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November 2018 news releases

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MISSOULA – A new partnership between local organizations and the University of Montana gave students in the Entertainment Management program firsthand business experience this semester.

In lieu of classroom lectures, students in the UM College of Business Principles of Entertainment Management
course are completing internships with businesses and nonprofits in Missoula. It’s part of the experiential learning opportunities that UM is known for.

“It is a great example of being creative in finding authentic, meaningful, high-impact experiences for students,” UM Provost Jon Harbor said.

The course resulted in 30 internship placements that benefitted everyone involved.

“We worked hard to find companies and nonprofits in the Missoula community interested in having a UMEM student intern with them for the semester,” said Glenna Tawney, UMEM program coordinator. “On the first day of classes, 16 organizations pitched their internship to recruit the best candidates.”

In addition to the internships, online readings and posts guide students through management of entertainment products. Students complete coursework covering topics such as budgeting, contracts, marketing and promotion, social responsibility, touring and more. The custom-designed online course used music, theatre, books, film and sports segments of the entertainment industry to broaden students’ understanding.

“There are definite concepts and a body a knowledge our students need if they’re considering a career in entertainment,” said Mike Morelli, UMEM director and professor for the class. “Through online delivery and specific
projects and activities, including the internships, we’ve been able to ensure students get the knowledge, readings and theories they need."

Students and employers alike agree that the course has provided positive, real-world experience.

“The UMEM student interns were absolutely amazing, and I could not have pulled off the Monopoly Ball fundraiser without them,” said Kris Holmes, community development manager with the American Cancer Society. “Many of our volunteers are business owners in the community, and they were so impressed they have all offered to be professional references for the students.”

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Contact: Mike Morelli, UM Entertainment Management director, 406-243-5810, mike.morelli@mso.umt.edu; Glenna Tawney, UM Entertainment Management program coordinator, 406-243-5695, glenna1.tawney@umontana.edu.
UM Report: Outfitted, Guided Experiences Increasingly Crucial to Montana Tourism

November 29, 2018

MISSOULA – Expenditures from outfitted and guided experiences contribute to a large amount of the state’s tourism revenue, according to a new report from the University of Montana’s Institute for Tourism and Recreation Research.

In 2017, spending on outfitters and guides rose to the fourth highest spending category by nonresident visitors to the state, topping out at nearly $374 million, or 11 percent, of all visitor spending. Only fuel, restaurants and lodging outpaced the outfitting and guiding sector.

Last year, outfitters and guides served more than 700,000 clients, 63 percent of whom were from out of state. These out-of-state visitors not only spent money locally on their hired guides, but also across other sectors of the economy as they dined, slept and drove throughout the state. In total, visitor groups who hired guides spent $791 million.

Traditionally, outfitting and guiding in Montana was considered a hunting-, fishing- or rafting-based industry, but in recent years, this definition has become more fully encompassing of the Montana outdoor recreation experience. Not only do visitors hire guides for fishing, hunting and rafting, but also for a wide swath of other activities – from
horseback riding to snowmobiling to wildlife viewing and even outdoor education.

By total number of clients served, rafting-, floating-, canoeing- and kayaking-type activities led the way, with roughly 39 percent of all clients taking part in these water-based trips. Fishing was the next highest client volume activity. By revenue generated from the outfitters and guides, fishing and hunting outfitters stood above all others, with 33 and 24 percent of all outfitting revenues, respectively.

“The high proportion of total visitor spending represented by those groups who take part in a guided activity is reflective of their group characteristics more generally,” said Jeremy Sage, lead author on the study and associate director for the ITRR. “These visitors are more likely than the average visitor to be in Montana for vacation or recreation – 72 percent compared to 36 percent.”

These visitors spend an average of seven nights in Montana, compared to around five for the typical visitor. Visitors taking guided trips also spend at higher rates than average – $481 per day compared to $128.

“Visitors want to engage in the recreation opportunities Montana has to offer, and hiring a guide or outfitter is a great way to make a leap into an activity that you may be uncomfortable with, but eager to try,” Sage said.

The full report is available on the ITRR website at https://scholarworks.umt.edu/itrr_pubs/376/. All information and reports published by ITRR are online at http://itrr.umt.edu/.

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Contact: Jeremy Sage, economist and associate director, UM Institute for Tourism and Recreation Research, 406-243-5552, jeremy.sage@umontana.edu.
MISSOULA – Unique, handcrafted ceramic pieces will be on sale at the University of Montana just in time for the holidays.

The UM Ceramic Artists group of the UM School of Art will hold its 33rd annual Holiday Sale and Art Exhibition Friday through Sunday, Dec. 7-9, in the UM Art Annex.

The sale features ceramics and sculpture by UM School of Art students and faculty. The show will take place in the Off Center Gallery of the Art Annex, and student work created over the past year will be considered for awards. The event is free and open to the public.

A grand opening celebration with live music will be held from 4 to 8 p.m. Thursday, Dec. 6, and an awards presentation will begin at 6 p.m. The sale continues Friday through Sunday from 10 a.m. to 6 p.m. each day.

This fundraising event was initiated 33 years ago after the Ceramics and Sculpture divisions were relocated to Schreiber Gym for a year due to a fire in the Art Annex. Proceeds from the event help fund scholarships, student
Emerging, Faculty Artists to Showcase Ceramics at 33rd Annual Holiday Sale - UM News - University Of Montana

travel to conferences and wood for kiln firing. The proceeds also fund visiting artists who benefit the School of Art and the community.

Students formed the clay club UMECA to help raise visibility and funds for the program. UMECA has funded a variety of sculpture projects over the past 30 years.

For more information call the School of Art office at 406-243-4181.

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**Contact:** Michelle Louis, president, UM Emerging Ceramic Artists, 406-243-4181, michelle.louis@umontana.edu.
MISSOULA – After 14 years of service to the University of Montana, Barbara Koostra will leave her role as director of the Montana Museum of Art & Culture in December.

“Barbara Koostra brought considerable attention and programming to the MMAC,” UM Provost Jon Harbor said. “We thank Barbara for her service to UM, Missoula, the state and the region and wish her the best in her future endeavors.”

Oversight of MMAC shifted from the Office of the Provost to the College of Visual and Performing Arts earlier this year, and the change in leadership is part of the college’s staffing plan. Dr. Rafael Chacón, UM professor of art history and criticism, will direct the museum beginning January 2019, and Jeremy Canwell, MMAC curator of art and exhibitions coordinator, will remain on staff.

Chacón founded the Gilbert Millikan Art Resource Center in the School of Art in 1996 and has been active in museum studies, including curating exhibitions at the Smart Museum at the University of Chicago, the Eric Dean Gallery at Wabash College and MMAC, as well as serving as Hispanic Studies coordinator in museum education at the Art Institute of Chicago.
Koostra spent 17 years performing at the Kennedy Center for the Performing Arts, with the New York City Opera National Company, at Lincoln Center and at Carnegie Hall. After earning her MBA from UM, she became director of the Missoula Cultural Council (now Arts Missoula), communications director at the Montana Arts Council, communications specialist at the National Endowment for the Arts in Washington, D.C., and assistant director at the Missoula Art Museum before being named MMAC director.

Among the many accomplishments of her UM tenure, Koostra:

- Raised over $1.5 million in operating, building and project funds and doubled the value of the Permanent Collection to over $20 million.
- Was named the Suzanne and Bruce Crocker Distinguished Director via the first such gift to exist in the Montana University System history for a non-faculty position.
- Presented more than 60 exhibitions, including one about Pulitzer Prize photographs, which broke all attendance records, and a Shakespeare Folio from the Folger Library in Washington D.C.
- Secured hundreds of important artworks for the MMAC Permanent Collection, including the pieces among the William A. Clark Collection from the Corcoran Gallery of Art, and the Ben Steele POW Collection.

“Landing the Clark Collection was an historic first and a monumental achievement,” Harbor said. “UM’s Permanent Collection – artistically the richest in the state – has doubled in value under her superb leadership.”

Koostra said she became committed to the care of the Permanent Collection after her first glimpse.

“Because of its content, the collection should be recognized as one of the most significant assets in Montana’s cultural development, past and present,” she said. “I am grateful to the many, many donors, members, visitors, students, staff, advisers and more who made MMAC such a success. I especially thank Suzanne and Bruce Crocker for their undying support of the museum.

“UM has been given the honor and responsibility for the Permanent Collection’s care and exhibition,” she said. “Its international importance and the stature of the artists whose work is represented needs serious ongoing consideration. While I leave the institution with stable financials on the private side, thoughtful attention and investment is essential to the best future of this magnificent collection.”

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Contact: Paula Short, director of communications, UM Office of the President, 406-243-5608, paula.short@mso.umt.edu.
UM Researchers Among the Most Cited in the World

November 29, 2018

MISSOULA – Five out of six of the world’s most highly cited researchers living in Big Sky Country hail from the University of Montana.

That’s according to Clarivate Analytics, a company that monitors research data via its Web of Science platform. Clarivate said about 6,000 scientists made the 2018 list, representing more than 21 fields of research.

The UM honorees are Fred Allendorf, a Regents Professor of Biology Emeritus; Cory Cleveland, a professor of terrestrial ecosystem ecology; Philip Higuera, an associate professor of fire ecology; Gordon Luikart, a professor of conservation ecology and genetics at the Flathead Lake Biological Station; and Steven Running, a Regents Professor of Ecology Emeritus.

“This recognition highlights the national and even international impact of the amazing research that has been conducted right here at the University of Montana,” said Scott Whittenburg, UM vice president for research and creative scholarship. “The high quality of the faculty at UM provides cutting-edge educational opportunities for our students and is the primary reason the University continues to be ranked among the top schools worldwide.”
Allendorf and Luikart were honored in the “Environment/Ecology” category. Cleveland and Higuera were honored in the new interdisciplinary “Cross-Field” category, and Running was listed in “Geosciences.”

The sixth highly cited researcher in Montana is Paul Stoy, an associate professor in Land Resources and Environmental Sciences at Montana State University. He also was honored in “Cross-Field.”

Clarivate estimates that about 2 million peer-reviewed papers are produced each year. Researchers on the list produced papers that ranked in the top 1 percent of most-cited papers in their respective fields over an 11-year period by the Web of Science.

A video about how Clarivate compiles its list is online at https://hcr.clarivate.com/mean-highly-cited/. More information is online at https://hcr.clarivate.com/.

“It’s an honor to be named to this list,” Cleveland said. “While citation totals and other such analytics are certainly not perfect measures of the impact of our work, they at least provide evidence that the papers we are writing are being seen and read, and citations provide some level of assurance that we are doing interesting and important work in our fields.

“It is also meaningful to me to have made the list in the ‘cross-field’ category – a new category that identifies researchers with substantial impact across multiple fields over the past decade,” he said. “Science is becoming increasingly cross-disciplinary, and most of my work certainly falls squarely in that category.”

Contact: Scott Whittenburg, UM vice president for research and creative scholarship, 406-243-6670, scott.whittenburg@mso.umt.edu.
UM Mansfield Center Seeks Participants for Soccer Exchange in Peru

November 27, 2018

MISSOULA – The Maureen and Mike Mansfield Center at the University of Montana seeks 18 Montana adults and students to serve as citizen ambassadors to Peru in a U.S. Department of State sports diplomacy program focusing on soccer.

The program entails an all-expenses-paid, seven-day exchange to Peru next May 14-20 and the opportunity to work with Peruvian soccer professionals during a reciprocal exchange in Montana in July. Funded by the Sports Diplomacy division of the Bureau of Educational and Cultural Affairs of the U.S. Department of State, the exchange uses soccer to empower women and girls in Peru.

