

The Montana State University Magazine

MOUNTAINS & MINDS

FALL 2016



MAKING THEIR PLACE

*Students from Montana reservations
share challenges, aspirations*

MontanaPBS director Scott Sterling (from left) is assisted by Caroline Janssen and Addison Maierhauser during summer filming of the award-winning *11th & Grant with Eric Funk*. See page 22.

On the cover: Vonnda Lei, a senior from Lame Deer, said a better future for her son Jadrian, 4, and herself was the driving force behind her decision to get a nursing degree from MSU. See page 12.

PHOTO BY ADRIAN SANCHEZ-GONZALEZ



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MOUNTAINS & MINDS

Fall 2016 · Volume 10, Number 1

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CRUZADO KELLY GORHAM

Dear friends,

If you have been to MSU recently, you have seen a great deal of activity on your campus. Perhaps nothing symbolizes that excitement as much as the recent opening of Yellowstone Hall, the first MSU freshman residence hall built in nearly 50 years. Yellowstone Hall houses 400 students in a beautiful and innovative building.

We also recently broke ground on another ambitious project—Norm Asbjornson Hall—on the corner of South Seventh and Grant. The 110,000-square-foot building is funded by private donations, with a lead \$50 million pledge by MSU engineering graduate Norm Asbjornson. It will house parts of the MSU College of Engineering and Honors College and feature classrooms, laboratories and a 300-seat presentation hall.

The new 550-space MSU parking garage, located across the street from the busy Strand Union Building, is now under construction and scheduled to be completed in January. And we just broke ground on a new dining facility on the north edge of campus.

We are keenly aware that the true mark of growth of any university does not lie in the number of new buildings, but in the quality of education provided to its students. We have much news to report in this area as well.

This year, 16,440 students enrolled in MSU, our largest enrollment ever. MSU also is attracting Montana's best and brightest students in record numbers, as 144 Montana University System honors scholarship recipients enrolled at MSU this year. The test scores of the university's overall entering freshman class are among the highest in 27 years of recordkeeping. The average high school grade point average is 3.47, a record. The average ACT score is 25.3, which is among the highest on record.

The hallmark of our expansion of student services is the Hilleman Scholars Program, launched this summer. Fifty-one worthy high school graduates from Montana were selected for the program. For programs like the Hilleman Scholars and similar initiatives, MSU was recognized as one of five national finalists for the 2016 Association of Public Land-grant Universities Project Degree Completion Award honoring universities that are improving the retention and graduation of students.

This year, MSU also will devote special attention to diversity and inclusion. MSU will be working on a series of events and conversations that will enable us to produce MSU's first Diversity and Inclusion Plan.

We thank you for your support in helping us build a better future for our students and for all Montanans. Please join us for the many cultural, artistic, scientific and athletic activities planned this year at your university.

Waded Cruzado, president
 Montana State University



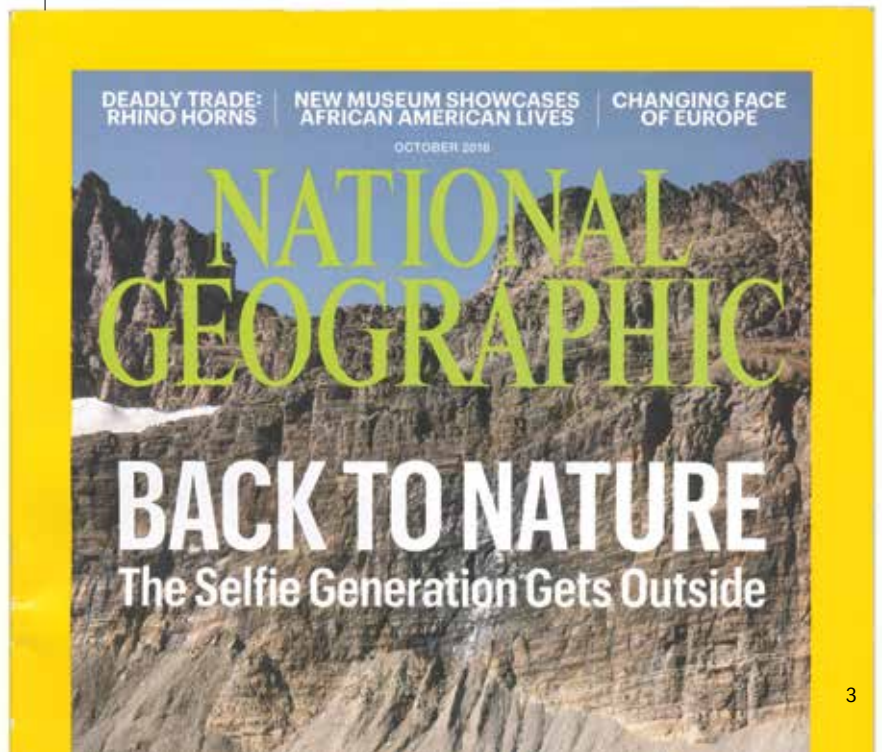
ASBJORNSON HALL MSU recently broke ground on Norm Asbjornson Hall, future home of the MSU College of Engineering and MSU Honors College. The building is named for Norm Asbjornson (pictured above), an MSU alumnus and Montana native from the small town of Winifred who in 2014 pledged \$50 million for the building and the university's new South Campus Project. The project is also supported by \$20 million more in matching contributions from hundreds of donors. Several of the major donors whose gifts made a significant difference to the project include Tim and Mary Barnard, the Gianforte Family Charitable Trust, the estate of Bill Wurst and the estate of Marjorie Thorson. But Chris Murray, president and CEO of the MSU Alumni Foundation, the fundraising arm of the university, said many of the gifts that helped meet the match ranged from as little as \$10 to as much as \$5 million. The 110,000-square-foot building to be located at the corner of seventh and Grant, is slated to be completed in 2019.

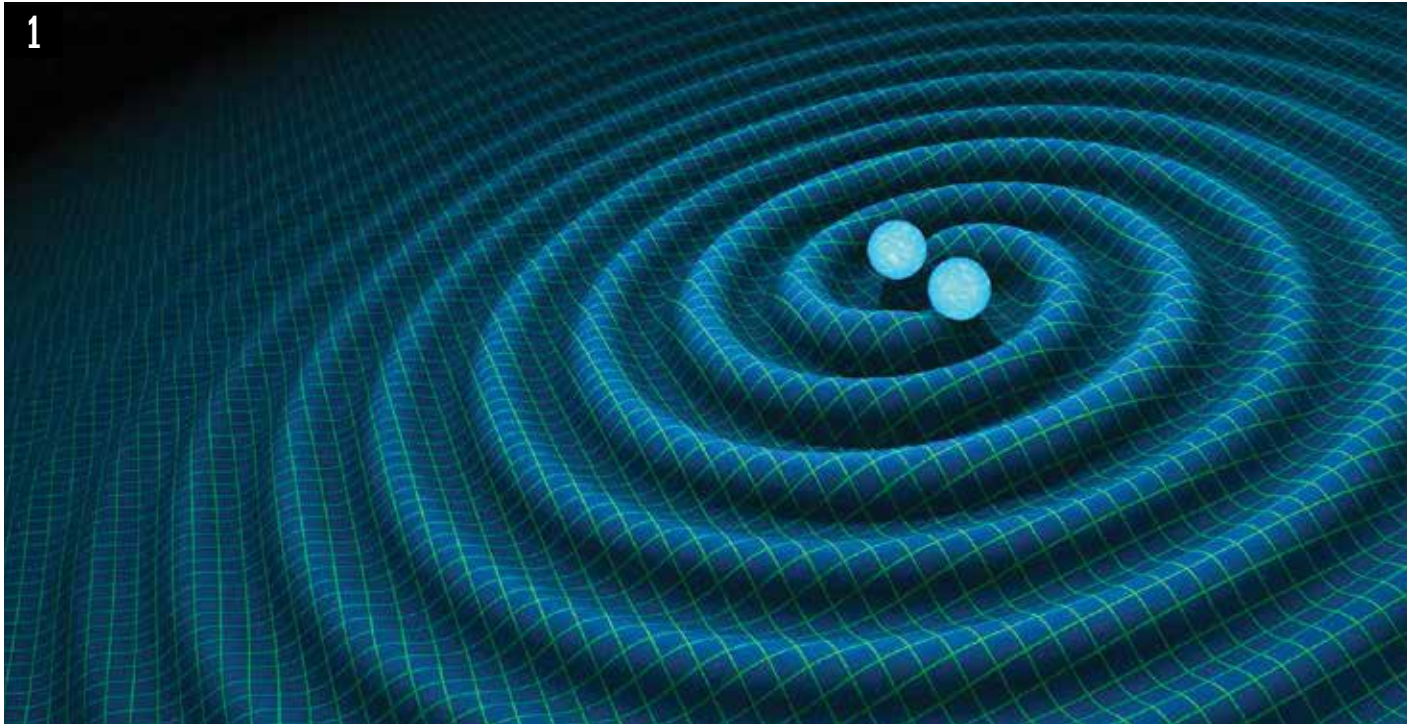
MSU STUDENTS IN NATIONAL GEOGRAPHIC

The cover of the October 2016 issue of *National Geographic* magazine featured MSU students, illustrating the magazine's feature, "Unplugging the Selfie Generation," about the millennials and the national park system. In addition, the feature also includes a photo of MSU students relaxing in Yellowstone Park's Boiling River.

BIOGRAPHER SEEKS INFORMATION ABOUT FORMER MSU PROFESSOR SARAH VINKE

Biographer Henry Gurr is seeking information about Sarah Vinke, a former Montana State professor, and her role in the 1974 best-selling book, *Zen and the Art of Motorcycle Maintenance*, by Robert Pirsig. Vinke taught at MSU from 1945 to 1961 and played a key role in inspiring Pirsig. She passed away in 1978. Gurr can be reached at henrygurr@gmail.com





1. GRAVITATIONAL WAVES R. HURT/CALTECH-JPL 2. HILLEMAN SCHOLARS ADRIAN SANCHEZ-GONZALEZ 3. NATIVE STUDENTS KELLY GORHAM 4. FIEGE KELLY GORHAM 5. PRISCU JT THOMAS.

AT MONTANA STATE UNIVERSITY

1 MSU RESEARCH POSTS ONE OF STRONGEST YEARS ON RECORD

Montana State University's research enterprise had one of its strongest years on record. During fiscal year 2016, MSU posted highs in nearly every research measure, from expenditures to new grants and dollars awarded to publications, outreach and awards. MSU showed significant strength in the areas of biomedicine and health, agriculture, engineering and the environment.

Pictured: MSU researchers were part of an international scientific team that detected gravitational waves a century after Albert Einstein predicted their existence. The work done by the team was part of a record-breaking year for MSU research.

2 MSU INAUGURATES HILLEMAN SCHOLARS PROGRAM

MSU launched the Hilleman Scholars Program this summer to support the academic and leadership skills of students of potential from Montana. The inaugural class included 51 incoming freshmen from throughout the state. Hilleman Scholars are eligible for up to \$8,000 for their first year and \$4,000 per year thereafter. Scholars also may be eligible for an additional \$3,000, available at the end of their junior years, to apply toward study abroad experiences. They also receive academic and other support throughout their college careers. The program is named after Montana native Maurice Hilleman, the world's leading vaccinologist. Hilleman developed more than 40 important vaccines, including nine of the 14 most commonly given to children.

