

With these tools at their disposal, they harvested microbes from seawater, sediments, and polymetallic nodules for subsequent analyses of nucleic acid sequences (DNA and RNA). They will use these samples to assess whether there are distinct communities of microbes in different habitats in the abyss and provide insight into the functioning of these ecosystems across the CCZ. Though the data will take months to fully analyze, it will lead to substantially better understanding of the biodiversity and ecology of the vast and poorly studied region, and the adequacy of conservation measures presently in place.

Church and those working in his lab are eager to get started.

“We are hopeful that the data we generate as part of this project will help inform future conservation efforts for this
region," Church said. "These are fragile ecosystems that are easy to ignore because they are so remote and isolated, but there remains so much to learn about the biology of these organisms."

More information about the DeepCCZ Project can be found at https://oceanexplorer.noaa.gov/explorations/18ccz/logs/video-summary/video-summary.html. Updates on Church’s research will also be published on the Flathead Lake Biological Station website at https://flbs.umt.edu.

The DeepCCZ Expedition was funded by the Gordon and Betty Moore Foundation, the NOAA Office of Ocean Exploration and Research, the Pew Charitable Trusts and the University of Hawai‘i. In addition to UM’s Church, project principal investigators include Craig Smith, Jeff Drazen, and Erica Goetze of the University of Hawai‘i; Eric Vetter of Hawaii Pacific University; Andrew Sweetman of Heriot Watt University; UK, Adrian Glover of the Natural History Museum UK; and Thomas Dahlgren of the University of Gothenburg, Sweden.

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UM Professor Studies Complexities of Biodiversity, Disease Transmission

MISSOULA – Biodiversity is disappearing at an alarming rate as infectious diseases increasingly spill over from wildlife to humans. Disease ecologists fervently debate whether biodiversity loss leads to an increased disease risk. Now, a University of Montana researcher has published a new study with some answers.

UM Assistant Professor Angela Luis shows for the first time that species diversity can have both
positive and negative influences on disease transmission in the same host-pathogen system at the same time in her article published in the Proceedings of the National Academy of Sciences.

For a number of species, a more diverse community decreases infection risk, termed “the dilution effect,” because biodiversity dilutes infection. If this is a widespread phenomenon, then preserving biodiversity is a win-win for both animal conservation and human health.

However, a debate rages about how general this phenomenon is since, for some systems, a more diverse community increases disease risk, termed the “amplification” effect. For other systems, biodiversity has no consistent effect, leaving its relationship to disease unidentified.

In the latest issue of PNAS, Luis, a disease ecologist, shows that the Sin Nombre hantavirus among rodents displays a significant dilution effect. Areas with a more diverse rodent community have lower hantavirus prevalence among deer mice, which are the main reservoir for the disease. When the virus spills over into humans, it causes hantavirus pulmonary syndrome, which has infected more than 700 people and killed about 1 in 3 since its discovery in 1993.

Luis’ study shows deer mouse density causes the dilution effect. In more diverse communities – with more rodent species present in the same area – there tend to be fewer mice due to competition, and disease spread slows down.

However, for a given mouse density, as rodent species diversity increases, infection spreads faster in a “component amplification effect” as mice become stressed and their immunity decreases. Therefore both dilution and amplification occur in the same system at the same time.

It’s not as simple as more biodiversity means less disease.

“It’s been wild to see the debate among disease ecologists in the literature and at conferences. It has been heated at times,” Luis said. “Although this study doesn’t resolve the debate, it provides an interesting perspective – the
inconsistent findings of whether diversity increases or decreases disease risk may be resolved by delving into the different mechanisms determining disease transmission."

The study is published online at http://www.pnas.org/content/early/2018/07/10/1807106115.

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**Contact:** Angela Luis, assistant professor of population and disease ecology, UM Department of Ecosystem and Conservation Sciences, 406-243-6606, angela.luis@umontana.edu.
MISSOULA – Missoula College at the University of Montana will launch its new IT apprenticeship program with a signing day event at the college from 1 to 2 p.m. Tuesday, July 17.

In response to employer input, Missoula College has created an apprenticeship program for students studying IT networking administration and security. Four local IT companies have committed to hiring MC students while they attend classes with the intention of long-term employment.

Missoula Mayor John Engen and Montana Lt. Gov. Mike Cooney will share brief remarks at the July 17 event, and MC Associate Dean Tom Gallagher will discuss how the new program will benefit students and employers alike. Following their remarks, MC students will meet with representatives from local companies and sign formal documentation registering each party with the Montana Department of Labor & Industry. Members of the media and the public are invited to attend the event.

“Montana has a long history of training the next generation of employees through apprenticeships in the trades, and now Missoula College is expanding its programming to bring the benefits of that model to IT students and local
companies,” said Dylan Rogness, MC apprenticeship liaison. “This event is not only groundbreaking for Montana but for the nation. I believe we have found a model that is scalable for every two-year college in Montana and possibly other institutions around the country.”