The Mansfield Center exchange program teaches soccer coaches, organizers and players how to popularize a sport within marginalized populations, including people with disabilities, indigenous peoples and those from rural communities. The team from Montana will share ways that soccer can be used as a tool for social inclusion and a way to build confidence and community engagement while promoting technical proficiency among coaches, administrators and officials. While working with a local nonprofit that engages women and youth in soccer, the delegation also will learn about the culture and history of Peru by traveling to the capital city of Lima, as well as a
“Sports can be an incredible way to develop confidence, discipline, leadership and becoming a part of a larger community,” said Kelsey Stamm Jimenez, Mansfield Center program director. “Women and girls, especially indigenous people and those with disabilities, can be isolated and face barriers toward engaging in social life. Our program is designed to give coaches and players the skills not just to improve soccer abilities, but to empower their teams and help them succeed both on and off the field.”

The Mansfield Center was selected to implement this program due to its expertise in sports and youth, both areas of emphasis in Montana and at UM. The first of four exchanges was held in El Salvador, with a focus on engaging at-risk youth through basketball.

The U.S. Department of State Sports Diplomacy division was created to increase dialogue and cultural understanding between people, as well as peaceful relations, around the world through sports. The division’s use of sports as a platform exposes international exchange participants to U.S. culture while providing them with an opportunity to establish links with U.S. sports professionals and peers. In turn, Americans learn about foreign cultures and the challenges young people from other countries face. Sports Diplomacy has involved tens of thousands of people from more than 100 countries in sports exchanges.

The International Sports Programming Initiative cooperative agreement is one of six State Department grants currently run by the Mansfield Center to benefit the community and state.

“Federally funded opportunities like the Sports Diplomacy exchange allow us to fulfill the Mansfield Center’s mandate to engage people from across our state in international experiences,” said Deena Mansour, Mansfield Center associate director.

UM’s Mansfield Center promotes better understanding of international relations and ethics in public affairs in the spirit of Sen. Mike Mansfield (1993-2001) and his wife and life partner, Maureen Hayes Mansfield. The center houses programs that promote global ties, leadership and ethics in public affairs – the core interests and hallmarks of Sen. Mansfield’s career.

Applications for the soccer exchange are open through Tuesday, Jan 1. Those interested in applying should visit https://www.umt.edu/mansfield/default.php or contact Stamm Jimenez at kelsey.stamm@umontana.edu or 406-243-2838.

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Contact: Kelsey Stamm Jimenez, program director, UM Maureen and Mike Mansfield Center, 406-243-2838, kelsey.stamm@umontana.edu.

Get Involved
UM Mansfield Center Seeks Participants for Soccer Exchange in Peru - UM News - University Of Montana
UM Scientist Works with California Conservation Group to Reduce Methane Emissions in Rice Fields

Story by Heather Fraley, FLBS Environmental Science and Natural Resource Journalism Intern at UM

FLATHEAD LAKE – Deborah Moskowitz stared at two jars of water from different experimental ponds in a California rice field. Dozens of tiny animals called zooplankton drifted gently in the brownish water from a control pond that had been left unaltered. The other jar held water from a pond where golden shiner minnows were stocked. Only a few lonely zooplankton floated in it.

Adding fish to flooded rice fields was changing the food web just as Moskowitz had hoped. Fish were eating the zooplankton, leaving methane gas-eating bacteria predator-free, and less methane was escaping from the flooded fields into the atmosphere. It was the first step toward decreasing the carbon footprint of the California rice industry and improving sustainable aquaculture in the Central Valley and beyond.

“After working on this project for seven years, there were tears,” said Moskowitz as she described how it felt to see the difference between the two jars. “Just the idea that this could work is so exciting.”
Moskowitz is the president of the Resource Renewal Institute, a California-based nonprofit that innovatively solves environmental problems. RRI is collaborating with scientists at the University of Montana’s Flathead Lake Biological Station and the University of California, Davis on a project called Fish in the Fields.

It started out as a sustainable foods idea. Seven years later, it’s grown into a concept with vast potential for climate change solutions and fish conservation.

UM scientist Shawn Devlin, who oversees the research, just finished analyzing data from the first winter field season. He describes the preliminary results as “significant and compelling.” They show 70 percent less methane in the ponds where fish were added. The results, although still early, add scientific weight to the difference in the two jars that Moskowitz noted with the naked eye.

Let’s Put Fish in the Fields

The Fish in the Fields Project was born in a duck blind in the Central Valley. RRI founder and exceptional conservationist Huey D. Johnson went out duck hunting as he did every year. While squinting out from under his tweed cap, he realized that the artificial ponds in the rice fields were only used by ducks. Why not grow fish in them for people to eat or maybe even conservation?

RRI got permission from some farmers and started adding fingerling fish to rice fields in 2012 to see if the idea was viable. The tiny fish thrived in the ponds, growing at astonishing rates with no supplemental feeding. Growing the fish was remarkably easy. Marketing them was not.

Rice farming is the second-highest producer of methane gas in California, behind only the cattle industry. This created a stigma that was hard to get past. Patagonia Provisions loved the sustainable aquaculture idea, but they didn’t want to associate with methane production. It was back to the drawing board for Moskowitz and RRI.

The Methane Problem

Rice fields create 4 tons of waste straw per acre. Farmers in the Central Valley used to burn the leftover straw because it was cheap and easy. When California became more populated, people saw the effects of burning on air quality, and phased it out with the state Rice Straw Burning Reduction Act of 1991. This created pushback from rice
farmers who now had literally tons of straw that they couldn’t get rid of.

Third-generation Yuba County rice farmer Charley Matthews Jr.’s family has been farming rice in California since 1912. He remembers when burning ended.

“A lot of people at the time said: ‘This is the end of the rice industry,’” he said. “I was kind of a young one at the time, and I said, ‘no this is minor.’ We started flooding our rice fields and incorporating that straw into the soil. Pretty soon it became an industrywide thing, and at the same time we noticed an increase in wildlife.”

Flooding the rice fields in the winter when the fields weren’t in use allowed the waste straw to decompose. It added the benefit of putting nutrients back into the soil for the next growing season. On top of that, rice farmers received accolades for creating the artificial square-shaped ponds resembling giant waffles filled with syrup. They provided important winter habitat for waterfowl in the Pacific flyway. It seemed like the perfect solution. Suddenly rice was the “environmental crop.”

But there are tradeoffs with everything. Decomposing straw in flooded fields also produces a lot more methane, a greenhouse gas. Increased methane production brought new environmental concerns and climate change implications.

According to the EPA, methane is 25 times more potent a greenhouse gas than carbon dioxide over a 100-year period.

“No matter how you slice it – even out to 100 years – pound for pound you want to reduce methane. It should give you the bigger impact on the climate,” said Ian Faloona, a climate scientist at the University of California, Davis.

With 500,000 acres of land in rice production in California, this source of methane is not huge, but not entirely trivial.

A ‘Magic Key’ From Finland

Moskowitz began running internet searches looking for a solution. In 2016 she found it.

Devlin was working on exactly what she needed. Devlin’s research showed that adding fish to humic lakes in Finland reduced methane emissions. A humic lake is one that has a lot of decomposing organic material in it – similar to the ponds created by the flooded rice fields.

In a 2015 paper, Devlin wrote about how he and his colleagues introduced fingerling European perch into several small lakes in Finland. When the fish ate the zooplankton, they induced a trophic cascade, or a kind of domino effect in the food web. The fish ate the zooplankton, and the zooplankton practically disappeared. Without zooplankton there to eat them, the bacteria proliferated. Among them were methanotrophic bacteria, a type of bacteria that consumes methane. These bacteria start out with methane gas and oxidize it to CO2. More methanotrophic bacteria meant less methane released into the atmosphere.

“Coming across Shawn’s work was truly one of those moments,” said Moskowitz. “It was thrilling. It almost seemed like the magic key.”
Devlin is a science rock star, but he still gives you that “guy-next-door” feeling. He’s a father in his 30s. For him, searching for the answers to research questions is just what he does. He still has a hard time believing that he won the prestigious ASLO Award in limnology for his work.

While Devlin had expected methane emissions to decrease during his work in Finland, the results were off the charts.

“If you have fish present, you have about a 10-times difference in the amount of methane leaving the system,” he said. The structure of the food web could be a really strong factor in regulating methane emissions in certain water bodies.

Moskowitz was intrigued.

“I thought, ‘My gosh, if it could work in a Finnish lake, maybe we could see if it could work in a rice field,’” she said.

Sitting in his office at the Flathead Lake Biological Station, with its view of the largest natural freshwater lake west of the Mississippi, Devlin is supremely nice and unassuming. He remembers the day he first heard from Moskowitz.

“I got an email one day from a group in California saying, ‘We just read your paper and it’s a good paper, and we’re interested in using those concepts to reduce methane in rice production,’” he said.

Devlin told Moskowitz that he was on board.

**Climate Concerns?**

Applying this concept had greater implications than RRI’s sustainable protein idea. If putting fish in the fields also reduced methane, it potentially could be implemented over a portion of the 500,000 acres of California rice lands. Scale this up to the other six states in the U.S. that produce rice, or even globally, and it could make a difference.

Fish production in rice cultivation has been ongoing in Asian countries for more than 1,000 years, but a scientific protocol with the specific goal of reducing methane gas emissions and producing sustainable aquaculture operations would be new.

“If California does it and it’s successful and economically feasible, and it’s implemented throughout Asia or somewhere else, it has the potential to be impactful,” said Faloona of UC Davis.

With a 2025 carbon neutrality goal looming in California’s future, rice farmers are seeing the pressure build like a thundercloud.

There have been some attempts to address the issue. The California Air Resources Board spent years developing a methane emissions reduction protocol for rice farmers, but it hasn’t taken off. David Clergen, CARB public information officer, says there is really very little incentive under the current cap and trade program for farmers to implement the strategy.

“At this point, it’s a tough sell,” he says. “We think over time, people may be able to make some adjustments and make it more realistic for them.”
The protocol involves draining and re-flooding fields. It reduces methane. It also reduces benefits to waterfowl. It’s expensive and potentially dangerous to the crop. It also involves the convoluted California water rights system, making it that much harder.

“In California, water is money,” Clergen said.

Rice farmer Mathews says that right now there’s no incentive for him to reduce methane using the CARB protocol, but he knows the problem isn’t going away.

“At some point, we need to address it,” he said. “If every other industry has to make a sacrifice to reduce greenhouse gas emissions, we’re going to have to do it too somehow, and this is a method to accomplish that as well.”

A Flood Plain in Disguise? Conservation Implications for Fish

UC Davis fisheries scientist Andrew Rypel is a researcher working with Devlin on the Fish in the Fields Project. Devlin recruited him through their mutual friends who saw that they were both working on similar things.

Rypel had already worked on the Nigiri Project. The name is a humorous nod to sushi, referring to a thin strip of fish over compacted rice. Cal Trout and several collaborators started raising Chinook salmon fry in rice fields that adjoin the Sacramento River. Rypel’s work on this project made him a natural fit for the Fish in the Fields Project, which uses many of the same concepts.

Rypel says he’s never seen a more politically charged area surrounding water and natural resources than California. He’s seen the “water-is-money” concept firsthand.

Despite the politics, he considers the Fish in the Fields Project to be one of the most exciting projects that he’s working on.

“One of the reasons I really like the project is that it goes way beyond California,” he said.

Rice is a globally grown crop, often produced in high greenhouse gas-producing countries in the Far East.