Pictured: Hilleman Scholars Naquan Williams, left, and Dale Morehouse-Huffman

3 MSU NAMED TO INDIAN COUNTRY TODAY'S LIST OF TOP UNIVERSITIES FOR NATIVE STUDENTS

MSU was named one of *Indian Country Today's Five Universities for Native Students to Check Out: 2016 Hot List*, an annual national listing of colleges and universities that offer support and scholarships for Native American students.

4 FIEGE NAMED WALLACE STEGNER ENDOWED CHAIR

Mark Fiege (pictured), a historian known for his writing and thinking about the environment of the American West and the country's national parks, has been selected as the Wallace Stegner Endowed Chair in Western American Studies at MSU. Fiege is the author of critically acclaimed books in the area of environmental history. He served as the Wallace Stegner Visiting Professor at MSU during the 2015 spring semester and was recently appointed to the chair permanently in a tenured full professorship.

MSU SETS NEW ENROLLMENT RECORD

Montana State University set a new enrollment record this fall with 16,440 students. The number of Montana residents, both entering as freshmen and across all classes, is the highest in the university's 123-year history, with 1,784 Montanans entering as freshmen and 10,122 Montanans attending overall. With this fall's enrollment, MSU has set an enrollment record in 12 of the last 14 years, with continuous enrollment growth since 2008.

5 SCIENTISTS WIN GRANT TO STUDY ANTARCTIC ICE SHEET

MSU researchers and their national and international team have been awarded a \$1 million National Science Foundation grant to study a previously unexplored lake buried deep beneath Antarctica's ice sheet. John Priscu, a professor in the Department of Land Resources and Environmental Sciences in MSU's College of Agriculture is the chief scientist of the team, Subglacial Antarctic Lakes Scientific Access team. He said the funding will enable the researchers to travel to a remote part of Antarctica, where they will drill through roughly 4,000 feet of glacial ice to reach one of the continent's subglacial lakes and, among other things, sample water and sediment.

Pictured: MSU researcher John Priscu takes a Niskin Bottle water sampler to a lab at an Antarctic field site for analysis.

MSU LAUNCHES DOIG COLLECTION

More than 300 people attended the September launch of the Ivan Doig archive at MSU. The launch featured recollections of the late Montana writer as well as a panel discussion of his work that included Carol Muller Doig, who explained that MSU's proposal for housing her late husband's extensive collection of letters, notes, photos and diaries was so compelling "it wouldn't let me have any other choice." Called "the dean of Western writers," Doig died of cancer last year at age 75.

6 MSU NAMED ONE OF BEST UNIVERSITIES FOR VETERANS

MSU was ranked 136th in a USA Today listing of 1,427 of the best colleges and universities for veterans. The ranking places Montana State in the top 10 percent nationally. MSU was the highest-ranked university in Montana on the list.

COSTELLO ASSUMES AD POST AT MSU

Leon Costello was named MSU's Director of Athletics. Costello, a former Division III basketball player at Loras College in Iowa, plans to continue the focus on student athletes and their successes on and off the field, while also reaching out to Bobcat supporters statewide for feedback.

MSU SCIENTIST, INTERNATIONAL TEAM ONE STEP CLOSER TO PRODUCING HIGHER QUALITY DURUM WHEAT

MSU scientist Hikmet Budak is part of an international team that has successfully sequenced the durum wheat genome. Budak, an internationally recognized plant geneticist, contributed to the mapping by identifying and editing the durum wheat genes using the genome editing system known as CRISPR (clustered regularly interspaced short palindromic repeats). Currently, his group is also working on using these newly discovered genes to improve the micronutrient quantity, protein content and stress resistance of the wheat. Durum wheat is the source of semolina, the key ingredient in pasta.

MUSEUM OF THE ROCKIES PLANS NEW CURATORIAL CENTER FOR THE HUMANITIES

The Museum of the Rockies broke ground for its new Curatorial Center for the Humanities, a 20,000-square-foot facility that will house MOR's history, archaeology, Native American, art and photography collections. The \$4 million project is funded completely with private support.

7 TWO MSU STUDENTS WIN UDALL SCHOLARSHIPS

Montana Wilson of Poplar and Elva Faye Agnes Dorsey of Browning have won the prestigious Udall Scholarship from the Morris K. Udall and Stewart L. Udall Foundation. Wilson and Dorsey, who won in the Tribal Public Policy category, are among 60 students from 49 colleges and universities selected as 2016 Udall Scholars.

Pictured: MSU students Elva Dorsey, left, and Montana Wilson

8 NEW YORK TIMES USES MSU SCIENTIST'S RESEARCH

A New York Times article, *A Fish Outlived the Dinosaurs. Can It Outlast a Dam?*, included research by Christopher Guy, affiliate professor in MSU's Department of Ecology. The piece, written by Joanna Klein, references Guy's research as part of its reporting on how pallid sturgeon are stuck between Montana's Intake Diversion and Fort Peck dams, preventing them from traveling upriver far enough to ensure hatched embryos will develop fully. The research paper was published in 2015 in the journal *Fisheries*.

Pictured: MSU graduate student Luke Holmquist releases a 19-year-old hatchery-reared female pallid sturgeon.

9 TOWNE'S HARVEST GARDEN TURNS 10

MSU's Towne's Harvest Garden celebrated its 10th anniversary recently. All produce at the three-acre farm, located west of campus, is grown organically by MSU students. The farm is a joint project of the College of Education, Health and Human Development and the College of Agriculture.

Pictured: Kyrie Bitterman, an MSU junior majoring in sustainable food and bioenergy systems, helps a customer at Towne's Harvest Garden food stand outside the Strand Union Building on campus.

"ICE PATCH" SCIENTISTS WIN CAMP MONACO PRIZE

Three MSU-affiliated scientists have won the \$100,000 Camp Monaco Prize from the Buffalo Bill Historical Center's Draper Natural History Museum, the University of Wyoming's Biodiversity Institute and the Prince Albert II of Monaco Foundation-USA. Craig Lee, Gregory Pederson and Dave McWethy received the prize from HSH the Sovereign Prince Albert II of Monaco in ceremonies held in Monaco. The scientists plan to use the prize to help them study the ancient material uncovered by rapidly retreating mountain ice patches.

MSU AND PARTNERS AWARDED \$20 MILLION GRANT TO ADDRESS NATIVE HEALTH DISPARITIES

MSU and several partners have received a five-year, \$20 million grant from the National Institutes of Health to address health disparities facing Native communities in Montana and Alaska. Allen Harnsen, professor in the MSU Department of Microbiology and Immunology, will co-direct the new American Indian-Alaska Native Clinical and Translational Research Program with Dr. Jay Butler of the Alaska Native Tribal Health Consortium.

10 MILLER DINING COMMONS WINS GRAND PRIZE

MSU's recently revamped Miller Dining Commons received the grand prize for residential dining concepts in the National Association of College and University Food Services' annual Loyal E. Horton Dining Awards. Miller Dining Commons offers a contemporary setting, with food prepared and served in the open rather than in a separate kitchen area, many new seating options, a coffee bar and a diverse menu with healthier options.

PETERS, GRADUATE STUDENT PUBLISH RESEARCH IN JOURNAL SCIENCE

MSU professor John Peters, chemistry, and graduate student Stephen Keable and colleagues recently announced that sunlight or artificial light can break down nitrogen with a much smaller carbon footprint than a century-old process used by industry to produce the ammonia found in fertilizers. The results were published in *Science*. The new method combines light, nanomaterials and a natural enzyme that turns nitrogen into ammonia, a finding that has implications for food and alternative fuel production.



11



12



14



15



13



11 CALIFORNIA CONDOR VICTORIA BAKKER 12 LINDSAY KELLY GORHAM 13 OIL/GAS LEAK ADRIAN SANCHEZ-GONZALEZ 14 MSU AD SCOTT CHESTNUT AND ANDY HAHN 15 WOODRUFF SEPP JANNOTTA

11 BAKKER CO-AUTHORS PAPER ON PLIGHT OF CALIFORNIA CONDOR

Victoria Bakker, MSU assistant research professor of wildlife, fish and conservation biology, co-authored a paper published in *Environmental Science and Technology* detailing how high levels of pesticides and contaminants from marine mammals could hamper the recovery of the California condors that feed on them. The contaminants in question have been found to harm reproduction in other birds and could pose a threat to the ongoing recovery of California condors, according to the study, which was published recently in the journal.

Pictured: California condor.

12 MSU SCIENTIST WINS NASA FELLOWSHIP TO EXPLORE EARLY LIFE ON EARTH, OTHER PLANETS

Melody Lindsay (pictured), an MSU graduate student in microbiology and immunology, has won a NASA fellowship to continue her research in Yellowstone National Park. Lindsay, a Honolulu native who wants to better understand early life on earth and the potential for life on other planets, received a one-year, \$30,000 fellowship with the potential to renew it for two additional years.

13 MSU TEAM FINDS BACTERIA'S POTENTIAL FOR PLUGGING OIL AND GAS LEAKS

A team of MSU researchers has demonstrated the potential for biofilm and mineral-producing bacteria to stop tiny, hard-to-reach leaks in underground oil and gas wells through a process called microbially induced calcite precipitation. In a recent successful experiment, researchers from MSU's Center for Biofilm Engineering used *Sporosarcina pasteurii* bacteria, which produce calcite, the hard mineral that constitutes limestone and marble, to seal microscopic fissures in a test well.

BIRKY NAMED MUS STUDENT REGENT

Gov. Steve Bullock named Levi Birky, the former MSU student body president from Kalispell who this spring won a Truman Scholarship, to a one-year term on the seven-member Montana Board of Regents. During his appointment, Birky, a senior majoring in broad field social studies education in the College of Education, Health and Human Development as well as the Honors College, will be the sole student voice on the board that governs the Montana University System, which includes more than 40,000 students and a budget of \$1.54 billion.

14 MSU COMMERCIAL, MAGAZINE WIN NATIONAL HONORS

An MSU institutional commercial about the making of the documentary *Unbranded* by MSU faculty and graduates was honored as the top university commercial or public service announcement in the country at the Council for Advancement and Support of Education's 2016 national Circle of Excellence awards program. The MSU advertisement also won the Emmy for single spot commercial at the 53rd Annual Northwest Regional Emmy Awards. *Mountains and Minds*, the university's flagship magazine produced by MSU University Communications staff members, also was recognized, winning a bronze medal for the best general interest magazine with a circulation of fewer than 29,999.

Pictured: An MSU television ad featured the team of MSU alumni and faculty who made the popular mustang documentary *Unbranded*. Members of the team featured in the ad included (left to right): Dennis Aig, director of the MSU School of Film and Photography, and MSU alumni Katie Roberts, Sam Hedlund, Phillip Baribeau, Paul Quigley and Will Lake Springstead.