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MISSOULA – The corridors of land vital for many wildlife species in the face of climate change often are unprotected. Now, a recently published study from a University of Montana ecology professor and other researchers has tracked these shifting North American habitats.

Solomon Dobrowski, an associate professor of forest landscape ecology in UM’s W.A. Franke College of Forestry & Conservation, was part of a team that used high-performance computing methods to map “climate corridors.” Global Change Biology recently published the study at https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.14373.

Climate corridors form the best route between current and future climate types. Because organisms need to avoid inhospitable climates, the corridors are often circuitous. Although previous studies have mapped climate connectivity areas over smaller regions, this is the first time scientists have mapped these areas over entire continents.

The researchers found that routes funneled along north-south trending passes and valley systems and along the leeward or drier slopes of north-south trending mountain ranges. Climate connectivity areas, where many potential
dispersal routes overlap, often are distinct from protected areas and poorly captured by existing conservation strategies. Many of these merit increased levels of protection due to pressures from human land use.

“The paleo-ecological record provides clear evidence of plants and animals moving large distances in response to climate changes of the past, but those changes occurred over long time periods and without the human pressures we see now,” Dobrowski said.

The researchers hope results from this study will help land managers create more effective responses to climate change by identifying landscape features that promote connectivity among protected areas.

“Even as governments step up their commitment to reduce future greenhouse gas emissions, this information can help planners identify climate corridors whose conservation would reduce loss of species from the climate change that is already locked into the system from past emissions,” said Carlos Carroll of the Klamath Center for Conservation Research, lead author on the study.

Existing parks and protected areas with high importance for climate connectivity include southern Mexico, the southwestern U.S., and western and arctic Canada and Alaska. The Great Plains, eastern temperate forests, and high arctic and western Canadian Cordillera also hold crucial climate connectivity areas.

The study’s authors also included researchers from the U.S. Forest Service and the University of Alberta as part of the AdaptWest Project, a high-resolution database that maps climate change-related threats to biodiversity across North America. The database is used by conservation organizations and agencies such as the Wilderness Society and the U.S. National Park Service to assess climate change vulnerability in different regions of the U.S. and Canada.

More information about the project is online at https://adaptwest.databasin.org/.

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UM Researchers Receive $700,000 in NIH Funding to Study Tick-Borne Lyme Disease

July 10, 2018

MISSOULA – University of Montana researchers Dan Drecktrah and Scott Samuels were recently awarded $449,998 from the National Institutes of Health for the first year of a five-year project to study the bacterium that causes Lyme disease.

They will work in conjunction with Meghan Lybecker of the University of Colorado – Colorado Springs. Lybecker earned her Ph.D. from UM in 2007.

Together they will investigate the “Regulation of glycerol utilization in Borrelia burgdorferi.” With an
estimated 300,000 cases annually, Lyme disease is the most prevalent vector-borne illness in the United States. It results from infection with the spirochete *Borrelia burgdorferi* transmitted via the bite of a tick.

The objective of their work is to understand the regulatory mechanisms that allow *B. burgdorferi* to respond and adapt to varied carbon sources in tick-to-mammal transmission and in Lyme disease pathogenesis, which will lead to improved diagnostic, prevention and treatment strategies. The long-term objective is to alleviate the human disease.

Drecktrah also recently received nearly $260,000 in NIH funding for his project titled “*Metabolic regulation during the two-host lifecycle of Borrelia.*” In this project, he will investigate a novel signaling pathway that regulates the interaction of *B. burgdorferi* with its tick vector. The long-term objective of this project is to understand the unique strategies and mechanisms *B. burgdorferi* uses to persist in the tick and transmit to mammals.

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UM Researchers Receive $700,000 in NIH Funding to Study Tick-Borne Lyme Disease - UM News - University Of Montana
MISSOULA – The University of Montana will bring a live broadcast of the Global Leadership Summit to Missoula Thursday and Friday, Aug. 9-10, in the University Center Ballroom.

The Global Leadership Summit is broadcast from the Willow Creek campus in Illinois, and UM is one of more than 600 host sites worldwide.

The Missoula event is hosted by the City Life Community Center and sponsored by UM’s School of Extended & Lifelong Learning. The faith-based training will include practical leadership skills to help transform communities. Leaders from more than 135 countries representing 60 languages will participate in the summit.

Tickets are on sale now online at https://bit.ly/2tIIMCO. For a 40 percent discount, use the Priority/Referral Code: 18HSFAMILY.

For more information visit https://www.willowcreek.com/events/leadership/.
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UM Alumna Wins Fellowship at National Institutes of Health Research Center

July 12, 2018

MISSOULA – A University of Montana alumna just landed a yearlong fellowship with the National Institutes of Health for her dedication toward transforming scientific discoveries into real-world solutions.

Genevieve Lind, who earned her bachelor’s degree and doctorate at UM, will work in Washington, D.C., as a Science and Technology Policy Fellow with the American Association for the Advancement of Science. She will begin her placement at the National Heart, Lung and Blood Institute in the NIH Office of Translational Alliances and Coordination in August.