“It’s also applicable to just flood plains in general. It doesn’t have to be rice,” Rypel said. “It’s a way of thinking that could encourage reductions in methane globally.”

A lot of the political nature of water in California revolves around endangered fish. The federal Endangered Species Act puts protections in place that impact the water usage. California has a number of federally threatened or endangered fish species that are endemic, or native to only that area. Many of these species were specially adapted to thrive in the Central Valley floodplain.

The Central Valley of California used to be a natural floodplain. Fish species like Chinook salmon would happily fatten up there before going on their journey to the Pacific Ocean. Now the floodplain is gone and the salmon are disappearing. Today only 5 percent of the original floodplain habitat remains. The rest has been taken over by human activities, including the 500,000 acres in rice agriculture. Yoshiyama et al. estimated in 2011 that salmon
populations in the Central Valley have decreased to under 75 percent of their numbers just since the 1950s.

Managers are starting to eye artificial habitat for solutions because so little natural habitat is left. Rice fields can be surrogate floodplains.

“People have been sort of slowly realizing that ‘oh, you know, rice agriculture could be thought of as a floodplain if you thought about it the right way,’” Rypel said.

Farmer Mathews says that he thinks the main value of the Fish in the Fields Project for rice farmers lies in fish conservation programs. He’s seen it work well with waterfowl. As a business person, he wants to get in on the ground floor of salmon rearing if the Nigiri Project starts expanding to land-locked rice fields.

“I think at the end of the day, they’re going to find that this is the best way to increase the salmon population,” he said. “If it’s still Fish and Game and the Fish and Wildlife Service that are involved, they’re going to look to the rice farmers who have a system of aquaculture already in place and are able to take care of these fish.”

In addition to conserving threatened or endangered native species, the project also has the potential to reduce pressure on ocean fish that are exploited.

Marine baitfish such as sardines, anchovies and herring are netted and used for bait, fertilizer or aquaculture. Exploitation has gotten bad enough that the sardine season has been closed off the coast of California for the past three years. Providing new areas to grow a farmed source of these popular bait species could be huge for wild populations.

**Food for the People**

The Fish in the Fields Project also is set up to do what it was originally designed to do – provide a much-needed carbon-neutral source of protein for people.

More and more seafood in the world is originating from aquaculture. According to a World Bank Report released in 2013, 62 percent of world seafood will come from aquaculture by the year 2030. Experts say rice farmers would have no problem selling the fish they grow in their fields as a second crop, adding to their bottom line.

In the experimental ponds, Rypel added golden shiner minnows and watched them explode into growth. Growth rates for the minnows were similar to what generally is seen in aquaculture. But the thing that sets this aquaculture operation apart is that they didn’t have to feed the fish.

“We just filled the ponds up, and they developed their own zooplankton community. We put the fish in, and they grew like that,” Rypel said. “It wasn’t like there was a cost beyond the cost of the fish.”

The project is brimming with potential. The next steps are to obtain funding to start looking at the role of fish density on how much methane is produced, as well as how scalable the results are beyond the test ponds. A lot of it is still uncertain, but so far the researchers think it’s incredibly promising.

“This is a real game-changer,” Devlin said.
For updates and more information about Devlin’s work with the Fish in the Fields Project, visit the FLBS website at https://flbs.umt.edu/newflbs.

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**Contact:** Tom Bansak, assistant director, Flathead Lake Biological Station, 406-872-4503, tom.bansak@flbs.umt.edu; Ian Withrow, media/information specialist, Flathead Lake Biological Station, 406-872-4544, ian.withrow@flbs.umt.edu.
UM Dining Now Accepting SNAP at The Market

November 26, 2018

MISSOULA – As part of an ongoing effort to address food insecurity, UM Dining at the University of Montana has successfully completed the process to make The Market an approved Supplemental Nutrition Assistance Program, or SNAP, retailer.

SNAP participants can now use their electronic benefit cards (EBT) to purchase a variety of grocery items at the convenience/grocery store located in the University Center.

SNAP provides monthly assistance to low-income families and individuals via a declining-balance debit card, which can be used to buy groceries at approved locations.

Trevor Lowell, UM Dining’s sustainability director, began the process of obtaining approval for the store early this year. The process involved submitting an application with Food and Nutrition Services, the federal agency that oversees SNAP. FNS conducted an in-store inspection to verify The Market met the stocking requirements. Lowell also developed a training plan to insure The Market staff understand the guidelines of the program and are capable of assisting SNAP customers.
“SNAP is an important tool for people who are struggling to meet their food and nutrition needs, and we know that many UM students are dealing with those challenges,” Lowell explained. “We hope that adding it as a payment option in The Market helps make their lives a little easier.”

The Market is the campus food service’s second operation to become an official SNAP retailer. The Corner Store, UM Dining’s convenience store on the west side of campus, has been an approved SNAP location for three years. Both The Corner Store and The Market offer fresh produce and nutritious items that qualify for purchase under the program guidelines.

SNAP eligibility is determined based on a number of factors, including income, assets and household size. Information about the program and eligibility can be found on the Montana Department of Health and Human Services website at https://dphhs.mt.gov/hcsd/SNAP, or by calling 1-888-706-1535.

“Many students assume they don’t qualify for SNAP and never bother to apply. The reality is that many of them likely do and could benefit tremendously from the program,” Lowell said. He and other UM Dining leadership hope their promotion of SNAP through The Market might encourage students to consider the program as an important resource.

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Contact: Trevor Lowell, UM Dining director of sustainability, 406-243-4042, trevor.lowell@mso.umt.edu.
UM Receives High Honors at Collegiate Opera Competition

November 26, 2018

MISSOULA – The University of Montana Opera Theater and UM Symphony Orchestra continued their winning tradition at the National Opera Association Collegiate Opera Competition recently.

UM's production of “Julius Caesar” won third place in Division III of the competition, which compared productions from multiple collegiate programs of comparable sizes and budgets and evaluated them on musicianship, singing attributes, production concept, execution and overall quality.

“We are extraordinarily proud of, and grateful for, the National Opera Association's recognition of our productions,”
said UM Opera Theater Director Anne Basinski. "We are proud to be nationally recognized for our advocacy and representation of the beautiful musical theater form that is opera."

Over the past 10 years, UM Opera Theater has received recognition in the NOA competition, including third place for “The Gondoliers” in 2016, first place for “The Legend of Orpheus” in 2014, first place in the Collegiate Opera Scenes Competition in 2013 and first place for “The Marriage of Figaro” in 2006.

“This award is a tribute to the artistry and tireless work of many – a true labor of love involving faculty, our outstanding guest designers and technicians, and, most of all, our wonderfully gifted student singer-actors and orchestral musicians,” Basinski said.

The artistic team from UM included Basinski as stage director and translator, Professor David Cody as music director, Luis Millàn as conductor, Barbara Blegen as rehearsal pianist and continuo and Heather Adams as choreographer. The production team from MCT, Inc. comprised Theresa K. Jenson, scenic designer; Linda Muth, costumer designer; Daniel Norton, lighting designer; Lesley Washburn, properties designer; and Phil Stempin, projections designer.

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Contact: Anne Basinski, director, UM Opera Theater, 406-544-2991, anne.basinski@umontana.edu; David Cody, music director, UM Opera Theater, 406-544-2297, david.cody@umontana.edu.
MISSOULA – As part of the nationwide search for America’s best-loved novel on the PBS-sponsored “The Great American Read,” a panel of seven Montana literary experts set out to determine the state’s best-loved novel through “The Great Montana Read.”

“The Great Montana Read’ is an exciting collaboration, encouraging conversation and celebration around the Treasure State’s rich literary tradition,” said Sarah Aronson, host of Montana Public Radio’s “The Write Question.” Aronson wrote and hosted video segments featuring each book.

To vote, visit the MontanaPBS website, watch the videos and decide on a favorite from the list of 20 books at https://www.montanapbs.org/greatmontanaread/. Voting continues through Saturday, Dec. 1.

The books selected for “The Great Montana Read” are:

- “The Big Sky,” A.B. Guthrie
- “Winter Wheat,” Mildred Walker
“Winter in the Blood,” James Welch
“The Miseducation of Cameron Post,” Emily Danforth
“Perma Red,” Debra Magpie Earling
“A River Runs Through It,” Norman MacLean
“Fools Crow,” James Welch
“This House of Sky,” Ivan Doig
“Legends of the Fall,” Jim Harrison
“The Surrounded,” D’Arcy McNickle
“The Ploughman,” Kim Zupan
“The Last Good Kiss,” James Crumley
“English Creek,” Ivan Doig
“Canada,” Richard Ford
“Fourth of July Creek,” Smith Henderson
“Hattie Big Sky,” Kirby Larson
“Letters from Yellowstone,” Diane Smith
“Blind Your Ponies,” Stanley Gordon West
“Last Bus to Wisdom,” Ivan Doig
“A Yellow Raft in Blue Water,” Michael Dorris

“Getting to the top 20 was not easy,” Aronson said. “The judges considered many books and authors, and many tough decisions were made.”

The volunteer judges independently identified their top 25 best-loved works of fiction, with the following guidelines: The author or the book’s content needed to have firm connections to Montana. Though the scope was limited to full-length works of fiction, exceptions to this, such as Ivan Doig’s memoir, “This House of Sky,” and Jim Harrison’s novella, “Legends of the Fall,” qualified because they were independently selected by the majority of the judges.

In all, 31 books were named as potentials for Montana’s best-loved novel. Though the narrowing process was tough, the judges’ selections were compiled into the top 20 list of books. The final list features books published within an 80-year time span, including stunning debuts and heartfelt finales from established and emerging authors. Classics, like James Welch’s “Fools Crow,” are featured alongside contemporary contributions such as Emily Danforth’s “The Miseducation of Cameron Post.”

Partners for The Great Montana Read include: the Montana Library Association, Humanities Montana, the University of Montana, Maureen and Mike Mansfield Library, UM Creative Writing Department, MontanaPBS and Montana Public Radio.

MontanaPBS (KUFM-TV in Missoula, KUSM-TV in Bozeman, KUKL-TV in Kalispell, KBGS-TV in Billings, KUGF-TV in Great Falls and KUHM-TV in Helena) is a service of UM and Montana State University.

For more information, visit http://www.montanapbs.org/.

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**Contact:** Ray Ekness, director, UM Broadcast Media Center, 406-243-4154, ray.ekness@umontana.edu.
Mansfield Center Director Accepts National Leadership Position; Interim Director Named

November 20, 2018

MISSOULA – Maureen and Mike Mansfield Center Executive Director Abraham Kim will leave the center after serving five years to accept an opportunity with a national organization.

Kim will return to Washington, D.C., to serve as the head of a national leadership organization focused on Asian-American community, U.S.-Asia relations and leadership training.

“During his five years at the University of Montana, Dr. Kim has contributed tremendously to the UM community, the city of Missoula and the state of Montana,” said UM Provost Jon Harbor. “Dr. Kim is a big-picture thinker who challenged our community to think more globally. Equally important, he championed the Mansfield legacy and the spirit of civility and cooperation, raising the profile of the Center and UM across our region and internationally.”
Harbor announced Deena Mansour, Mansfield Center associate director, will serve as interim executive director, and a national search for a successor will begin soon.

Since starting his tenure at the Mansfield Center in 2013, Kim launched numerous innovative and global initiatives that drew top executives, innovators and policymakers from across Asia-Pacific region and the United States to UM. He actively worked to develop global education opportunities for UM students, faculty and staff. He also worked to build greater awareness, understanding and collaboration across diverse communities to address big picture global challenges.