BOTHNER IS NEW DIRECTOR OF MONTANA INBRE

Brian Bothner, professor in MSU's Department of Chemistry and Biochemistry, was recently named the new director and principal investigator of the Montana IDEa Network of Biomedical Research Excellence, or INBRE, program. Bothner is also acting director of the Proteomics, Metabolomics and Mass Spectrometry Facility at MSU. Montana INBRE is a collaborative network of Montana-based universities, colleges and research institutions that invests in the state's biomedical research capacity and workforce pipeline.

MSU'S WWAMI MOVES TO HOSPITAL

MSU's WWAMI Medical Education Program moved to a new office building at Bozeman Health Deaconess Hospital. The new facility includes two large classrooms, several offices and other facilities, which roughly doubles the space available to Montana WWAMI students and faculty. The move will help strengthen the program's collaboration with Bozeman Health and local physicians, as well as provide space for the MSU College of Nursing.

15 MSU PALEONTOLOGIST FINDS THAT LIGAMENTS IN SOME DINOSAURS' NECKS HELPED THEM GRAZE MORE EFFICIENTLY

Ligaments in the long necks of certain sauropods probably helped them graze more efficiently, according to an article in *Historical Biology* published by MSU paleontologist Cary Woodruff (pictured). Woodruff said diplodocid sauropods had split spines that may have supported two elastic ligaments, storing and releasing energy as the animals swung their necks from side to side. His research helps explain why diplodocid sauropods used a sweeping motion to eat, while sauropods, with undivided spines, moved their heads up and down.

CALENDAR

NOVEMBER

- 7 **Western Lands and Peoples**
Charles Wilkinson, Museum of the Rockies
- 10-12 **Celebrate Agriculture! and Agricultural Economics Outlook Conference**
- 14 **Western Lands and Peoples**
Maile Meloy, Museum of the Rockies
- 17-18 **John Deere Agriculture Expo**
- 19 **Cat Griz Football** University of Montana

DECEMBER

- 1 **Holiday Authors Reception** College of Letters and Science, Bozeman Public Library
- 5 **Western Lands and Peoples**
David Theobald, Museum of the Rockies
- 7 **Montana Hall Lighting Ceremony and President's Holiday Reception**
SUB Ballrooms
- 17 **Fall Commencement**
Brick Breeden Fieldhouse

JANUARY 2017

- 10 **Spring Faculty Convocation**
Reynolds Recital Hall
- 10 **MSU Library Open House**
- 11 **Spring Semester** begins

FEBRUARY

- 16 **MSU Founders Day**
- 16 **Almost Spring Job and Internship Fair**
SUB Ballrooms
- 21 **Awards for Excellence**, SUB Ballrooms
- 25 **CROCS: Ancient Predators in a Modern World** Museum of the Rockies
- 28 **Nano Days/MicroDays**
Science Outreach Night

MARCH

- 25-26 **MSU American Indian Council Pow Wow**

APRIL

- 5-10 **MSU Spring Rodeo**
- 27 **Teach Montana Educators' Fair**
SUB Ballrooms
- 28 **Bobcat Fest** Downtown Bozeman

MAY

- 6 **Spring Commencement**
- 11 **W2: The Women to Women Conference**

For a complete MSU calendar of events, visit

WWW.MONTANA.EDU/CALENDAR

HOME GROUNDS

Yellowstone Hall, Montana State University's first freshman residence hall to be built in half a century, opened this fall on MSU's south campus. The state-of-the-art building was designed with student preferences for recreation, study, collaboration and new technologies in mind.

YELLOWSTONE HALL ADRIAN SANCHEZ GONZALEZ





making their place

Seven high-achieving MSU students who grew up on Montana reservations share challenges, high aspirations

story by Carol Schmidt · photos by Adrian Sanchez-Gonzalez

Bucking a national trend of enrollment decline of Native American students, enrollment of American Indian students has more than doubled at Montana State University in the last decade. In 2004, 268 Native students were enrolled at MSU. This fall, that number was 650. The largest enrollment of Native students is in the College of Nursing (6.5 percent, largely due to MSU's award-winning Caring for Our Own Program for Native nursing students), followed by the College of Agriculture at 3.7 percent. Many of these students are from Montana's seven reservations, among the smallest communities in the state.

MSU Native students uniformly say they experience unique challenges. They come from tribal

cultures that are largely absent at MSU, leading to isolation and loneliness. Their cultures require that they return home during family emergencies, something that doesn't coincide with university attendance requirements. Many experience financial hardship. And nearly all students profiled here have had to take breaks in their education for personal or financial reasons.

Yet, as their numbers at MSU grow, so do their achievements.

Here are the stories of seven high-achieving MSU American Indian students or recent graduates—one from each of Montana's seven reservations—and the paths they have taken to success.

FLATHEAD RESERVATION

JORDAN ADAMS

Confederated Salish and Kootenai Tribe


Senior majoring in animal science, livestock management and industry option

Adams came to MSU right out of high school. However, "the first couple of years were rough." She had her first child, Ella, now 4 (she also now has an infant son), and transferred to the University of Montana, where she realized that "teaching high school kids wasn't what I wanted to do." A year off working full time on her family's ranch, and tending to their herd of registered Black Angus cattle, helped Adams realize that it was the land and her family that was important to her. Since her return to MSU "my grades have done a complete 180."



I want to successfully run the ranch (after I graduate).
I want to be able to pass the ranch down to my kids
and watch my kids and grandkids run it.
It's what drives me.

—Jordan Adams



I haven't taken the conventional path, but that seems to work all right. ... Every time I go back to school, people say 'Why go back to school? You're already successful.' But, everyone in our family values education. So I'm taking my time to finish. And every time I go back I learn something new and important. Taking my time works for me.

—Ben Pease

I have a sense of duty that has played into my goals. I put in hard work. My philosophy has been, 'If you want to change something, lead it. If not me, who? And if not now, when?' People need to find a sense (of) future success so they will invest in their communities.

—Montana Wilson



Montana Duke Wilson, left, and his mother, Rosella Sky Arrow.

CROW RESERVATION

BEN PEASE

Crow and Northern Cheyenne Tribes
Senior majoring in studio art

At 26, Pease already has made his mark in the world of Western and Native art. His paintings are commissioned and represented by several regional galleries.

An athlete who played football at Minot State before transferring to MSU to study art, Pease said he comes from a long line of Crow artists. "I have been drawing since I was 4."

Pease's paintings, collages that incorporate historical photographs, vintage ledger paper, artifacts and mixed media, are critically acclaimed. He was featured as "One to Watch" in the August/September issue of *Western Arts and Architecture*.

FORT PECK RESERVATION

MONTANA WILSON

Gros Ventre of the Fort Belknap Indian Community, member of the Assiniboine and Sioux tribes
Senior majoring in political science and economics

Wilson's decision to take a year off from Dartmouth College, where he had won a scholarship, and his unexpected facility for writing a legal brief when he pitched in to detangle a tribal court backlog, led him to take and pass the Tribal Bar exam at age 21. After terms as tribal public defender and tribal prosecutor, Wilson decided to return to school at MSU, which was closer to family and tribal spiritual ceremonies. At MSU, he has been president of the MSU American Indian Council and was named a Udall Scholar in Tribal Public Policy.

Wilson would like to be an agent of change in the future, and either law school or a master's degree in economics are possibilities. Ultimately, he wants to focus on economic development for Native nations to better life on the reservation.

THEDRA BIRD RATTLER


Blackfeet Tribe

Recent graduate with a bachelor's degree in food and nutrition

Bird Rattler said she had a college degree “in my heart” since she graduated from high school at age 18. But, she started work right out of high school in jobs that included contract health assistant, secretary and customer service representative.


A job cooking for 61 young children at Blackfeet Early Childhood Center led to her passion for nutrition and serving others. In 2009, at the age of 46, she enrolled at MSU to earn a degree in nutrition. Last May, she went through graduation ceremonies on the same day as her eldest daughter. She is the first in her family to graduate from college. She plans to complete a required internship and would like to work in diabetes and preventive education on her reservation.

“Being an older student has held its challenges, but overall this college experience has been a great expansion of my academic capabilities and personal growth,” she said. “I have learned to live in two worlds and feel comfortable doing it.”

A woman with glasses and a patterned top is holding a young child in a light blue shirt and jeans. The child is holding a small orange object. They are in a room with wood-paneled walls and shelves filled with toys and figurines. A television in the background shows a woman's face. The woman is looking towards the camera with a slight smile.

Thedra Bird Rattler, right, and her daughter Yvette, left, hold 18-month-old twins Kylie and Kolton, at a family gathering. The twins are Bird Rattler's niece and nephew.

This summer Bird Rattler was selected for a prestigious Native American Research Internship in Salt Lake City. She said her colleagues, many destined for careers in medicine, inspired her. "And, they told me that I inspired them," she said. "Isn't that something?"

A photograph of two women, Kristie Russette and her mother Kim, working together in a kitchen. Kristie, on the right, is wearing a red tank top and has a tattoo on her left arm. Kim, on the left, is wearing a green patterned shirt and glasses. They are both leaning over a table, focused on a large clear plastic bag filled with a brown substance, possibly a food product. The background is a warm, slightly blurred interior space with a colorful abstract painting on the wall.

More (Native students) need to know that you can actually succeed here. We are often told in our high schools that we can't succeed in a university, that we should go to the tribal colleges, but, I've found we can. Even though there are challenges, Native students need to know, need to believe, they can succeed wherever they go. They need to believe they can do the work.

—Kristie Russette

Kristie Russette, right,
and her mother, Kim.



Music is the best way
to make me feel human,
to connect with others.

—Noah Jackson

ROCKY BOY RESERVATION

KRISTIE RUSSETTE

Chippewa-Cree Tribe

Senior, majoring in studio art and English composition

Russette is following in the footsteps of her late grandfather, who attended the University of Cambridge. She was salutatorian of her class at Rocky Boy High School but said she was “painfully shy” when she came to MSU as a freshman, until she found a mentor in the form of JoDee Palin, assistant dean in the College of Arts and Architecture. Now a McNair Scholar, a tutor in the English writing lab and a writing mentor in this summer’s inaugural Hilleman Scholars Program, Russette plans to earn a doctorate and work with Native students to ease the transition to tribal colleges and universities for Native students.

FORT BELKNAP RESERVATION

NOAH JACKSON

White Clay, Confederated Salish and Kootenai Tribes

Junior in music technology, freshman in music education

There were no music lessons in Fort Belknap, so Noah Jackson taught himself to play the piano and compose by listening to a broad range of music on the radio. Before transferring to MSU, Jackson graduated in computer information systems from Aaniiih Nakoda College because he was technologically adept and the tribal college did not have a major in music. That led him to MSU’s music technology program, where Jackson is thriving with the opportunity to “live and breathe music.”

This fall, motivated by his eight years of involvement with the Upward Bound enrichment program for educationally disadvantaged populations as both a student and then a resident adviser, he added a second major in music education to help him realize his goal of returning to the reservation to provide music classes and opportunities at his alma mater, Harlem High School.

“My goal is to set up a recording and music studio on the reservation,” Jackson said. “A lot of students back home are musically gifted. Music sends out a better message. It saved my life, and I think it will help others, too.”