The OTAC will engage Lind in efforts at the national level to accelerate the translation of scientific discoveries to the marketplace.
“I am thrilled to take the skills and knowledge that I have developed working and learning at the University of Montana to the National Institutes of Health – one of the world’s foremost medical research centers – to work on developing real solutions to problems that scientists face in getting their discoveries out into the world,” Lind said.

Lind, who was born and raised in Darby, earned a bachelor's degree in communication studies from UM in 2006, graduating with high honors as Outstanding Senior in that department. She also earned minors in psychology and human and family development. After working in hotel management following graduation, she returned to UM to earn a Ph.D. in neuroscience, with research focused on molecular pharmacology and drug development.

She has won many awards to support her research and has published two articles on pharmacology and neuroscience in peer-reviewed journals.

In addition to the outstanding NIH work opportunities, Lind will participate in a yearlong professional development program with an orientation and a series of trainings and workshops in areas that include policy, leadership and communications. The program is designed to maximize each Fellow’s proficiency in the areas recruited by the U.S. Government Senior Executive Service.

“The AAAS Science and Technology Policy Fellowship gives scientists a chance to dive into hands-on work in policymaking,” Lind said. “I am excited to see where this opportunity takes me.”

According to Laure Pengelly Drake, UM’s coordinator for writing center programs, external scholarships and advising, Lind won this fellowship for many reasons, including her academic breadth and depth; science communication talent, training and experience; and “exceptional initiative.”

“Jenny notices and acts on both holes in the system and opportunities for growth,” Pengelly Drake said. “Her strong curiosity, drive and service ethic complement her strong neuroscience and communication academic foundation.”
In addition to the time-consuming combination of classes, lab work and serving as a teaching assistant during her Ph.D. program, Lind made the time and had the vision to reinvigorate UM’s Graduate and Professional Association to provide new opportunities and resources for graduate students at UM. She was selected to participate in a highly competitive national program for graduate student leaders in science communication, ComSciCon, where she received training in science writing, policy and outreach.

Lind brought that opportunity home by organizing ComSciCon-Rocky Mountain West in 2017, for which she helped raise over $20,000. She is the co-founder and co-leader of 500 Women Scientists-Missoula, part of a national organization that supports women in science careers and organizes policy and advocacy efforts at the local level.

After earning her Ph.D., Lind served as an AmeriCorps VISTA at Blackstone LaunchPad-UM, the University’s resource for innovation and entrepreneurship education, where she worked on facilitating research commercialization, establishing campus and community partnerships and building capacity for the LaunchPad.

The mission of the AAAS Science & Technology Policy Fellowships program is to connect science with policy and foster a network of science and engineering leaders who understand government and policymaking and are prepared to develop and execute solutions to address societal challenges. The program began in 1973 with seven Fellows. Today, STPF places nearly 300 Fellows each year in all branches of federal government.

For more information on the fellowship, visit http://www.aaas.org.

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MISSOULA – Community members are invited to explore planets, nebulas, star clusters and distant galaxies throughout the summer during stargazing nights at the University of Montana’s Blue Mountain Observatory.

UM’s observatory is located atop Blue Mountain at an elevation of 6,300 feet. Astronomers from UM and the Western Montana Astronomical Association will speak on what is viewed through the telescopes, point out constellations, show attendees how to find interesting celestial objects with the naked eye or a pair of binoculars and discuss recent astronomical discoveries.

The events are family-friendly, and all ages are welcome. Free public events will take place on the following Fridays: July 6, July 13, Aug. 3, Aug. 10, Sept. 7 and Sept. 14. Attendance is limited to 150 people each night.
This summer the Blue Mountain Observatory also will offer some limited attendance nights for those who would like a more personal experience. These nights will take place on the following Saturdays: July 7, July 14, Aug. 4 and Aug. 11. Tickets for these nights cost $20 per person, with attendance limited to 25 people or less.

For all nights, attendees are required to reserve a ticket for each person in their group via an Eventbrite link accessible from the Blue Mountain Observatory page at http://hs.umt.edu/physics/Blue_Mountain_Observatory/.

More information is available on the website about the observatory, the two types of observing night options, detailed directions and a useful map.

Observing begins about an hour after sunset. Participants should wear warm clothes for cool evenings and bring a flashlight for the walk from the parking area to the observatory. Smoking and alcohol are strictly prohibited at all events.

Viewing nights will be canceled if the sky is cloudy, smoky or thunderstorms threaten. Before heading to the observatory, look for weather and cancellation updates on the Blue Mountain Observatory Facebook page or via voicemail at 406-243-4299. A final update will go out the evening of the observation to the email address attendees enter as part of their Eventbrite registration.

For information on all events, visit the Blue Mountain Observatory webpage or email BMO@mso.umt.edu. For additional questions leave a voice message at 406-243-4299.

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