“It was a great honor to play a small role in continuing the important Mansfield legacy and providing international opportunities at UM and for communities and leaders across Montana," Kim said. “I learned tremendously during my time here and will take a piece of Montana with me.”

Contact: Paula Short, director of communications, UM Office of the President, 406-243-5608, paula.short@mso.umt.edu.
UM to Celebrate Drone Week Nov. 26-30

MISSOULA – The University of Montana invites the public to campus to celebrate the sky-high possibilities of unmanned aerial vehicles during Drone Week, Nov. 26-30.

UM’s Autonomous Aerial Systems Office will host events featuring several student and faculty researchers, as well as an open house, to showcase its offerings for both on- and off-campus groups. The schedule follows.

Monday, Nov. 26

- **10-10:50 a.m.** – “Drones, Normalized Difference of Vegetation Index and Lessons Learned,” presented by UM wildlife biology student Bart Bauer, University Center Room 332.
- **2-2:50 p.m.** – “Drones and Wildlife: Sharing the Airspace Safely,” presented by UM Division of Biological Sciences Professor Erick Greene, UC Room 332.

Wednesday, Nov. 28

- **10-10:50 a.m.** – “Using UAVs to Map Lichen Cover Within Caribou Ranges,” presented by UM wildlife biology Ph.D. student Eric Palm, UC Room 332.
UM to Celebrate Drone Week Nov. 26-30 - UM News - University Of Montana

- **2-2:50 p.m.** – “Drones in TV, Film, News and Social Media,” presented by Tyson Dupuis, UAV World Systems, UC Room 332.
- **3-5 p.m.** – Come fly a drone in Schreiber Gym!

**Thursday, Nov. 29**

- **10-10:50 a.m.** – “UAS Platform Development for Gathering Weather Data,” presented by UM computer science graduate student Fred Bunt, UC Room 332.

**Friday, Nov. 30**

- **10-10:50 a.m.** – “Evolution of UAVs in Fire,” presented by Dr. LLoyd Queen and Dr. Carl Seielstad of UM’s Fire Center, UC Room 332.
- **2-2:50 p.m.** – “UAVs for Freshwater Ecology,” presented by Diane Whited of the Flathead Lake Biological Station, UC Room 332.
- **3-5:30 p.m.** – AASO Open House, Interdisciplinary Science Building Room 107.

Established in 2015, UM’s AASO centralizes the UAS resources for research and Federal Aviation Administration regulation and safety guidance. For more information visit [http://www.umt.edu/aaso](http://www.umt.edu/aaso).

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**Contact:** Jaylene Naylor, assistant director, UM Autonomous Aerial Systems Office, 406-529-9174, jaylene.naylor@umontana.edu.
MISSOULA – Join the “Backroads of Montana” crew as they look at some of the most notable, interesting and unique collections featured on the program.

The award-winning travelogue premieres a new special titled “The Collections” at 7 p.m. Tuesday, Nov. 27, on MontanaPBS.

"It's fun to look back and see some of the people who have started interesting collections," host William Marcus said. “There's everything from hankies to antique telephones to Tonka trucks.”

For more than 25 years, “Backroads of Montana” has told the stories of interesting people, out-of-the-way places and unique events that make Montana so special.

Marcus and the three producers of the program, Gus Chambers, John Twiggs and Ray Ekness, narrate the special program.
“The Collections” will re-air at midnight Wednesday, Nov. 28, and 11 a.m. Thursday, Nov. 29.

MontanaPBS (KUFM-TV in Missoula, KUSM-TV in Bozeman, KUKL-TV in Kalispell, KBGS-TV in Billings, KUGF-TV in Great Falls and KUHM-TV in Helena) is a service of the University of Montana and Montana State University.

For more information, visit http://www.montanapbs.org/.

Contact: William Marcus, MontanaPBS “Backroads of Montana” host, william.marcus@umontana.edu.

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UM’s EPIC Pitch Competition Awards Over $3,000 in Cash and Prizes

November 16, 2018

MISSOULA – Cultivated by Native Montana, a business plan developed by the American Indian Business Leaders club at the University of Montana, captured the top $1,500 prize during the recent EPIC Pitch Competition at UM.

Cultivated by Native Montana, or CBNM, is a sustainable, vertical garden business that uses aquaponics to grow fresh crops for the community of Busby, which is located on the
Northern Cheyenne reservation. CBNM's mission is to provide a sustainable source of locally grown, fresh, nutritional foods for the people of the Northern Cheyenne Nation, and it creates a framework for other reservations to follow suit.

The Idea for CBNM came from recent UM graduate Courtney Little Axe, and she was represented in the competition by Jordynn Paz, Dominique Nault and Richard Mittens.

With the win, CBNM gains automatic entry into the larger annual statewide John Ruffatto Business Startup Challenge taking place at UM on April 13, 2019.

Blackstone LaunchPad at UM and the UM College of Business hosted the EPIC Pitch Competition on campus in the Gilkey Building. Eight UM students pitched their business ideas with the hope of winning a portion of $3,000 in prize money.

The award for Most Exciting Startup Idea went to Patrick Berens, who has a master’s in business analytics at UM. Patrick pitched his idea for Serapis Systems, an online insurance broker offering personalized analysis of all eligible private health insurance policies. Berens was awarded $500.

Most Compelling Live Presentation went to Mary Weikum and Patrick Wartrick, who presented their idea for Bits & Brews – a haven for like-minded gamers that offers rentable gaming booths and hosts competitive video, card and board gaming tournaments, creating a gaming venue with an atmosphere that’s perfect for hosting parties and events. They were awarded $500.

The Autumn Athena Award, presented to the most dynamic female competitor, one who embodies leadership, drive, passion and accomplishment, was awarded to Jordynn Paz. She was awarded $500.

Additional students pitching their ideas were Alexa Coyle and Mariah May with The Waiter App, Kassi Strong with Peak Retreats, Colton Kreamer with Lazy K Innovations, Austin Hawks with Disc Golf Ringer, and Cody Guy with Lean In Performance.
This year's EPIC Pitch competition was made possible by the generous contributions of lead sponsors First Security Bank.

Blackstone LaunchPad at UM is a center for entrepreneurship for students, alumni, faculty, and staff at the University of Montana. The organization offers free services to assist entrepreneurs in turning their ideas, skills and passions into real world businesses and nonprofit organizations through individualized coaching and venture creation support.

UM's College of Business has helped launch the careers of Montana's leaders and innovators since 1918.

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**Contact:** Paul Gladen, director, Blackstone LaunchPad at UM, 406-243-5723, paul.gladen@umontana.edu.
UM’s Music Education Masters Ranked Among Best Online Programs

November 16, 2018

MISSOULA – The University of Montana’s master’s degree in music education was recently named one of the top programs in the nation by OnlineMasters.com.

The Master of Music with an Emphasis in Music Education in UM’s School of Music offers advanced training in the teaching and learning of music. The online or summer master’s program is designed for those who are certified in K-12 teaching.

OnlineMasters.com uses several metrics to rank accredited online programs at universities and colleges across the country. Metrics include academic quality; faculty credentials; surveys of current students and alumni; student services and technology; and student engagement.

The ranking celebrates UM’s program as a master’s degree designed for those “who are interested in expanding research and teaching skills, working on capstone projects that could include designing curriculum, creating new and exciting tools to meet the needs of students in 21st-century classrooms.”
Read the full rankings online at https://www.onlinemasters.com/best-degree-programs/education/music-education/.

Learn more about UM’s music education master’s degree at https://www.umt.edu/music/academics/degrees/master-of-music/default.php.

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**Contact:** Maxine Ramey, director, UM School of Music, 406-243-6880, maxine.ramey@umontana.edu.
MISSOULA – MontanaPBS is pleased to announce the restoration of over-the-air public television service in the communities of Pablo, Polson, Ronan, Hot Springs, St. Ignatius and Arlee.

Over the past year, MontanaPBS has worked cooperatively with Salish Kootenai College, the Federal Communications Commission and local landowners to transfer broadcast translator licenses, transmission equipment and site leases.

“The technical challenges and the federal regulatory process to restore service have been complex,” said Dean Lawver, director of technology for MontanaPBS, “but as the result of a great partnership with Salish Kootenai College and with help from members of the community, it has all come together.”

Local viewers using antennas in the affected communities are encouraged to rescan their televisions and tune in MontanaPBS’ five channels: 46.1 through 46.5. Those include MontanaPBS’ primary high definition channel at 46.1, which offers the national PBS schedule and local MontanaPBS programs, MontanaPBS’ Kids channel at 46.2, MontanaPBS Create at 46.3, MontanaPBS World at 46.4 and the Montana Public Affairs MPAN channel at 46.5.
“We are delighted to bring national PBS programming back to the Flathead Reservation this fall, as well as Montana-made documentaries, public affairs programs and viewer favorites like ‘Backroads of Montana,’” said Ray Ekness director of the Broadcast Media Center at the University of Montana.

The restored translators reach households across the majority of the Flathead Reservation, as well as some viewers in Flathead, Missoula and Sanders counties.

MontanaPBS is a cooperative service of Montana State University, KUSM-TV in Bozeman and UM, KUFM-TV in Missoula. The network has produced high-profile documentaries for statewide viewers, such as “Indian Relay” and “Playing for the World: The 1904 Fort Shaw Indian Girls’ Basketball Team,” as well as the recent “C.M. Russell and the American West.”

MontanaPBS translators on the Flathead Reservation also will serve the community as Emergency Alert System stations, broadcasting Amber alerts and national, local and regional emergency notifications, including weather alerts.

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Contact: Ray Ekness, director, UM Broadcast Media Center, 406-243-4154, ray.ekness@umontana.edu.
MISSOULA – Students at Missoula College of the University of Montana soon will have two more places to apprentice.

Design firm Morrison-Maierle Systems joined the fleet of businesses connected to the college on Nov. 14, while staff members from Dr. Nanette Ault’s periodontics office will sign up new apprentices from 3 to 4 p.m. Friday, Nov. 16.

The businesses will offer positions in the high-demand information technology and accounting sectors, respectively. The new apprenticeships will benefit students and industry alike, according to Dylan Rognness, MC apprenticeship liaison.

"The larger our network grows, the more opportunities students have," he said. "We’re one of the biggest talent pools in Missoula that’s largely untapped. The more bridges we can build in community – that will be a tide that raises all ships."
Each apprenticeship is essentially a 2,000-hour interview with the potential for long-term employment.

Students earn money while applying skills they learn in the classroom to a practical workplace. Businesses, meanwhile, receive a direct pipeline to talent in an otherwise tight labor market.

Accounting technician positions typically begin paying $13 to $16 per hour, with the potential to earn $16 to $17 per hour. Ault’s apprentice will provide financial support for the office and manage sensitive medical information.

Beginning IT positions typically earn $11 to $16 per hour, with the potential for making $15 to $18 per hour. The Morrison-Maierle Systems apprentice will field technical assistance questions, collaborate on projects and provide help desk support.

“On-the-job training is a powerful workforce development tool that should be more widely available to students as they advance their skillsets in preparation for their careers,” said Teresa Thomson, a Morrison-Maierle Systems client services coordinator. “We look forward to placing a student in the IT track as a systems computer technician this spring.”

MC’s apprenticeship offerings have grown considerably this year.

Over the past six months, 10 businesses partnered with the college to provide apprenticeships, making 15 total, including Providence St. Patrick Hospital, which offers Montana’s first CMA-level medical assistant apprenticeship program.

MC will continue to grow its industry partner network as faculty also work toward pre-apprenticeship pathways for high school students determined to enter the workforce quickly and capably.