NORTHERN CHEYENNE RESERVATION

VONNDA LEI

Northern Cheyenne Tribe
Senior majoring in nursing

Being in and out of doctors' offices with a newborn son, who was born the summer after she graduated from high school, inspired Lei to become a nurse. She asked her professors at Chief Dull Knife Community College where she should study.

"They challenged me to come to MSU," Lei said. "They said that the requirements are high. That made me want to come more."

Lei is one of 30 American Indian students who participate in the award-winning MSU Caring for Our Own Program (CO-OP), founded in 1999 to help improve the quality of health care in Native communities by increasing the number of qualified Native nurses entering the health profession.

"I've loved my experience with CO-OP—it's such a great support system," Lei said. She added that her summer internships in public health nursing have inspired her to work in that field in Lame Deer or Billings when she graduates in May.

Vonnda Lei hugs her son Jadrian, 4.





I tell other (Native students) ... 'Believe in yourself and keep pushing for what you know you want. Don't let anyone tell you that you can't succeed, because you can. There's always a way to do it.'

—Vonnda Lei

Eric Funk, left, host of *11th & Grant with Eric Funk* and MSU music professor, confers with Dave Grusin, right, in preparation for the famed pianist and composer's solo piano performance on the show.

The Montana SOUND

In 11 seasons, MontanaPBS' 11th & Grant with Eric Funk has evolved into a regional treasure

story by Rachel Hergett · photos by Kelly Gorham

For a week this summer, an Emmy statue sat casually on the counter of the Studio A control room in Montana State University's Visual Communications Building. The gleaming gold trophy, one of nine such awards won by the MontanaPBS television show *11th & Grant with Eric Funk*, served as a showpiece for visiting underwriters and a reminder for the crew of the product that will come from their dedication after a grueling week of filming.

For those who live outside the state and may not know about the Big Sky phenomenon, *11th & Grant* is a television show with soul. And blues, bluegrass and



everything in between. Over 11 seasons and 57 episodes, the hour-long show has celebrated the diversity of music in Montana, from the simple truths behind love, land and horses told by country songwriter Wade Montgomery to world-renowned classical violinist and MSU professor Angella Ahn's interpretation of Led Zeppelin's iconic "Stairway to Heaven" on electric fiddle.

Although not aiming for awards, *11th & Grant* is consistently recognized based on its overall production value as well as its place as in preserving

Montana's musical history.

"The cool thing about this show is it's a real showcase for Montana talent," said composer Eric Funk, the MSU music faculty member who is the show's host and artistic director. "People are blown away by the breadth and depth of talent here."

To see *11th & Grant* now—with production values its crew would pit against any music show in the country, including the genre's paragon, *Austin City Limits*, the grassroots effort behind the production is often overshadowed.

"Sometimes, if you know what you're

stepping into, you probably wouldn't do it," said producer Paul "Gomez" Routhier after a day of shooting.

Retired, but doing consulting in the aviation industry, Routhier and wife, Mary, moved to Montana 13 ½ years ago. As music lovers, the pair started attending concerts and found themselves "floored, absolutely floored" by the level of musicianship in the area.

Routhier, with no experience in television and only a desire to share

11th & Grant stage manager, Paul Heitt-Rennie (left) prepares Studio A for a recording session as musician Wylie Gustafson (right) tunes his guitar.





the music driving him, approached Jack Hyypa, MontanaPBS station manager, with the idea of a musical spotlight program. Hyypa came back with a deal: He would provide the studio space, equipment and a few thousand dollars of seed money if Routhier would volunteer his time to produce the project.

In 2005, Funk, Routhier and executive producer Aaron Pruitt, an MSU film and photography graduate who was pulled in to provide oversight as Hyypa retired, went door-to-door in search of funding for the first season from donors like Jack and Donna Ostrovsky, who believed wholeheartedly in their vision.

Meanwhile, Scott Sterling, another MSU film and photography graduate and the show's director (and editor and graphic designer and more), was tasked with the design. On a budget of \$1,000, Sterling, who has been known to scribble set and lighting ideas on the back of napkins, created a backdrop of clear Plexiglas that could be backlit to change colors.

The next year, things were not any better financially and possibly were worse. Though people involved could see the merits of their creation, the show was slow to catch on with underwriters and viewers. Funk and others turned down compensation for their efforts, and the entirety of season two was made with \$12,000 or \$13,000, according to Sterling.

Now, aside from the equipment and in-kind donations, the show is created for about \$12,000 an episode—in television terms, an incredibly small budget.

"I wouldn't be surprised if *Austin City Limits* is half a million per episode," Sterling said. "Our entire team works for little or nothing because they believe in it."

11th & Grant doesn't seem to need a lot of expensive flash in terms of production. In 2005, Sterling won the show's first Emmy from the Northwest Chapter of the National Academy of Television Arts & Sciences for graphic design.

Sterling, as director, works in tandem with Jeremiah Slovarp, audio director and an MSU graduate who teaches music technology at the university and joined the crew in its sixth season. As a pair, Sterling

and Slovarp are able to focus on their craft while knowing the other is conscious and supportive of his efforts.

In the years since Sterling and Slovarp pushed the transition to high definition visuals and 5.1 surround sound, *11th & Grant* has won eight more Emmys, including awards for the region's best arts and entertainment program special and individual achievements as director for Sterling and in audio for Slovarp. *11th & Grant* has twice been awarded the E.B. Craney award from the Montana Broadcasters Association for the non-commercial program of the year. And for three years in a row, the program has been given the National Educational Telecommunications Association award for performance-based public television program in any market, regardless of size.

"Everything from graphics to lighting to camera angles is first rate," noted one of the judges of the 2015 NETA Awards.

11th & Grant takes a semi-documentary approach to recording, which takes place over the span of a week in the summer. The team, which includes a host of MSU students and graduates in all facets of production, attempts to capture each performance as it is, as Funk draws the best from the musicians.

"Sometimes you just catch the lightning in a bottle and everyone in the control room knows it," Routhier said. "Sometimes we're back there and everybody will look at each other and be like 'there it is.' It's magic."

Going into the final riff of the final song on the last day of filming this year, Dustin Tucker of the Bozeman rock band Golden Grenade made what he termed as a mistake, adding an extra note leading to the solo he had practiced. Rather than cutting it from the audio and using a camera on one of the other musicians, Funk and Slovarp convened in the audio booth where they determined the slip was actually a happy accident.

"It's all about capturing the moment," Slovarp said. "This is not an album. This is a snapshot in time, what the band is playing now and what they sound like now."

Funk acts as friend, mentor and psychologist in any given episode. He has an uncanny ability to speak to musicians at any level of their development and offer advice both well-intentioned and accurate.



Scott Sterling, background, directs *11th & Grant* studio cameras from the production control room with Caroline Janssen, assistant director in the middle, and Addison Maierhauser, production coordinator, right. Both Janssen and Maierhauser are MSU students.





Audio assistants Gabe Ballotta, left, and Derek Jones, middle, assist audio director Jeremiah Slovarp, right, as he positions a microphone on the studio set of *11th & Grant* and Scott Sterling, middle rear, evaluates camera placement.



“He’s well-spoken as a person and as a musician,” said Slovarp, who maintains that working with Funk is a privilege. “His musical lexicon is incomparable.”

Funk’s influence is not lost on viewers.

“The host’s presence is felt throughout, though you never see him during the piece,” noted one of the NETA judges. “His intro and pedigree are clear, which makes this more than just a music show, but rather a very credible curation of artists.”

Funk chooses the show’s musicians from an extensive list he keeps in his head, compiled from submitted tapes, suggestions of trusted musical advisers around the state and his own research and experience. The list is constantly in flux. Montana musical groups are rarely stagnant, their parts seemingly interchangeable as new bands are formed from others as life changes for the players.

Musicians are not paid, and although “exposure” is often a cringe-worthy term, in this case it seems to work. Bands use the show, which streams for free on the MontanaPBS website and the *11th & Grant* iPhone app, as a high-quality demo for future bookings. In some cases, this happens before the show even airs. Within a week of filming their upcoming episode, Dave Walther and the Dusty Pockets booked a gig with someone who saw the band on a live stream of the recording session.

“This is a live performance that sounds as good as a record,” Walther said.

“What you guys do for me is not to be taken lightly,” said Matt Rogers, the band’s guitar player, as a thank you to the crew. “You’re capturing moments that, at least to us, are very, very special.”

Funk is able to curate the styles of music, sometimes showcasing genres with full knowledge they will not be fan favorites. This is a luxury of producing a program for public television, where ratings are not the primary goal.

“PBS is the last place you can do art for the sake of it,” Sterling said.

Instead, the show looks to the broad scope of music in Montana, the players who have honed classical craft and those who push the boundaries.

“Our job is to be a museum and a gallery,” Funk said.

Different values emerged through the years as the show has evolved artistically. Once very pragmatic about each episode's structure, looking at keys, tempo and time signature to craft the flow of the songs, the interview portions now provide a narrative direction for the music.

"It's evolved as we have, individually and as a group," Funk said.

Under Funk's artistic vision *11th & Grant* is both fresh and timeless, according to Pruitt, with episodes meticulously crafted to remain relevant for the station's viewers.

"A lot of Montanans love these musicians and don't mind seeing them again," Pruitt said, noting the show has just launched an every-other-year production schedule that will mean fewer new episodes in each season and will make way for digging into the catalog for favorites. "The future for the series is a regular presence on our channel for many years to come." ■

To watch 11th & Grant shows online, go to: watch.montanapbs.org/show/11th-and-grant/

Musicians from left, Russel Smith, Chris Cunningham and Mike Parsons relax for a few moments on the *11th & Grant* set as crew members make adjustments between takes.





giving peas a chance

*MSU helps Montana lead the nation in production
of pulse crops—peas, lentils and garbanzo beans*

story by Jenny Lavey · photos by Adrián Sanchez-González



Green peas are harvested at the Stoner Family Farms north of Havre.



Perry Miller, MSU agronomist, holds pea and lentil samples in his MSU Cropping Systems Lab.

Windshield views of golden fields against blue skies are synonymous with Montana, and for good reason. However, over the last decade, many of those golden acres have been gradually turning green.

For the better part of the last 40 years, as evidenced in 160 research citations, Montana State University has been a pivotal player in a quiet paradigm shift in Montana agriculture. Long known for wheat and barley, Montana farmers are increasingly growing pulse crops, which are the edible seeds of plants in the legume family, such as peas, lentils and chickpeas, also known as garbanzo beans. According to the United States Department of Agriculture, Montana is America's top producer of pulse crops with more than 1.1 million acres currently growing pulse crops. That's compared to Montana's 5 million in annual wheat acreage, according to the USDA.

The last decade may well have created the perfect storm that's turning Montana's golden wheat acreage to pulse-crop green, according to Barry Jacobsen, associate director of the Montana Agricultural Experiment Station. Inconsistent fluctuations in wheat prices have been countered by a global demand for crops like lentils, chickpeas and peas, which are ingredients in such dishes as hummus, dals and curries. Global populations are booming with not enough protein crop production to keep up with nutrient demands, and Americans want more options for healthier forms of vegetable protein for themselves and their pets.

This surge of pulse crops, also called pulses, across the state has been called the "quiet revolution" by some in Montana farming and the "next crop frontier" by others in agribusiness.

"For a state known primarily for its wheat exports, pea, lentil and chickpea are now beginning to share the spotlight," said Jacobsen. He added that in agriculture terms, pea crops are referred to in the singular. "It's an exciting time in Montana agriculture."

MONTANA PULSES ON THE RISE

This year, Montanans have planted more acres in pulses than they ever have in history—about 500,000 each of pea and

lentil—according to USDA data, and the planting trend doesn't seem to be slowing down, Jacobsen said.

This is a change from the traditional cropping system that Montana and most Northern Plains' farmers used in cereal grain production since the droughts of the Great Depression: Plant wheat or barley or their major cash crop for one cycle, harvest, then let the ground lay fallow (barren) for one season to conserve moisture and nutrients for the next planting season.

The problem with fallow acreage, according to Perry Miller, MSU Department of Land Resources and Environmental Sciences professor and agronomist, is that it doesn't produce much economic value for the farmer because valuable acreage is essentially left idle, though it does serve as an important risk management tool in banking water in the soil.

"Fallow is one of the most destructive agricultural soil management practices because of soil erosion, loss of soil organic matter and soil structure and nitrate leaching," Miller said. "There is enormous benefit to plant otherwise fallow land with a pulse crop, and we see this particularly with pea."

In 2015, Miller, along with Anton Bekkerman, MSU Department of Agricultural Economics and Economics

associate professor, and Clain Jones, soil Extension specialist, and others, reported from a study begun in 2003 of the soil and economic benefits of Montana farmers growing pea in lieu of wheat-fallow cropping systems. Over the most recent four-year rotation, data suggest that producers who grew pea added more than \$70 per acre, per year, of additional income in a no-till system.

"Primarily, the savings in nitrogen and the way pea residues backstop wheat yield and protein can make pea a critical rotational benefit," Miller said. "Because pea(s) have shallow roots, they also conserve more water in the soil and make soil organic nitrogen available in tune with growing season moisture."

Traditionally, most farmers would have told you they grew pulse crops to cover soil in between wheat and barley cropping systems, which were tilled under the soil and used as green manure. In no-till systems, the acreage is left alone, leaving the soil to conserve moisture.

There are an estimated 4.6 million acres of fallow land each year in Montana, according to the Montana Department of Agriculture. If farmers planted pulse crops on just 25 percent of the total fallow land in Montana, there could be a \$240 million benefit to Montana's economy, based on current planting research by the Montana Agricultural Experiment Station, often called MAES.

BENEFITS AND CHALLENGES: REASONS FOR GOING PULSE

While the financial gain of pulses is certainly attractive, farmers might well plant them for their soil benefits alone.

Chase Stoner, a Montana wheat farmer near Havre whose uncle Jon was a pea-planting pioneer in Montana, said the soil health of his fields has skyrocketed, thanks to a pea crop.

"Their ability to fix nitrogen, store water and break up the disease and pest cycles of wheat has been the biggest benefit from an entire-operational standpoint. You can literally see the line in the soil where we planted pea," Stoner said.

Chase Stoner, left, and his cousin Jon Stoner Jr., an MSU student, inspect harvested peas on a combine in July at the Stoner Family Farms north of Havre.





Jones explains that's because pulse crops bring diverse benefits to the soil. Not only do they use nitrogen—an essential element to any living plant—but they add nitrogen into the soil too.

"They work together in a unique, symbiotic relationship with soil-dwelling Rhizobium bacteria, which are also naturally living in soils," Jones said.

These bacteria capture gaseous nitrogen from the air and soil. The bacteria feed this nitrogen to the pulse crop, helping the plant to grow. In return, the plant provides carbohydrates—food for bacteria—helping it to grow. Pulse crops also have the unique ability to grow root nodules that house this Rhizobium bacteria, creating an in-house food producer for the plant and helpful bacteria. When the pulse crop dies or is harvested, the beneficial nitrogen already present above and below ground is released into the soil, Jones said.

"Effectively, this process 'fixes' nitrogen in the soil that serves as a free, healthy and nature-made fertilizer that's ready and available for the next planted crop," he said. "When a wheat or barley crop follows a pulse crop, it can experience substantial rotational benefits, with high yield and strong qualities desired by current markets, like protein content."

It is this partnership with Rhizobium bacteria that makes pulse crops so attractive—one, because they make the soil better for the next crop and two, they require little (if any) commercial nitrogen fertilizer, a major input cost for the production of most crops.

Pulse crops are also effective in breaking disease and pest cycles in wheat and barley systems, said Chengci Chen, superintendent of the Eastern Agricultural Research Center in Sidney, who has seen the rise in pulse crops firsthand.

Chen, formerly stationed at MSU's Central Agricultural Research Center in Moccasin, has been coordinating the statewide effort in testing pulse crop cultivars for eight years. He currently is conducting pulse crop research in eastern and northeast Montana, advising farmers about suitable pea, lentil and chickpea

varieties and production practices. Largely because of the research support from the seven MSU research stations and the MSU campus, according to Chen, a majority of former wheat farmers now plant a pulse crop in their production system, some as their primary cash crop. In fact, in 2014 the USDA said that there were 290,000 acres of pulse crops in the northeast corner of the state alone.

Chen said pulse production is slowly moving west across the state, with more and more producers adopting and tailoring pulses to areas with less precipitation, especially in the central area of the state. Chen said even though caution must be taken for statewide adoption because pulse crops are sensitive to drought, their spread has been supported by field trials at the seven research stations under MAES.


"Producers have been able to see pulse viability and success firsthand at our (ag research) centers and on-farm trials," Chen said. "Our capacity to expose pulses to Montana's different environments helped producers feel more confident from year to year, and a growing history has led to strong global markets for our regional yield."

WORLD MARKETS FOR MONTANA PULSES

Montana's pulse crop boom would quickly bust without growing markets to consume Montana-grown peas, lentils and chickpeas.

Joseph Janzen, assistant professor in the MSU Department of Agricultural Economics and Economics, has been tracking international markets alongside Montana's increase in pulse production. According to his research, there are a number of factors generating strong demand for pulse crops outside the U.S. Growing populations with rising incomes, particularly in India and China, are eating more peas and lentils. Nearly half of U.S. pulse exports are destined for China, India and neighboring Asian countries, according to the USDA Foreign Agricultural Service.

"Global pulse demand is growing and the U.S. is capturing an increasing



After green peas are harvested, they are stored on-farm before being sent to processing where they are cleaned and inspected.





The Columbia Grain processing facility in Tiber processes green peas that will be shipped to South America and East Asia.

share of the world market,” Janzen said. “While domestic markets are important and growing, export markets are crucial for demand. Growing exports are great news for Montana pulse growers, especially since prices have also been strong. Lentil prices in 2015 and 2016 were as high as we’ve ever seen.”

High prices for peas and lentils are a stark contrast to wheat, Montana’s largest crop by acreage, with Montana being the fourth-biggest wheat producer in the country. USDA data show wheat prices paid to Montana growers have generally declined over the last five years, and acreage planted with wheat also has declined over the same period.

The pocketbook reality and the reduction of economic risk through diversity, of growing pulse crops instead of wheat, may be why some farmers in the state are growing pulse crops as a primary cash crop and wheat as a rotational crop, according to MSU agricultural economists.

NEIGHBORS LEARNING FROM NEIGHBORS

It took a while to get here.

Since the late 1970s, MSU’s Central Agricultural Research Center in Moccasin has been pivotal in diversifying Montana’s farming with crops no one ever thought possible to farm in the arid environment.

David Wichman, a former CARC superintendent and MSU agronomist who has watched the rise and fall of economic and climate threats on Montana agriculture for 30 years, said the pulse bandwagon may have gained its initial traction in central Montana, thanks to local pioneering farmers and business owners.

“The introduction of pea cultivars with the semi-leafless character, which enabled the peas to remain standing after they are ripe, was one of the main factors contributing to the widespread adoption of pea production across Montana,” Wichman said. “The peas have been kind of the gateway pulse crop that has led to producers growing the more

difficult, but often higher-value lentils and chickpeas.”

The commercial side of pulse markets also made a large difference as well, Wichman said, and those agribusiness companies saw the potential for markets and later played a role in bringing elevators closer to Montana’s widespread towns.

“As early as the 1980s, a few venture-some growers across the state were giving peas a try as an alternative cash crop or green manure nitrogen source,” he said. “It took on a grassroots, collaborative nature of early pulse pioneers between now-retired MSU faculty, like Jim Sims, and a litany of farmers statewide who embodied the early and critical role of trial and error—many who risked their livelihood and land—in the adaptation of lentil and pea farming across Montana.”

THE HORIZON AHEAD

MAES has hired Kevin McPhee, a dedicated faculty member to breed pulse crops. He will begin in January breeding pulse varieties that are best-suited for Montana’s variable landscapes and climates. The university recently created the Regional Pulse Crop Diagnostic Lab, managed by Mary Burrows, MSU Extension plant pathologist, where producers across the state can send in samples for pulse disease and pest support, including identification and treatment prescriptions.

Burrows, who is on the speed dial of most farmers across the state and annually crisscrosses Montana, looking for diseases and pests in state’s crops, said that pulse crops have come with their own set of pests and diseases—something MSU is doing all it can to get a handle on.

“Diseases are what drive the pulse industry out of an area,” Burrows said. “These crops are susceptible to numerous diseases, and since most of the crop is exported, phytosanitary (pest and pathogen sanitation) issues are crucial. Keeping threats out of the state and at low levels is going to be imperative. We have to make sure we’re diligent with cultural control

and pesticide treatments as needed.”

Burrows said no crop is immune to pests, from planting to post-harvest. Root rots, white mold, viruses and foliar blights are of high concern to the industry.

“The MSU diagnostic lab plays a critical role in keeping the pulse industry ahead of a lot of very real threats, which have the capacity to affect the entire industry,” she said.

In coming years, MSU will remain a leading source of information and support when it comes to pulse crops. MAES was the recipient of a \$2.3 million Montana Research Economic Development Initiative research grant created by the 2015 Montana State Legislature in an effort to enhance Montana’s economy. The grant is looking at the potential economic gain of replacing about 4 million fallow acres each year with pulse crops and researching new pea and lentil varieties, in addition to researching challenges and benefits of precision agriculture and cover crops.

It will take all seven off-campus MAES research centers statewide, on- and off-campus faculty and a lot of statewide private businesses and farmers to expand the potential future of pulses in Montana, Jacobsen said.

Stoner said he’s seeing pulses becoming more popular as markets emerge and elevators come closer to town.

“Things are changing. I think people are starting to feel more progressive,” Stoner said.

For Stoner, farming pulses might be more about the future than today’s market. For him, it’s about using Mother Nature’s cyclical and natural benefits to leave something better behind for young people, who will one day step into the responsible shoes that play a direct role in feeding the world.