“There’s no better way to prepare these students for hitting the ground running with technical skills than giving them that kind of on-the-job experience in a relevant industry with relevant training,” Rogness said.

For more information call Kevin Trevelyan, MC communications director, at 858-775-4412 or email ktrevelyan@umontana.edu.

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Contact: Kevin Trevelyan, Missoula College communications director, 858-775-4412, ktrevelyan@umontana.edu.
MISSOULA – Students from 21 Montana and Idaho high schools will participate in the 53rd annual Montana Model United Nations Conference on Monday and Tuesday, Nov. 19-20, at the University of Montana.

At the conference, 312 students will represent 110 of the United Nations’ 193 member states, debating and writing resolutions addressing important international issues.

Students will participate on one of five U.N. committees: the Security Council, International Organization for Migration, General Assembly First Committee (disarmament and security), General Assembly Second Committee (economic and financial) and General Assembly Third Committee (social and humanitarian).

Each committee is staffed by a team of UM students from Adjunct Professor Eva-Maria Maggi’s Model United Nations class, a service-learning course offered by the Department of Political Science.

Events begin at 8:30 a.m. Monday with opening ceremonies in the North Ballroom of the University Center. All events are free and open to the public. During opening ceremonies, Dr. Anna Conley will deliver a keynote address.
Conley is a civil deputy in the Missoula County Attorney's Office in Missoula and an adjunct professor in UM's Department of Political Science. She holds a Juris Doctor from the George Washington Law School and an LL.M. and Doctor of Civil Laws from the McGill University Faculty of Law.

Conley has participated in rule of law initiatives in Vietnam on criminal defendants' rights, freedom of assembly and access to justice. She recently traveled to Kyiv, Ukraine, to present public talks, media interviews and seminars regarding U.S. constitutional law, safeguards against judicial corruption in the U.S., judicial power in the U.S. and U.S. teaching methods. Conley has published extensively in international, comparative and constitutional law.

Students will work on the third floor of the University Center. They will meet in committees from late Monday morning through Tuesday afternoon. On Tuesday afternoon, each committee will have a UM faculty guest speaker.

At 7:15 p.m. Monday, students will participate in an international trivia game led by UM political science Associate Professor Abhishek Chatterjee.

Closing ceremonies will be held from 2 to 4:45 p.m. Tuesday in the UC North Ballroom. During the awards ceremony, high school delegates, schools and conference staff will be honored. Twenty-five high school seniors will be named Top Seniors, and five seniors will be awarded scholarships to attend UM.

The Montana Model United Nations Conference is funded by school and delegate fees, as well as contributions from the UM Office of the President, College of Humanities and Sciences, Department of Political Science, Enrollment and Strategic Communications and Associated Students of UM.

For more information, including committee topics, faculty guest speakers and participating high schools, see the Delegate Handbook posted on the MMUN website at http://hs.umt.edu/mun/hs-conference/default.php or email Maggi at eva.maggi@umontana.edu

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**Contact:** Dr. Eva-Maria Maggi, adjunct professor, UM Department of Political Science, 406-531-6037, eva.maggi@umontana.edu.
High School Students Gather at UM for Model UN Conference - UM News - University Of Montana
UM Archaeologist Named Regents Professor

November 15, 2018

MISSOULA – Dr. Anna Prentiss, a University of Montana anthropology professor and archaeologist, has been named the University’s 12th Regents Professor. The Montana Board of Regents approved the honor during its Nov. 15 meeting in Missoula. Prentiss’ new title is Regents Professor of Anthropology.
Regents Professor is the top rank awarded to faculty members in the Montana University System. Established in 1991, the Regents Professor title is earned by faculty members who demonstrate unusual excellence in instruction, scholarship and service, as well as distinctive impact through their work. The rank is awarded by the Board of Regents upon the recommendation of the University president. A full list of UM professors who have received the honor is online at http://www.umt.edu/provost/about/RegentsProfs.php.

“I’m just so very honored to be named Regents Professor – particularly given the extraordinary faculty on this campus,” Prentiss said. “I also feel incredibly fortunate to have been a faculty member for all these years in our UM Department of Anthropology among such a great group of colleagues and students.”

Prentiss earned her archaeology doctorate from Simon Fraser University in 1993. She joined the UM faculty in 1995 and became a full professor in 2009. Her research interests include hunter-gatherers, village societies, ancient technology, evolutionary theory, and the method and theory of archaeology.

Her fieldwork has taken her and the scores of UM students she has mentored around globe, from British Columbia and Alaska to Patagonia. She also recently served as a visiting scholar in the McDonald Institute for Archaeological Research at the University of Cambridge, England.

Prentiss has written and co-authored six books, including 2017’s “The Last House at Bridge River,” which details a
comprehensive study of a single-floor aboriginal home in British Columbia during the 19th-century Fur Trade period. She also has written 70 peer-reviewed articles, and her list of awards and accomplishments stretches her curriculum vitae to 43 pages.

“Dr. Prentiss’ well-regarded role as a consummate teacher and mentor compliments her impressive research record,” UM President Seth Bodnar wrote in nominating her for the honor. “She has mentored an impressive number of graduate students, many of whom now work at prestigious institutions themselves. Her students have co-authored many publications with her, and she has patiently mentored many students through successful grant proposal processes. Her students know her to be fully dedicated to their intellectual and professional growth.”

Bodnar continues: “She has been referred to by her colleagues as a ‘leading international voice,’ an ‘exemplary researcher,’ ‘one of the top authorities globally on the evolution of social complexity’ and ‘one of our most favorite colleagues in the world.’ I enthusiastically support her appointment as the next Regents Professor at the University of Montana.”

Prentiss said her robust research agenda was developed as a byproduct of collaborations and partnerships with Canadian First Nations and Montana tribes.

“I am particularly thankful for our friendships and partnerships with Xwísten, the Bridge River Indian Band – part of the St'át'imc Nation in British Columbia – and also the Chippewa-Cree Tribe of Rocky Boy’s Reservation here in Montana,” she said.

At the Board of Regents meeting, Jenny McNulty, dean of UM’s College of Humanities and Sciences, said, “(Prentiss) embodies the idea of the scholar-teacher. Her students describe her as the best mentor ever.”

Contact: Anna Prentiss, UM archaeologist and anthropology professor, 406-243-2693, anna.prentiss@umontana.edu.
Experts to Discuss Potential Korean Unification at UM Event

November 15, 2018

MISSOULA – Two experts on Korea will visit the University of Montana to discuss “The Nexus of Politics & Economics: Is the Korean Peninsula on the Verge of Peace and Unification?” at 6:30 p.m. Thursday, Nov. 29, in Gallagher Business Building Room 106.

Thomas J. Byrne, president of The Korea Society, and Philip Yun, executive director of Ploughshares Fund and former senior adviser for the U.S. Department of Defense, will speak during the event. Sponsored by the Maureen and Mike Mansfield Center and the Montana World Affairs Council, the talk is free and open to the public.

After the landmark meeting between President Donald Trump and North Korea’s leader Kim Jong-un, prospects for peace on the Korean Peninsula seemed greater than ever. But as negotiations between the U.S. and North Korea drag on, tensions are rising once more.

North Korea has warned it could start rebuilding nuclear forces if sanctions are not removed, while the U.S. and Japan have reaffirmed the need to maintain sanctions until North Korea is denuclearized. While South Korea continues to support talks, the future of the peninsula looks more uncertain. Despite their shared history and
language, in the past several decades the two countries have grown steadily further apart in politics, economics and culture. Byrne and Yun will discuss the current political and economic challenges and opportunities that peace and potential unification face.

Byrne joined The Korea Society as its president in 2015. He previously served as senior vice president for the Sovereign Risk Group in the Asia-Pacific for Moody’s Investor Services. He teaches at Columbia University’s School of International and Public Affairs and Georgetown University’s Graduate School of Foreign Service.

Yun is the executive director of Ploughshares Fund. He previously served as vice president of The Asia Foundation, as well as senior adviser to the assistant secretary of state for East Asian and Pacific affairs and former Secretary of Defense William J. Perry. Yun was a member of a government working group that managed U.S. policy and negotiations with North Korea under President Bill Clinton and part of the U.S. delegation that traveled to North Korea with Secretary of State Madeline Albright in 2000.

UM’s Mansfield Center promotes better understanding of Asia, U.S. relations with Asia and ethics in public affairs in the spirit of Sen. Mike Mansfield (1903-2001) and his wife and life partner, Maureen Hayes Mansfield. The center houses programs that support these core interests and hallmarks of Sen. Mansfield’s career.

The Montana World Affairs Council is a nonpartisan, nonprofit organization dedicated to fostering global awareness and understanding in Montana’s classrooms and communities.


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Contact: Caitlin Sager, program manager, UM Maureen and Mike Mansfield Center, 406-243-2965, caitlin.sager@mso.umt.edu.
Experts to Discuss Potential Korean Unification at UM Event - UM News - University Of Montana

news@umontana.edu
UM to Perform ‘White Christmas’

November 14, 2018

MISSOULA – The University of Montana’s Theatre & Dance and Music schools are joining to present a holiday classic, Irving Berlin’s “White Christmas,” to audiences throughout November and December.

“White Christmas” is directed and choreographed by UM Associate Professor Pam Stiehl, with music direction by UM Professor David Cody. It will be performed at 7:30 p.m. on Nov. 20, 23, 24 and 28-30 and Dec. 1-2, as well as 2 p.m. on Nov. 24, 25 and Dec. 2 in the Montana Theatre of UM’s Performing Arts and Radio/TV Center.

General admission tickets cost $20, while senior and student tickets cost $16. Admission for children ages 12 and under is $10. Tickets are available by calling the UMArts Box Office at 406-243-4581 from noon to 5 p.m. Tuesday through Friday or ordering online at http://www.umt.edu/theatredance.

Based on a book by David Ives and Paul Blake and the beloved, timeless film, this heartwarming musical adaptation features 17 Irving Berlin songs. Veterans Bob Wallace and Phil Davis have a successful song-and-dance act after World War II. With romance in mind, the two follow a duo of beautiful singing sisters en route to their Christmas show at a Vermont lodge, which just happens to be owned by the veterans’ former Army commander. The dazzling score features well-known standards including “Blue Skies,” “I Love A Piano,” “How Deep Is the Ocean” and the perennial favorite, “White Christmas.”
“‘White Christmas’ is an homage to musical comedy in all its forms – from USO shows to vaudeville turns to movie musicals – as well as to patriotism, military service, romance, Americana and, of course, the holiday season,” Stiehl said.

For more information, call Stiehl at 303-709-8720 or email pamyla.stiehl@umontana.edu.

A complete schedule of UM School of Theatre & Dance productions for the academic year is online at http://www.umt.edu/umarts/theatredance/Season/18-19-season.php.

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**Contact:** Pamyla Stiehl, associate professor, UM School of Theatre & Dance, 303-709-8720, pamyla.stiehl@umontana.edu.
MISSOULA – The team behind the Montana Public Radio podcast “SubSurface: Resisting Montana’s Underwater Invaders” has won a prestigious 2018 Kavli Science Journalism Award.

The science journalism awards, administered by the American Association for the Advancement of Science since 1945, honor distinguished reporting for a general audience. Endowed by the Kavli Foundation, the awards are open to journalists worldwide, and entries came from 54 countries this year. Independent panels of science journalists select the winners.

Some winners include The New Yorker, BBC.
Montana Public Radio Podcast Honored with Science Journalism Award - UM News - University Of Montana

World Service and Germany's Hamburger Abendblatt, with topics such as male contraception, severe brain injuries and polar bears.