“As a land steward, we want to do everything we can to improve the land, instead of just take from it,” he said. “We want to be able to pass it on to the next generation better than we found it. Pulses give us that kind of assurance.” ■

Global pulse demand is growing, and the U.S. is capturing an increasing share of the world market. While domestic markets are important and growing, export markets are crucial for demand.

—Joseph Janzen



A Burlington Northern Santa Fe train carries grain bins toward the Port of Seattle where the Montana crops will be transported globally.



DETERMINED TO MAKE A DIFFERENCE

story by Evelyn Boswell · photos by Kelly Gorham

When Chinomso Onuoha came to MSU from Nigeria, he didn't know one soul. When he graduates in December, he will leave with a spate of honors and even more friends

It's easy to read a list of accomplished Montana State University students, admire their achievements and move on. But behind each student is a story.

Chinomso Emmanuel Onuoha's story is one of religious persecution and overcoming money problems, culture shock and loneliness to become this year's outstanding engineering student in Montana and last year's outstanding international undergraduate student at MSU.

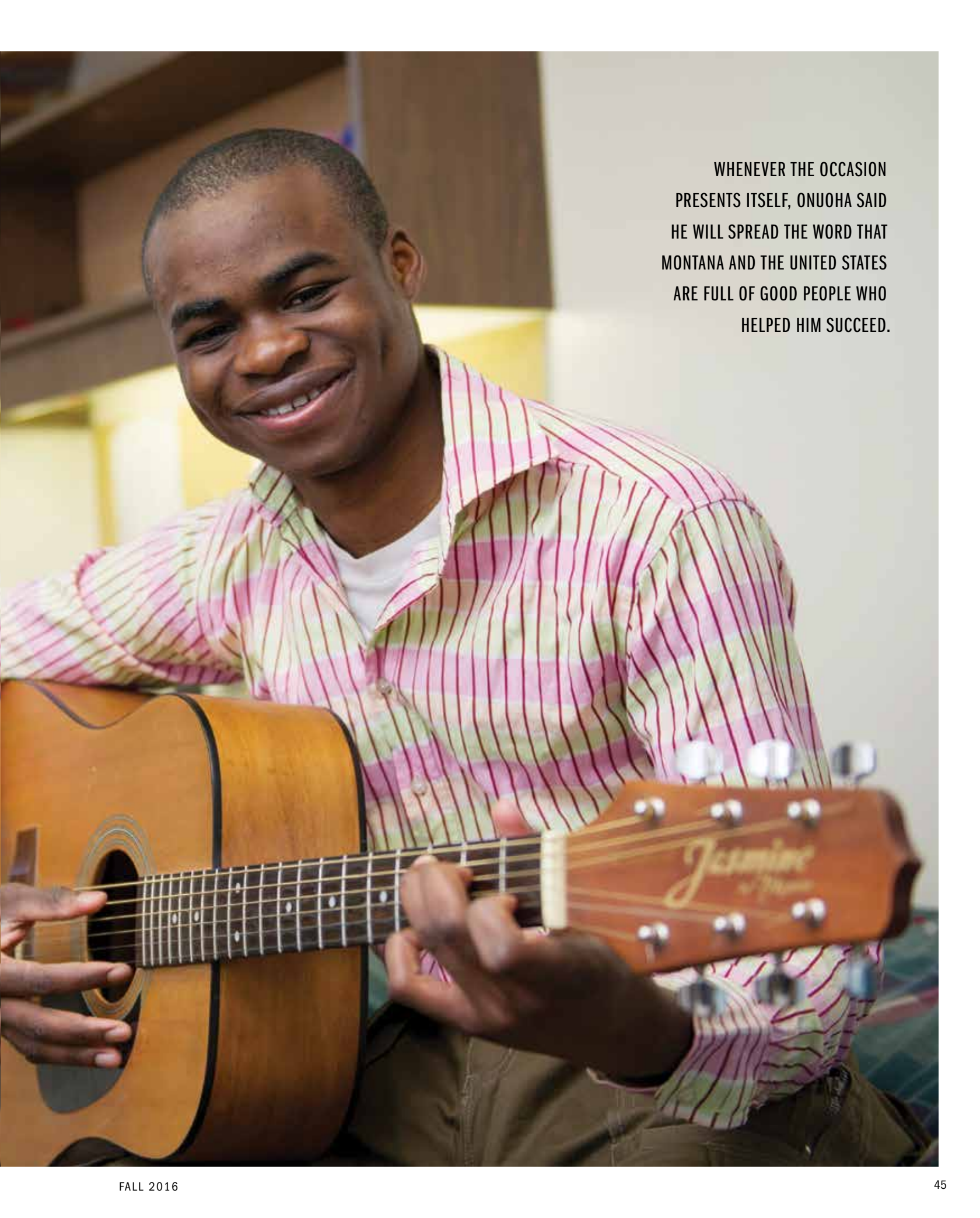
When the 24-year-old Nigerian graduates with two bachelor's degrees and two minors in December, he will cross the platform with a dream of using his education to help his homeland. Whenever the occasion presents itself, he said he will

spread the word that Montana and the United States are full of good people who helped him succeed.

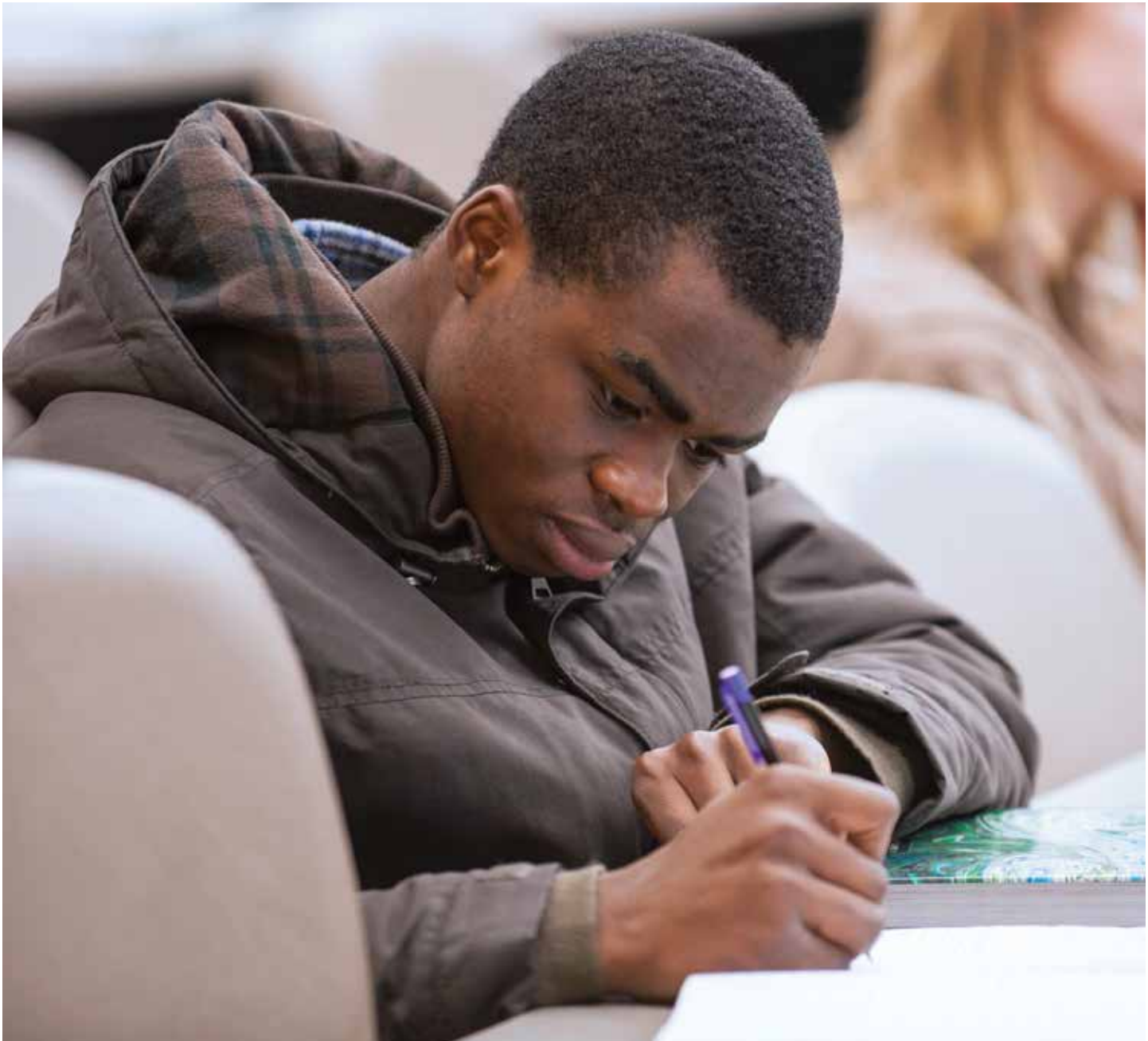
"America has been great to me," Onuoha said. "It has really been a blessing to be here."

Onuoha—whose first name means "God is near me" and second name means "God with us"—grew up in the city of Jos, or "J-town," where his father is a church planter and his mother a nurse in a federal hospital. Onuoha talks about a period of civil unrest that began in September 2001, days before America's 9/11, when barricades were set up on roads to ferret out Christians. He describes the terror he felt when he and his two sisters were home





WHENEVER THE OCCASION
PRESENTS ITSELF, ONUOHA SAID
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alone and some people were about to burn down their house. Their home was saved after the potential arsonist turned his rage toward a neighbor with a gun.

As he grew up, the second of four children, Onuoha set a goal of studying engineering. He was interested in science, after all, and liked math, biology, chemistry and physics. He was good at problem solving. He had an inquisitive mind.

But instead of studying mechanical engineering in Nigeria like this brother, Onuoha wanted to study chemical engineering in the United States. It

was a dream he had envisioned since middle school.

“I wanted a U.S. education because I knew this country was at the cutting edge of science and technology,” Onuoha explained. “I knew I would be trained by professors regarded as best in their fields, have access to world-class equipment and research facilities that would enhance my learning experience.

“Getting a U.S. education does mean a lot for my family because of the opportunities that come with it,” Onuoha said. “A U.S. degree is well-looked upon

in many countries of the world, thus providing almost an assured chance of a good employment opportunity, especially in the field of engineering.”

A Nigerian program that helps place students abroad recommended MSU for Onuoha and helped him enroll. His aunt agreed to pay for his first year of school. His mom sold her Toyota Carina to pay for his flight and process documents.

Onuoha said his family had waited about 10 years to buy his mother’s car.

“Before this time, my dad struggled to drop my siblings and I (off) at school,

WITHIN ME, I WAS DETERMINED TO MAKE A DIFFERENCE
BECAUSE OF THE SACRIFICES MY FAMILY HAD MADE TO ENABLE
ME TO GET AN OPPORTUNITY TO GREATNESS.

—Chinomso Emmanuel Onuoha

pick up mum from work and also run errands,” Onuoha said. “When he traveled or was not able to drive, we had to get used to using public transportation. Things got a little difficult during dry seasons because the municipal water supply dropped and we had to get water from other parts of town. Without a car, it was quite tough to get enough water to last for weeks.

“When my mum’s car finally arrived, it was more of a relief and a sign of good changes for the family,” Onuoha said. “But since I was to go to school, we all had to sacrifice our comfort and immediate enjoyment in order to give me an opportunity for a better life.

Onuoha said the family returned to using his dad’s worn-out car and public transportation.

“Within me, I was determined to make a difference because of the sacrifices my family had made to enable me to get an opportunity to greatness.”

While the opportunity to attend MSU was glorious, once he got to MSU, Onuoha said he found a world alien to him. He was lonely, encountered eating habits strange to him, and he never had enough money.

“The cost of living in Montana is very high compared to Nigeria. The exchange rate is not the best,” explained Deborah Chiolero, foreign student adviser for MSU’s Office of International Programs.

In addition to that, Onuoha discovered that American students were more likely to stay indoors and wear headphones than mingle outside, as is common in Nigeria. They didn’t eat fish

rolls and meat pies, but lasagna, burritos and lots of cheese.

Despite the challenges, Onuoha believed he belonged at MSU. So he stayed, and life gradually improved.

He made friends like Cole Krenik of Billings. The two met the first day of the College of Letters and Science Knowledge and Community Seminar, then ran into each other at the Harrison Dining Hall where Onuoha worked and both ate. About a month after school started, they realized they actually lived across from each other in Langford Hall.

“We became really close friends from our freshman year on,” Krenik said. “He would spend time in my room, and I would spend time in his.”

It wasn’t long before Onuoha became like family, Krenik said. A former varsity swimmer at Billings West High School, Krenik taught Onuoha how to swim at the MSU Fitness Center and invited him home for holidays and weekends. When Onuoha wore a blanket in their wood-heated house and stayed up late to study, the family gave him a space heater to keep warm and a room of his own. When Onuoha wondered why he saw so many Black Angus cows, Krenik explained ranching and Montana agriculture. When Krenik picked up his acoustic guitar, he discovered that Onuoha was an awesome musician and invited him to play in the worship band at Hope Church in Billings.

“I call him brother. There’s no other name for it,” Krenik said. “He has just always been a really good friend.”

As time went on, Onuoha expanded

his circle. To save money, he left the residence hall and moved into the Christus Collegium, where he joined 17 other students. The Collegium currently houses 10 men and eight women, some Christians and others Muslims. Some came from the United States and others from Saudi Arabia, Jordan, China, Japan and other parts of Africa. Onuoha became a resident adviser for the men. He played the Collegium’s Clavinola and grand piano. He carved pumpkins with his housemates and served meals with them at the Community Café.

“He has a great sense of humor, a big smile,” said Tim Spring, Lutheran campus pastor.

Onuoha also made friends as he washed dishes, mopped floors and served food in cafeterias around campus. He tutored students in math, physics, chemistry and engineering. He gathered leaf samples for the MSU Plant Growth Center. He worked in Joan Broderick’s lab in the Department of Chemistry and Biochemistry and Paul Gannon’s lab in the Department of Chemical and Biological Engineering.

“I wanted to work in laboratories because they provided the best opportunity for me to acquire and explore analytical thinking, problem solving, time management and, very importantly, knowledge and its application through engineering,” Onuoha said.

LIFE IN THE LABS

Broderick said Onuoha came to her after taking freshman chemistry from her husband, Will Broderick. Recognizing Onuoha’s exceptional ability and potential and hearing about his interest in research, Will suggested that Broderick consider bringing Onuoha into her lab.

“Undergrads learn many techniques and the fundamentals of protein and enzyme biochemistry and inorganic chemistry working in my lab,” Broderick said. “More importantly, though,





they gain experience in the process of scientific research and hopefully begin to understand the intellectual effort that goes into designing experiments and research projects. In some cases, students co-author publications, as well.

“Emmanuel is a very bright and motivated student, and it was a pleasure to have the opportunity to work with him,” Broderick said.

Gannon said Onuoha is self-motivated and tenacious and came to Gannon after writing a successful proposal to conduct research on the next-generation turbine engine hardware. That had the undergraduate working with extremely hot ovens and expensive equipment, Gannon said. “Many of these students become professional engineers who design, construct and/or operate multi-billion-dollar industrial facilities.”

In recommending Onuoha for the prestigious Gold Medal Award from the Montana Society of Engineers, Gannon wrote that, “I am confident Emmanuel will make an excellent engineer and (will be) a great reflection on the Montana Society of Engineers.”

MONEY REMAINED A CHALLENGE

Even though Onuoha told most of his friends that life was fine, he said he hid the fact that there was a real chance he would have to drop out of MSU and return home without a degree because he did not have money for tuition. One cold, snowy day, ready to admit the truth to someone who might be able to help, he walked to the Quads to discuss his options with Ilse-Mari Lee, dean of the Honors College. As he waited in line, she smiled at him.

In talking together, Onuoha learned that Lee also grew up in Africa and knew what it was like being an international student. The South African native asked Onuoha about his life and goals, saw his high grades, then handed Onuoha an application to join the Honors College.

“I thought, ‘If they are not going to give

me a scholarship, I’m just going to take tough classes to add to my problems,’” Onuoha said. “I thought it would be even more trouble for me. But out of respect, I said I would take it home and fill it out.”

And soon everything changed.

Lee called to tell Onuoha that he was not only admitted into the Honors College, but he had been awarded a scholarship that covered the rest of his four years at MSU, provided that he remained in good standing in the Honors College.

“It was a day of joy,” Onuoha said. “I was so glad, so glad.”

Other scholarships followed from various offices around campus. Onuoha was accepted for summer internships at a research institute in the Czech Republic and J.R. Simplot in Pocatello, Idaho. While Onuoha was looking for a car to drive to Idaho, the father of Elise Estus, a friend he also tutored, gave him a Toyota Celica, filled it with gas and paid the insurance for six months.

“My goodness. I need to pay,” Onuoha told him. “He said, ‘No, you have been a blessing to my family.’”

Even though he no longer has to worry about paying for school, Onuoha continues to work so he can send money to family and friends, Lee said. He maintained a “stellar” GPA while majoring in chemical engineering, biological engineering and minoring in mathematics and statistics. He was an “extraordinary and inspirational” student fellow in the honors course, “Texts and Critics: Knowledge and Imagination.” He became president of the MSU student chapter of the Electrochemical Society.

Chiolero said Onuoha received the 2015 Norman J. Peterson Outstanding International Undergraduate Student Award because of his campus involve-

ment, GPA and role modeling. Onuoha is one of 11 Nigerian students and close to 800 international students currently on campus. His GPA generally sits around 3.93.

“He is an amazing person. There are no words to describe how wonderful he is,” Chiolero said. “He is very focused. He sets high goals, and he accomplishes his goals.”

Onuoha is also a big advocate for MSU and always willing to “go beyond that extra mile,” Chiolero said. “He is a brilliant student, a very gifted student.”

After graduating from MSU, Onuoha wants to experience working for an American company while earning graduate degrees, which he thinks will further his ultimate goal of using his education to serve his country.

Onuoha—who averaged 21 credits most semesters, sleeps three to five hours a night and eats one to two meals a day—said Nigeria has a lot of oil, but it sends most of it out of the country to be refined. One thing he is considering is starting a refinery in Nigeria. Another possibility, since Nigeria has problems with food storage and production, is starting a business to improve farming practices and mass-produce food.

One plan he knows he will carry out is to become an unofficial ambassador for Montana and the United States. Whenever he hears someone put down America, he said he will say, “America has been great to me.” When he speaks of Montana, he will talk about the friends he met, the education he received and the generosity of its people.

“The people of Montana have been really, really gracious to me throughout my stay here,” he said. ■

(ONUOHA) IS AN AMAZING PERSON. THERE ARE NO WORDS TO DESCRIBE HOW WONDERFUL HE IS. HE IS VERY FOCUSED. HE SETS HIGH GOALS, AND HE ACCOMPLISHES HIS GOALS.

—Deborah Chiolero

A LOT OF TIMES POSITIVE THINGS CAN COME OUT OF REAL NEGATIVE OR TRAGIC SITUATIONS. AND THAT HELPED ME FORMULATE THAT VISION FOR MY OWN LIFE.

—Jeff Choate

THE PLAYERS' COACH

New Bobcat coach Jeff Choate is recognized for his vision, energy and charisma. He said he found them all during one of his life's most difficult times.

story by Bill Lamberty · photos by Kelly Gorham

Jeff Choate still remembers the phone call 25 years ago that changed the path of his life, even through the fog of pain and the medicine prescribed to relieve it.

Montana State's first-year head football coach now recalls the immediate aftermath of a horrible automobile accident the July before his sophomore year at Western Montana College, which is now the University of Montana Western. A devastating knee injury from the wreck placed his career as a Bulldogs linebacker in doubt.

Choate recalls that his head coach, Mick Dennehy, told him then, "You can come back here. No matter what happens, we want you to be part of this thing going forward."

Dennehy, now retired from a coaching career that included a stint as an assistant coach at MSU and a wildly successful four seasons as the head coach at the University of Montana, remembers that visit.

"I just wanted to make sure he was OK

and wanted him to know that things would work out one way or another," Dennehy said of the call. "It was too early to know if he was going to be able to play. But if he couldn't, we'd put him to work doing something else."

A quarter-century later, Choate has launched his first season as a head coach. He accepted the MSU job last December, and in the time since has altered the program's culture, refueled its tank of talent and installed new systems in all phases of the game. All the while he has connected with players and staff, fans and foes, with a high-voltage smile, a razor-like wit and an undeniable, unavoidable energy.

"It's so much fun," said senior offensive guard JP Flynn about playing for Choate with enthusiasm that matches that of his head coach. "There's great energy. One of the first things Coach Choate did when he got here was mix up the entire locker room. It used to be divided up

CHOATE KELLY GORHAM







by positions; now my locker is next to (linebacker) Josh Hill and (receiver) Keon Stephens. That's a big change. He's bringing together the whole team into one unit and mak(ing) sure we don't miss this opportunity (to make lifelong friendships)."

He didn't know it at the time, but the roots of Choate's self-described "players' coach" style began growing during the time after his car wreck. Rather than immediately returning to Dillon, where he had hoped for a sophomore season full of promise—"I really believe he would have become a hell of a college football player," Dennehy insists—the graduate of St. Marie's High School in Idaho headed to Boise and countless hours of solitary rehabilitation. Returning to Western, to his team and his teammates, motivated him, he said.

"A lot of times positive things can come out of real negative or tragic situations," Choate said, "and that helped me formulate that vision for my own life. There were times that I would say, 'What

if football isn't an option?'" (Playing football) drove me and motivated me, but that's when I centered on the idea that I want to teach and coach."

Choate returned to Western as a player in 1991, but the end came quickly. "I tore up my (injured left) knee again, and that made me realize it was time to hang up my cleats."

Dennehy's response was equally swift. "We gave him a camera and said, 'Let's go.'"

Armed with only one full-time assistant coach, Dennehy utilized the voluntary services of many young men hoping to break into that business.