"These awards represent the highest quality in science journalism," said Rush Holt, AAAS chief executive officer. "Congratulations to the winners for their important and compelling stories."

The audio team from “SubSurface” earned a Silver Award and $3,500 for its coverage of invasive zebra and quagga mussels in Montana waters.

Montana was invaded in the summer of 2017 by microscopic aliens floating in the waters of the Tiber Reservoir in the northcentral part of the state near Shelby. The tiny organisms, which emit a glowing X-shape in the light of a microscope, were infant forms of invasive zebra and quagga mussels, species that already had invaded the Great Lakes with devastating impact. The organisms soon appeared in the Canyon Ferry reservoir east of Helena and downstream in the Missouri River.

The finding triggered immediate concern about the future health of Montana’s fisheries and led Nicky Ouellet of Montana Public Radio to mount an ambitious five-part podcast series. Ouellet is a 2016 graduate of the University of Montana's environmental science and natural resource journalism master’s program, and her podcast explores the destructive history of the mussels in other bodies of water, how they may have arrived in Montana, how they can be detected and controlled, and what political decisions are needed to ensure a unified effort to attack the pests.

As part of her reporting, Ouellet traveled to affected waters in Minnesota and Wisconsin.

“Nicky Ouellet stages a tour-de-force of reporting on the mussel invasion of lakes and waterways across the United States,” said judge Tina Hesman Saey, molecular biology writer for Science News. “All the while, she presents science in nuanced and engaging ways.”

Ouellet said “SubSurface” is MTPR's first venture into podcasting.
“We’ve been overwhelmed by our listeners’ support, as well as recognition from our peers and experts in the field,” Ouellet said.

The awards will be presented at a Feb. 15 ceremony held in conjunction with the 2019 AAAS Annual Meeting in Washington, D.C. To read a list of all winners, visit https://sjawards.aaas.org/.


MTPR is a public service of UM and broadcasts on 89.1 (KUFM) and 91.5 Missoula (K218AI); 91.9 Hamilton (KUFN; 89.5 Polson (K218BN); 101.3 Swan Lake (K267BJ); 91.3 Butte (KAPC); 91.7 Helena (KUHM); 91.7 Dillon (K219DN); and 89.9 Great Falls (KGPR).

Learn more at http://mtpr.org.

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**Contact:** Nicky Ouellet, Montana Public Radio reporter/podcast producer, 406-730-8502, nicky.ouellet@mso.umt.edu.
Montana Campus Compact Celebrates 25 Years

November 13, 2018

MISSOULA – Montana Campus Compact (MTCC), an 18-campus higher education consortium dedicated to advancing the public good, will celebrate its founding 25 years ago this week with a series of events.

“Campus Compact was begun with a simple vision to promote service learning and campus-community partnerships,” said Andrea Vernon, Montana Campus Compact executive director. “Now 25 years later, we support student and faculty development, compile and share statewide student volunteerism and engagement data, offer scholarships and awards, and host two successful statewide National Service programs – AmeriCorps and AmeriCorps VISTA.”

Vernon said MTCC is celebrating by launching a new scholarship named for one of its founding presidents, UM’s George M. Dennison, who along with seven other state, tribal and private college presidents started the compact in 1993.

The George M. Dennison Civic Engagement Scholarship is for current college students who have volunteered to improve their communities while actively pursuing a degree or certificate. The $1,000 scholarship is open to all
Montana Campus Compact Celebrates 25 Years - UM News - University Of Montana

current students from MTCC’s 18 affiliate institutions. More information can be found at http://bit.ly/2JQC9iZ.

Other MTCC anniversary celebration events are:

- National Campus Compact President Dr. Andrew Seligsohn will present a talk titled “Education for Democracy” at 2 p.m. Thursday, Nov. 15, in the Law Building Castles Center. He will discuss the important role higher education plays in building and sustaining democracy.
- Seligsohn will provide remarks to the Montana Board of Regents at 4:45 p.m. Thursday, Nov. 15, in the UM University Center Ballroom.
- The Montana Athletes In Service Award Ceremony will be held at halftime of the Griz-Cat football game Saturday, Nov. 17, at Washington Grizzly Stadium.

According to MTCC’s annual Student Engagement Survey, college students in Montana were responsible for $4.7 million in economic activity through their volunteerism in the 2017-18 academic year. Statistics show that 8,484 Montana college students served 211,649 hours statewide. Students listed benefits of increased communication skills, making a difference in the community and learning skills as the top three benefits of service. The survey included 11 higher education institutions across Montana.

MTCC is part of a larger nationwide consortium called Campus Compact, whose president will travel to Montana for the celebration and surrounding events. Seligsohn also will lead a faculty development lecture and work with the MTCC Advisory Committee on its strategic vision.

For more information call MTCC Associate Director Josh Vanek at 243-5175 or email vanek@mtcompact.org.

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Contact: Josh Vanek, Montana Campus Compact associate director, 406-243-5175, vanek@mtcompact.org.
MISSOULA – More than 40 citizenship candidates will take the Oath of Allegiance and become U.S. citizens at 9:30 a.m. Wednesday, Nov. 14, in the Dennison Theatre at the University of Montana.

U.S. District Court for the District of Montana Chief Judge Dana Christensen will preside over the ceremony, and Kelsey Lapsys, deputy clerk for the court, will administer the oath.

UM President Seth Bodnar will deliver a welcome. Guest speakers will include UM Provost Jon Harbor and U.S. Citizenship and Immigration Services Denver District Director Kristi Goldinger. Representatives of Sens. Jon Tester and Steve Daines and Rep. Greg Gianforte also will address the new U.S. citizens.

The UM Chamber Chorale and the Celebration Brass Quintet will perform during the ceremony. Alex Butler, Associated Students of UM president, will lead the Pledge of Allegiance. The UM ROTC will post and retire the colors. The Daughters of the American Revolution will assist with the ceremony. Students from local middle and high schools will observe the ceremony.
Contact: Debbie Cannon, USCIS public affairs officer, 720-852-6917, 202-281-6615, debbie.d.cannon@uscis.dhs.gov.
UM School Psychology Graduate Students Celebrate National Awareness Week

November 09, 2018

MISSOULA – The National Association of School Psychologists has designated Nov. 12-16 as National School Psychology Awareness Week and students in the University of Montana School Psychology Program will celebrate by providing a number of school- and community-based activities.

This year’s theme, “Unlock Potential. Find Your Password!,” highlights how thinking about specific skills, assets or characteristics as passwords can lead to positive growth. Throughout the week, schools across the country will be taking part in events and activities designed to generate energy and reinforce the connections that power thriving school communities.

Graduate students in UM’s School Psychology Programs in the Department of Psychology have organized a number of ways to celebrate the week by highlighting the importance of school psychologists in helping children succeed in school and in life.
“School psychologists have a critical role in supporting students' mental health and learning,” said Anisa Goforth, director of UM’s School Psychology Programs. “Graduate students are showcasing school psychologists' roles by doing a growth mindset and coping activity with kindergarteners at a local school. They are also doing a social-emotional learning activity with fourth-grade students at another school.”

UM graduate students also work closely with school psychologists in schools across Montana as part of their clinical training. School psychologists provide comprehensive services, from collaborating with teachers in developing reading curricula to conducting suicide risk assessments.

“Our graduate students learn how to appropriately assess students referred for autism or learning disabilities and conduct scientifically supported mental health interventions from highly skilled school psychologists, who are often UM graduates,” Goforth said. “School Psychology Awareness Week highlights the important work school psychologists do across the state of Montana.”

School psychologists are in high demand both nationally and in Montana. In a 2015 report by the Montana Office of Public Instruction, 98 percent of school psychologist positions were “difficult or hard to fill.”

“There is significant need for school psychologists in Montana,” Goforth said. “I receive phone calls from school districts across Montana and regionally, asking whether our graduates have found positions. All of our graduates get a job in their first year.”

NASP has put together a variety of resources that NASP members and other partners can access to coordinate School Psychology Awareness Week events and activities for their own schools and practice settings. Find them at www.nasponline.org/spaw.

To learn more about UM's School Psychology Programs, visit http://hs.umt.edu/psychology/school-psychology/.

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Contact: Anisa Goforth, director, UM School Psychology Graduate Training Programs, 406-243-2917, anisa.goforth@mso.umt.edu.
MISSOULA – The Montana University System Board of Regents will hold its next meeting Thursday and Friday, Nov. 15-16, in the University Center Ballroom at the University of Montana.

Board of Regents meetings are open to the public. An agenda for the two-day meeting is available at https://mus.edu/board/meetings/2018/Nov2018/Nov2018.asp. The meeting also will be livestreamed at https://mus.edu/board/meetings/Video/LIVE.asp.

The Board of Regents has full power, responsibility and authority to supervise, coordinate, manage and control the Montana University System, and to supervise and coordinate other public educational institutions assigned by law. The board consists of seven members, including one student regent, and is appointed by the governor with confirmation by the Senate.

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Contact: Paula Short, director of communications, UM Office of the President, 406-243-5806,
MISSOULA – The National Educational Telecommunications Association recently nominated the popular MontanaPBS travelogue program “Backroads of Montana” for an award. The program is one of two finalists in the Locally Sourced-Small Station category.

The NETA Awards honor public television’s best work in community engagement, content production, instructional media and promotion.

“We’re proud that our work has been honored by NETA,” said Ray Ekness, director of the University of Montana Broadcast Media Center and Missoula general manager of MontanaPBS.

“Backroads of Montana,” produced for more than 25 years by Ekness, Gus Chambers, John Twiggs and host William Marcus, highlights the people and traditions of the state.

“The NETA Awards are something that all of us in public media can be proud of,” NETA President Eric Hyppa said.
The awards will be presented at the 2019 NETA Conference and Corporation for Public Broadcasting Thought Leader Forum on Monday, Jan. 21, in Salt Lake City.

MontanaPBS (KUFM-TV in Missoula, KUSM-TV in Bozeman, KUKL-TV in Kalispell, KBGS-TV in Billings, KUGF-TV in Great Falls and KUHM-TV in Helena) is a service of UM and Montana State University.

For more information, visit http://www.montanapbs.org/.

Contact: Ray Ekness, director, UM Broadcast Media Center, 406-243-4154, ray.ekness@umontana.edu.
UM Faculty Members Invited to Apply for CoBRE Funding

November 08, 2018

MISSOULA – Full-time faculty members at the University of Montana are invited to apply for the Center for Biomolecular Structure and Dynamics’ NIH CoBRE research project grants. The work of the CBSD is supported by the National Institutes of General Medical Science IdeA program, as a Center of Biomedical Research Excellence (CoBRE).

The grants support researchers who conduct interdisciplinary research in the biomedical sciences that incorporate biophysical and molecular-structural approaches.

Letters of intent are due on Dec. 3. If invited to apply, the application due date is March 15, 2019. Funding for two CBSD CoBRE project investigators will become available Aug. 1, 2019.

The grants will provide $150,000 per annum in direct costs for up to two years. Applications must describe a research project that fits well with the scientific theme of the Center for Biomolecular Structure and Dynamics CoBRE.
This competition is open to all full-time UM faculty members. New and early-stage investigators are encouraged to apply.

For more information regarding this award, and to obtain instructions for submitting a letter of intent, email Sara Jestrab, CBSD program coordinator, at sara.jestrab@mso.umt.edu.

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**Contact:** Sara Jestrab, program coordinator, UM Center for Biomolecular Structure and Dynamics, 406-243-6003, sara.jestrab@umontana.edu.
UM Community Invited to Attend Virtual Conference on Accessibility

November 08, 2018

MISSOULA – All members of the University of Montana campus community are invited to learn more about accessibility in technology by attending the 21st annual Accessing Higher Ground Virtual Conference Wednesday through Friday, Nov. 14-16.

The virtual conference will feature 20 hourlong presentations streamed over three days in UM’s Todd Building Rooms 201 and 205.

Topics include social media, tech tools, creating accessible documents and more. The virtual conference schedule is available online at http://accessinghigherground.org/virtual/#virtagenda.

All members of the campus community are welcome to attend any sessions. No pre-registration is required, and there is no cost to attend.

The conference is co-sponsored by UM’s School of Extended and Lifelong Learning, Information Technology’s Accessible Technology Services and the Digital Accessibility Committee.
For more information call Zentz at 406-243-6434 or email marlene.zentz@umontana.edu.

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**Contact:** Marlene Zentz, senior instructional designer, accessibility specialist, UM School of Extended and Lifelong Learning, 406-243-6434, marlene.zentz@umontana.edu.
Movie Reveals Untold Story of the National Bison Range

November 08, 2018

MISSOULA

sponsored and produced by the Confederated Salish and Kootenai Tribes, will screen at the Wilma at 8 p.m. Thursday, Nov. 15.

The event is sponsored by the Maureen and Mike Mansfield Center at the University of Montana, the Wilderness Society and the National Wildlife Federation in support of the tribes.

The film shares the true story of the foundation of Montana’s National Bison Range long told by tribal elders but not widely shared until now.

In the 19th century, bison had been slaughtered to the edge of extinction and began to fade from the landscape Continental Divide and starting a herd on the Flathead Indian Reservation.
their communities and cultures to prevail in their efforts to care for the buffalo.

Using a cross-section of tribal members to reveal their history, the Confederated Salish and Kootenai Tribes and filmmaker Daniel Glick produced the 30-minute film to unveil a narrative that continues to reverberate today.

UM's Mansfield Center promotes ethics in public affairs and global mutual understanding in the spirit of Sen. Mike Mansfield (1903-2001) and his wife and life partner, Maureen Hayes Mansfield. The center houses programs that support these core interests and hallmarks of Sen. Mansfield's career.


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Contact: Caitlin Sager, program manager, UM Maureen and Mike Mansfield Center, 406-243-2965, caitlin.sager@mso.umt.edu.
MISSOULA – Former U.S. Vice President Joe Biden will visit Missoula during his “American Promise” tour at 7:30 p.m. Monday, Dec. 3, in the Dennison Theatre at the University of Montana. Doors for the event open at 7 p.m.

Tickets will go on sale at 10 a.m. Friday, Nov. 9, and cost $60 to $110. To purchase tickets, go to the UM Adams Center Box Office, call 406-243-4051 or visit https://www.umt.edu/griztix/. All tickets include a paperback copy of Biden’s No. 1 New York Times best-seller “Promise Me, Dad: A Year of Hope, Hardship and Purpose.”

Biden represented Delaware for 36 years in the U.S. Senate before serving as the 47th vice president from 2009 to 2017. As vice president, Biden addressed important issues facing the
nation and represented America abroad, traveling over 1.2 million miles to more than 50 countries. He convened sessions of the President's Cabinet, led interagency efforts and worked with Congress in his fight to raise the living standards of middle-class Americans, reduce gun violence, address violence against women and end cancer as we know it.

Since leaving the White House, Biden continues his legacy of expanding opportunities for all with the creation of the Biden Foundation, the Biden Cancer Initiative, the Penn Biden Center for Diplomacy and Global Engagement at the University of Pennsylvania, and the Biden Domestic Policy Institute at the University of Delaware. He also is the author of “Promises to Keep: On Life and Politics.”

“Promise Me, Dad” is an intimate memoir from Biden that reveals the most momentous year among the more than 45 he has spent in public life. Not just a recounting from a politician, the memoir is a personal story from a father, grandfather, husband and friend as he confronts the inevitability of devastating personal loss, while trying to balance his duty to his family and his country.

For more information call Thomas Webster, UM Dennison Theatre director, at 406-243-2853 or email thomas.webster@umontana.edu. Visit the event Facebook page at https://bit.ly/2PNpBhw.

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**Contact:** Thomas Webster, director, UM Dennison Theatre, 406-243-2853, thomas.webster@umontana.edu; Mandi Zillner, Knitting Factory national marketing director, 208-343-8883 ext. 115, mandi@KnittingFactory.com.

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**Get Involved**
Former Vice President Joe Biden to Bring Tour to UM - UM News - University Of Montana
MISSOULA – Crediting deans, chairs and faculty members for their hard work and dedication to students, University of Montana Provost Jon Harbor today announced the next steps in implementing a campuswide realignment of instructional budgets.

“This is a three-year process, and I am confident that the plans we’re implementing are sound, practical and actionable,” Harbor wrote in an email to students in which he described the process and key outcomes. In the same email, he noted that even with slimmer budgets, UM will invest more per student for instruction than it did when enrollment was much higher.

Under the plans submitted by the colleges and schools, the vast majority of UM’s current academic offerings will continue.

“In response to student feedback earlier this year, we asked the academic units to prioritize keeping a broad array of majors and concentrations as they developed their staffing plans,” Harbor said.
There are both planned reductions of faculty and additions in some areas. Overall, a net reduction of $5 million in expenditures for faculty on instructional general funds will be realized by the start of the 2022 fiscal year.

Reductions in tenured faculty will come from planned voluntary separation, including retirements, as well as some faculty members voluntarily moving to part-time and other sources of support.

There will also be reductions to non-tenured faculty, including adjuncts and lecturers. Harbor noted the specifics around personnel decisions are both a work-in-process and confidential, per University guidelines around employee privacy.

“The implementation timelines and other details are still being worked through by the deans and chairs in our academic departments,” he said.

An infographic on the provost’s website lists the proposed curricular changes in these plans, in which a small number of majors and options will be reconfigured or discontinued.

All current students will have a guaranteed path to complete their current degree and options, but UM won’t admit new students to programs that will be discontinued.

“Today, less than 2 percent of our students are in a program proposed for discontinuation, so we are making changes that respond to student interest,” Harbor said.

The plans also outline how academic programs will be supported with fewer faculty, including reducing duplicative courses, teaching some courses less frequently and eliminating or combining low-enrollment courses and sections, including some low-enrollment general education courses.

Harbor and UM President Seth Bodnar also reached out jointly to all current University employees to reaffirm evidence of UM’s exciting future.

“We look at UM’s current landscape and at our horizon with hope because we see evidence all across campus of our exciting future already taking shape,” they wrote. “We have confidence that our shared work is worthwhile, that we are capable and that momentum is building.”

The message included links that highlight UM investments in innovation, teaching and learning, the UM Core and Communities of Excellence.

Bodnar and Harbor concluded the message by writing: “And while the last few months have been difficult for our community, they have been necessary. The University of Montana is on the rise. And we look forward to working with you to ensure we continue to rise together for our students, faculty and staff.”

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Additional informational resources are available online.

Provost Harbor’s email to students on instructional staffing plans:
President Bodnar and Provost Harbor email to UM employees:

http://www.umt.edu/provost/initiatives/nov-7-letter-to-students.php

Provost website with background on realigning instructional budgets:

http://www.umt.edu/provost/initiatives/um-on-the-rise/default.php

Contact: Paula Short, UM director of communications, 406-243-5806, paula.short@umontana.edu.
FLATHEAD LAKE – Flathead Lake researcher Xiong Xiong peers into a clear glass jar filled with water, plant matter and a thin, 3-inch-long piece of plastic. It looks like a bristle from a broom or maybe a piece of fishing line.

Although Flathead Lake is well-known for its brilliantly clear, cold water, unseen pollutants may lurk in the seemingly pristine surface water.

Chinese postdoctoral researcher Xiong is spending a year at the University of Montana’s Flathead Lake Biological Station, working with Director Jim Elser to find out if tiny pieces of plastic are polluting the waters of Flathead Lake, and, if so, how
concentrated they are.

"It looks quite clean, but, if this clean lake is suffering from plastics, I want to check that," Xiong says.

**The Trouble with Microplastics**

Pieces of plastic smaller than 5 millimeters in size are known as microplastics, which include a wide variety of shapes – from fragments to fibers. One of these types, microfibers, is everywhere. Microfibers can even be found in a polyester T-shirt or fleece coat and carried into the water system after a normal load of laundry.

Plastic does not easily biodegrade. Natural processes break it into smaller and smaller pieces over the years without actually changing the structure. Broken-down plastic still floats around like suds in a bath tub decades after it went into the water.

In his first water sample from Flathead Lake, Xiong found a thin piece of plastic. Although larger than microplastics, bigger plastics also could become a problem, because they eventually break down into microplastics.

Microplastic is a huge pollution problem in water bodies around the world, especially in the oceans, where large piles of garbage accumulate. The largest ocean garbage patch is four times the size of the entire state of Montana in surface area – mostly composed of plastic that is slowly breaking down.

Most microplastic research is done on the ocean.

"I think people think it’s more serious in the ocean, but we want to find the situation in the freshwater inland because many people live inland, and we need the freshwater," Xiong says. “It may affect our daily life more directly than the plastic in the ocean.”

Xiong’s most recent work, including the work he did for his Ph.D. at the Institute of Hydrobiology, Chinese Academy of Sciences in Wuhan, China, includes testing highland freshwater lakes in the Tibetan Plateau for microplastics. Although a lot less people live on the Tibetan plateau than in the big cities of China, Xiong found the lakes still
contain microplastics at concentrations high enough to cause concern. He wants to see if a lake in the sparsely populated Flathead Valley of Montana might carry the same kind of baggage.

Microplastics may absorb toxins, which then can move up through the food chain and end up in fish. Even now, guidelines help regulate how much and what size fish should be eaten from Flathead Lake due to accumulated mercury. The suggested serving-size cards that state and tribal wildlife agencies pass out to anglers don’t factor in potential toxins from plastic.

Not only could microplastics potentially infuse wild-caught food, recent evidence also suggests that plastic particles are making it into commercial, bottled drinking water. Scientists from the State University of New York at Fredonia were commissioned by journalists to test for microplastics in bottled water, and they found them in almost all of the water they tested. The report was released in 2018, and although the study has yet to be peer-reviewed, it’s still indicative of a big problem.

Microplastics already have been found close to home in the Gallatin River in southwest Montana by Adventure Scientists, a nonprofit based in Bozeman. Citizen scientists collected water samples from 70 sites in the Gallatin watershed, revealing plastic pollution.

For his own tests for the presence of microplastics in Flathead Lake, Xiong has gathered water samples from 12 locations around the lake with his windsock-shaped sampling net. He tows the mesh net behind a boat, and it plucks up any particles in the water.

He also has piggy-backed on the long-term data sampling that happens every few weeks in Flathead Lake and its tributaries since the 1970s, known as the Flathead Lake Monitoring Program.

The FMP crew intercepts deposition samples, particles of what falls out of the air before it is deposited in the lake. Xiong has checked some of these samples to see if there are microplastics in them, finding a couple particles that are suspicious under the microscope but nothing definitive. He plans to test both his water and deposition samples in the next couple of months.

To test the samples, Xiong will use hydrogen peroxide to digest the organic matter in the sample, leaving him with only the particles that are suspected microplastics. He will determine if the particles remaining are actually microplastics by testing them with Raman spectroscopy or Fourier-Transform Infrared Spectroscopy.

Both techniques use specific kinds of light sent through the sample. They emit back a unique light pattern that can be used like a forensic examiner uses a fingerprint. This technique can identify the specific substance without destroying the sample.

“If we know what kind of plastics there are, it’s a way for us to find their source,” Xiong says.

The tourism that the Flathead Valley relies on for economic stability could be a factor. Xiong found that tourists were an important source of microplastics in Qinghai Lake, which is the largest lake in China.

Determining something about the source may help reduce the consumption of the most prevalent contributor. If Xiong finds mostly microfibers, the source could be laundry. If he finds particles, it might be bags or bottles.
Xiong hoped in coming to America that people would be more environmentally friendly than they are in China. He was surprised that plastic bags were free at all the stores here.

“In China we have to pay for the plastic bags, so people want to reduce or reuse the plastic bags, but here it’s all free,” he says.

**Plastic Problems in the Flathead Valley**

FLBS education coordinator Holly Church says she's equally surprised to see how plastic is used in the Flathead Valley. She helped with an Adopt-a-Highway cleanup effort in front of the bio station in late May.

“I’m horrified how much plastic that is just along our roadways,” she says. “If you just drive anywhere along here, there's plastic flapping on all the fences. It's everywhere here.”

The trash along the Highway 35 roadway blows into the lake. Church walked along the shoreline of the lake for a short distance when the water was low and collected a startling amount of trash that had washed up out of the lake – a whole box full, including the cap to a firework rocket, plastic bags, monofilament fishing line and pieces of PVC pipe.

Church also has pulled up plastic in the FMP's plankton net while out sampling.

Before Church moved to Montana, she lived and worked as a science teacher in California and Hawaii. Both states have taken the initiative to start getting rid of plastic, at least from stores.

Hawaii has gotten on board, because the state is starting to see pretty dramatic effects. Church says she has a handful of "confetti sand" from a beach in Hawaii – a jar of sand mixed with colorful plastic particles.

“I don’t think it’s something that we should continue to have in our environment,” Church says. “Now that we can’t recycle plastic in the valley, it’s even more of an issue. There’s got to be some kind of awareness increase.”

Church plans to set up a citizen science community lake cleanup project based at the bio station to help combat the amount of trash making it into the lake. Germaine White, Confederated Salish and Kootenai Tribes natural resources information and education program manager, said the tribes are hopeful that they can partner with Church in this effort.

Church thinks the community will be quick to pitch in when they become aware of the extent of the issue.

Involving schools in cleanups would raise awareness as well, according to Church. With the bio station’s expanding K-12 education program, there may be room for more pollution awareness in the curricula, since young kids form a
lot of the habits they will carry into adulthood.

Church agrees with Xiong that the oceans are receiving most of the attention and would like to see freshwater system receive more awareness – especially since there are far fewer cleanup programs for freshwater systems than for oceans.

Regardless of what Xiong’s findings show when he analyzes his samples, trash that goes into Flathead Lake still can be reduced. Decreasing washes of synthetic clothing, using tie downs or cargo nets to secure items in the back of vehicles or on top of cars, or even grabbing fewer plastic bags at the grocery store are all simple ways to help keep the lake blue and pristine into the future.

For updates and more information about Xiong’s work, visit the FLBS website at https://flbs.umt.edu/newflbs.

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Contact: Tom Bansak, assistant director, Flathead Lake Biological Station, 406-982-3301 ex. 229, tom.bansak@flbs.umt.edu; Ian Withrow, media/information specialist, FLBS, ian.withrow@flbs.umt.edu.
MISSOULA – A University of Montana researcher recently co-authored a new paper that combines changes in ancient Asian farming practices with state-of-the-art computer modeling to offer insights into the ways people adapt to climate change.

When the climate cooled in ancient Asia, making it increasingly difficult to grow certain crops, agrarian societies responded by moving away, turning to pastoralism, increasing trade or diversifying the types of crops they planted, suggests new research by Kyle Bocinsky of the University of Montana and Jade d’Alpoim Guedes of the University of California, San
These strategies eventually coalesced into the development of the Silk Road, d’Alpoim Guedes and Bocinsky argue. Their paper, published Oct. 31 in Science Advances, describes a computer model the co-authors developed that shows for the first time when and where in Asia staple crops would have thrived or failed between 5,000 and 1,000 years ago.

Bocinsky is a computational archaeologist who uses computer-based, analytical methods to study the past. He is a research associate with the Montana Climate Office in the W.A. Franke College of Forestry and Conservation and is part of the Montana Drought and Climate project, which works to transform climate forecasts into useful and relevant information for agricultural producers across the state.

D’Alpoim Guedes is an assistant professor in the Department of Anthropology and Scripps Institution of Oceanography at UC San Diego and is an archaeologist specializing in paleoethnobotany – the science of analyzing ancient plant remains – to understand how human subsistence strategies changed over time.

The co-authors developed their model by combining weather station data from across Asia with a global reconstruction of past temperatures to create a simulation of how temperature in Asia changed through time. Then they combined their reconstruction with a database of different grains recovered from archaeological sites across Asia. The result is a model that shows how changes in temperature affected what agricultural crops could and couldn’t grow in certain areas over time, and it offers insight into the ways people adapted to those fluctuations.

“It’s currently the only such model for this region and time period,” Bocinsky said.

The climate cooled dramatically in the region around 3,000 to 3,700 years ago, and the effects were most pronounced in high-latitude and high-altitude areas. In Mongolia and the Tibetan Plateau around 3,500 years before the present, broomcorn and foxtail millet would have failed about half of the time, and people eventually abandoned the crops in favor of more cold-tolerant wheat and barley.

The researchers also argue that cooling temperatures made it increasingly difficult to grow key grain crops across Northern China between AD 291 and 360 – something that may have ended up playing an important role in the relocation of the Chinese capital from Xi’an to what is now Nanjing, in the south of the country. Climate change also stimulated the development of transportation infrastructure across Asia, the co-authors state, including the later Sui Dynasty’s creation of China’s Grand Canal, now a UNESCO World Heritage Site.

The code used to create the model is open-source, and any user of the free statistical software R can download the package and run the analysis themselves. Researchers also are welcome to extend d’Alpoim Guedes and Bocinsky’s findings by running analyses on other crops and in other locations.

“It is even possible to modify the code and potentially project for future crop failures,” Bocinsky said. “We developed this simulation using open-source software and published in an open-access journal because we hope researchers will make use of it and even improve it.”

The study can be found online at http://bit.ly/2Den6Py.

This research was supported by National Science Foundation grants BCS-1632207 (to d’Alpoim Guedes) and SMA-
1347973 (to Bocinsky). D’Alpoim Guedes also received support from the Chiang Ching-kuo Foundation for Scholarly Exchange (JS027-A-15). Bocinsky, who is also affiliated with Washington State University and the Crow Canyon Archaeological Center in Colorado, received additional support as the William D. Lipe Chair in Research at the Crow Canyon Archaeological Center.

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**Video:**

https://umt.box.com/s/sp6d9bfquviz0wijup9x3ehdtbfhdwe1

This model output shows how temperature changes in ancient Asia affected where people could grow broomcorn millet, historically one of the most important crops in Northern China. The graphic represents the crop’s probability of being in niche – the likelihood that under a given climatic scenario people would be able to grow this crop. Areas below 75 percent represent a high likelihood of failure that may have been intolerable to farmers. This particular map tells several interesting stories: for example, at 3,500 years before present, millets could no longer be cultivated in high-altitude areas like the Tibetan Plateau or Mongolia. In these areas, people abandoned millets and replaced them with more cold-tolerant crops like wheat and barley during this time period.

**Contact:** Kyle Bocinsky, research associate, Montana Climate Office, Montana Forest and Conservation Experiment Station, 770-362-6659, kyle.bocinsky@umontana.edu.
UM Researcher Reveals How People in Ancient Asia Adapted to Climate Change - UM News - University Of Montana
MISSOULA – After months of intensive training, the University of Montana’s Grizzly Battalion Army ROTC outperformed 10 other schools in the Task Force East Ranger Challenge Competition at Fort Harrison, near Helena.

A team of 10 ROTC cadets from UM spent the past three months training on a variety of warrior tasks and battle drills, including rifle marksmanship, pistol marksmanship, climbing and rappelling, tactical combat casualty care, night land navigation, reacting to enemy contact, employing hand grenades and unit fires, calling for
indirect fire and executing a rotary wing air movement.

“The cadre and cadets at UM take full advantage of our location to implement tough and realistic training,” said Mackenzie Young, a competitor on the UM Ranger Challenge team. “Compared to other schools around the nation, the Grizzly Battalion has more opportunities than many of the other schools we competed against.”

The competition is held annually at different host universities in the Pacific Northwest. This year, the Grizzly Battalion outperformed teams from California, Nevada, Washington, Idaho and other Montana schools to earn the title Task Force East Ranger Challenge Champions.

During the event, the cadets recognized the ultimate sacrifice made by two UM and Grizzly Battalion alum, First Lt. Joshua Hyland and Pfc. Kristofor Stonesifer.

“These two individuals lost their lives in 2005 and 2001, respectively, in support of Operation Enduring Freedom, and their sacrifice will never be forgotten,” said Tyler Bryant, UM ROTC assistant professor of military science.

The Grizzly Battalion Team will compete in the 8th Brigade, U.S. Army Cadet Command, Ranger Challenge Competition at Joint Base Lewis-McCord, Washington, in January. If they win, they will continue to compete in the Sandhurst Competition at West Point, New York.

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Contact: Tyler Bryant, assistant professor of military science, UM Army ROTC, 406-243-2769, tyler.bryant@mso.umt.edu.
MISSOULA – Documentary director and producer Robin Berghaus will visit Missoula Nov. 13-15 to participate in a number of events hosted by the Department of Physical Therapy in the College of Health Professions and Biomedical Sciences at the University of Montana.

Berghaus directed and produced “STUMPED” which documents the journey of Will Lautzenheiser, a Montana State University professor who visited the hospital in 2011 for pain in his leg that he thought was a muscle strain. The pain actually was caused by a life-threatening strep infection, and doctors had to amputate his arms and legs to save his life. While in rehabilitation, Lautzenheiser was introduced to the possibility of experimental surgery. In 2014, a donor match was found and he underwent a double-arm transplantation.

Filmed over four years, “STUMPED” follows Lautzenheiser as he redefines his identity and forges a new path with the support of his partner Angel, his family and a world-class medical team. It explores themes of resilience, committed caregiving and the life-changing potential of pioneering medicine.

In addition to lecturing at UM, Berghaus will host a screening of “STUMPED” at 6:30 p.m. Tuesday, Nov. 13, in the
University Center Theater. The event is free and open to the public, with an option to donate to UM’s New Directions Wellness Center, a physical therapy gym which operates as an adaptable learning lab for UM’s physical therapy students.

The UM Health & Medicine initiative will host additional film screenings UM students, and Berghaus will visit with medical residents in the Family Medicine Residency of Western Montana. Additionally, Montana high school students will have the opportunity to view the film and hold Q&A sessions with Berghaus on Nov. 14 and 15 via Inspired Classroom, a Missoula-based company which offers distance-interactive learning.

“STUMPED” screenings and director visits are sponsored by the UM Excellence Fund, the Montana Medical Association, New Directions Wellness Center, UMHM, the UM Department of Physical Therapy, the UM Rural Institute and the Western Montana Area Health Education Center. For more information call Martha Robertson, Western Montana Area Health Education Center program coordinator, at 406-243-7946.

Contact: Martha Robertson, UM Western Montana Area Health Education Center program coordinator, 406-243-4746, martha.robertson@mso.umt.edu.