"They were all going to be coaches," Dennehy said, "and hopefully they learned a little bit along the way from some of us older guys. But they knew how to block and they knew how to tackle and the teaching part of it came pretty (easily) for Jeff."

Following his time at Western, Choate embarked on a successful career as a

high school teacher, administrator and coach. His resumé reads like a geography lesson for the state of Idaho, beginning in Challis in 1994 and including stops in Twin Falls and Post Falls.

But in 2002, he called Dennehy, then head coach at Utah State, and asked for help to get into college coaching.

"I told him, 'I'd love to have you, but make sure you sit down and think hard about (it), because you're giving up a lot,'" Dennehy recalled, explaining that any potential spot paid little, if anything. A couple days later, Choate called back.

"Yeah, I've got to do it," Choate said.

The decision to leave the comfort of his career was not easy but had become increasingly clear to Choate.

"If I hadn't got into administration (as athletic director), I might still be coaching in high school," he said. "It took me out of the classroom, and there was so much involved outside of coaching, like making sure courts and fields were ready,

CHOATE: ADRIAN SANCHEZ GONZALEZ



Jeff Choate, middle

making sure the officials showed up, that it made me realized what I really enjoyed was coaching and teaching.”

Choate added responsibility in each of his three seasons at Utah State, rising from graduate assistant helping with a position group, to position coach, to coordinating special teams. That experience accentuated trends that would become characteristics of his career, specifically the willingness to grow as a coach and accept increased duties and the acuity to manage both people and tasks. Those traits served him well in the special teams area.

“I’ve got two (former assistants) who are special teams coordinators in the NFL,” Dennehy says, “and I think Jeff is every bit as qualified and as talented.”

Choate has coordinated special teams at Eastern Illinois (2005), Boise State (2006–11), Florida (2013) and Washington (2014–15), where he also coached defensive line.

Skills gained coaching special teams, long considered by many in college

football as a precursor to head coaching success, stand out while watching Choate prepare his first Bobcat team for the 2016 season.

“The key ingredient in being able to put special teams together is being organized,” Dennehy said. “You’ve got to get 50 minutes of (special teams work) into 20 minutes of practice time, and he’s really, really good at that and (at) moving from one phase of a drill to the next phase and utilizing staff to help him. Sometimes it’s like a magic show, and he’s as good as anyone I’ve ever seen.”

The accumulation of skill, knowledge and personal history gives Choate what University of Washington Coach Chris Peterson has referred to as “the ‘it’ factor” that sometimes, but rarely, presents itself in a coach. Dennehy said that “if you just sit down and visit with him you can tell ... this would be a fun guy to play for.”

His energy and enthusiasm were present for as long as anyone can remember. Wally Feldt, currently the Frontier

Conference information director and a presence in and around Montana Western Athletics since Choate’s playing days, remembers that Choate “seems perpetually (to have) a smile on his face. He’s so dang positive about everything. And it hasn’t changed in all the times I’ve seen him over the years.”

That ability to connect with people through life’s small moments has, if anything, become more acute through time.

MSU offensive line coach Brian Armstrong’s college playing career was beginning at Montana Western during Choate’s days coaching there.

“I was just a young guy trying to figure my own way out, but even though he was on the other side of the ball, there was no question how important (players were to Choate) on a personal level. That’s something I’ve always respected about him.”

That personal touch, Dennehy said, is a difference maker.

“He’s a great football coach. And he’s going to be a great head coach.” ■



NURSING FOR THE NEW WEST

MSU nursing economist Peter Buerhaus is at the forefront of predicting national health care trends

story by Anne Cantrell · photos by Kelly Gorham

More than 15 years ago, Peter Buerhaus—then a nursing faculty member and health care workforce economist at Vanderbilt University—and his colleagues warned that the United States would face a critical shortage of nurses unless the country took measures to ensure more people entered the profession.

The projected shortage estimated

at the time amounted to more than 400,000 registered nurses by 2020—large enough to cripple the health care delivery system, leading to the closure of health facilities, long delays obtaining health care, lower quality of care and higher costs. These projections were widely covered in the national media, including the New York Times, Wall Street

Journal, NPR, CNN and others.

Policymakers took note, especially after other high-profile publications provided new evidence confirming Buerhaus' predictions. His research helped spur Congress to pass legislation and led to foundations and corporations throughout the country developing national and state-level initiatives and campaigns aimed at promoting nursing as a career.

That groundbreaking research is just one of dozens of studies that have influenced policy that Buerhaus has published in prestigious scholarly journals since he began his career as a health care workforce economist and researcher in 1990.

Buerhaus' research has ranged from retirement of the baby boom generation of nurses at the very same time that the nation's 75 million-plus baby boomers would begin consuming vastly more health care services themselves to the development of quality of care measures

THE MORE (NURSES) CAN COMMUNICATE CLEARLY AND UNDERSTAND
HOW HEALTH POLICY IS SHAPED AND IMPLEMENTED IN BOTH THE PUBLIC
AND PRIVATE SECTORS, THE BETTER THEY'LL BE POSITIONED TO HAVE
A VERY PRODUCTIVE AND REWARDING CAREER AND TO HAVE HELPED SHAPE
AND GUIDE CHANGES THAT IMPROVE THE HEALTH OF ALL PEOPLE.

—Peter Buerhaus

that have been adopted by the Medicare program, federal and private sector quality improvement organizations, and those who pay for health care.

More recently, his research has focused on how to deal with the millions of people without access to primary care, particularly in rural areas, due in part to persistent shortages of physicians.

Now, Buerhaus continues his influential research on the national health care workforce as a member of the faculty of the Montana State University College of Nursing, which he joined in 2015. Buerhaus also serves as director of the Center for Interdisciplinary Health Workforce Studies at MSU.

After graduating in nursing from Mankato State University and working as a nurse, Buerhaus enrolled in graduate school. When he took a course in health economics during his second semester in a master's program in nursing health services administration at the University of Michigan, "a very bright light bulb went on.

"I realized way back in the early 1980s that it was only a matter of time before the fee-for-service payment system used to pay hospitals and doctors would run its course and that government and private sector payers would instead pay providers on the basis of value—the best outcomes for the lowest cost," Buerhaus recalled.

He realized that if the nursing profession played it right—focused on providing evidence of its impact on the quality and safety of health care—nurses would be well positioned to exert a much larger and more influential role in helping guide the development of a better health care delivery system—a prediction that has panned out.

While pursuing his doctorate, Buerhaus worked as an assistant to the CEO of the University of Michigan Medical Center's seven teaching hospitals, which gave him the opportunity to participate firsthand in the operation and politics of a large and complicated health care system.

"On several occasions I was dispatched to Washington to talk with members of

Congress and leaders of the administration on some health care issue, and flying back the same day in time to attend a class on policy making. It was a wonderful time in my life to be surrounded by so many principled leaders at Michigan, learn the ways of the nation's capital and gain inspiration as I began my research career."

After completing a Robert Wood Johnson Foundation postdoctoral faculty fellowship in health care finance at Johns Hopkins University, he landed a position as an assistant professor of health policy and management at Harvard University's School of Public Health, where he developed the Harvard Nursing Research Institute and its postdoctoral program in nursing health services research.

After eight years, Buerhaus left Harvard for Vanderbilt University, where he was the senior associate dean for research and the Valere Potter Distinguished Professor of Nursing in Vanderbilt's School of Nursing. In his 15 years there he was subsequently director of the Center for Interdisciplinary Health Workforce Studies, a cooperative affiliation between the nursing and medical schools. He also spearheaded establishing a new Department of Health Policy, which is housed at the Institute for Medicine and Public Health at Vanderbilt University Medical Center. In 2010, he was appointed chair of the National Health Care Workforce Commission, established under the Patient Protection and Affordable Care Act, to advise both Congress and the president on national health care workforce policy.

Since coming to MSU in 2015, Buerhaus has published studies showing that primary care nurse practitioners provide similar

services as physicians, produce comparable quality of care, cost considerably less than physicians and are more likely than medical doctors to work in rural areas. He also said he sees a strong movement across the country aimed at using nurses, nurse practitioners, physician assistants and other health care workers more effectively and working in teams with physicians.

He also organized a meeting of the nation's top health care workforce analysts and brought them to Montana this past July to find ways to improve forecasting the future supply and demand for nurses in the U.S.

"What is encouraging is that health care funders are investing more to mitigate the influence of social determinants of health—social isolation, low income, low education and other factors that end up with behaviors that lead to poor health and also compromise a person's recovery when they are ill," he said.

Therefore, Buerhaus believes nurses and current nursing students will have a bright future, but he cautions that patience will be needed as the health care system undergoes transition. His advice to students who will be part of those changes is to take time to learn and practice how to communicate their ideas clearly, to become more conscious of the need to add value to the delivery of health care through their actions, and to become well-versed in health policy issues.

"The more (nurses) can communicate clearly and understand how health policy is shaped and implemented in both the public and private sectors, the better they'll be positioned to have a very productive and rewarding career and to have helped shape and guide changes that improve the health of all people." ■

CLOTHES THAT “DO TH PROCLAIM THE MAN”

Montana Shakespeare in the Parks’ Claudia Boddy weaves life into the Bard’s words

by Denise Hoepfner

Much ado goes on behind the curtains before they rise for a performance of Montana Shakespeare in the Parks, Montana State University’s traveling acting troupe that performs the works of Shakespeare throughout Montana and in communities in North Dakota, Wyoming, Idaho and Washington.

The director infuses the play with a twist of creative juices. Wannabe Romeo and Juliet’s audition. Line-by-line, actors become their characters. Lighting designers illuminate a mood, a moment, a time. Stage designers set the scenes.

Then there’s the costume designer, tasked with harnessing the director’s vision and weaving it into being by way of fabric, ribbon, felt and fur.

As MSIP’s resident costume designer for the past 15 years, Claudia Boddy has risen to this task, dressing the royalty, commoners and ne’er-do-wells that color the tales of the Bard.

THINGS WON ARE DONE, JOY’S SOUL LIES IN THE DOING

Boddy’s work each year begins as soon as a new production is announced. First she meets to suss out the director’s vision.

Next, she begins researching—her favorite part of the process—creating an inspiration folder of clippings, fabrics and photographs.

Many of Boddy’s ideas come from her research. For instance, when, in 2014, MSIP Artistic Director Kevin Asselin decided to place *The Taming of the Shrew* in the Wild West, Boddy and the shop manager took photos of the Western artifacts at MSU’s Museum of the Rockies and visited Virginia City.

Boddy then begins sketching, keeping in mind the minutiae necessary to transport audiences to another place and time. Except for a few staple pieces, the costumes are created from scratch each season.

Because the troupe performs outdoors, Boddy considers challenges the actors will face.

“They’re dealing with mud, wood chips, ducks and grass,” she said. “They play multiple parts with quick changes and no real dressing room, so I have to figure out how to make it all work.”

While she’s designing, Boddy keeps a running dialogue with the director and actors.

That collaborative nature is just one of Boddy’s qualities that contributes to the program’s success, Asselin said.

“Claudia is truly one of the most collaborative designers I’ve worked with, both as an actor and director,” he said. “She can easily set aside her own aesthetic and adjust her design to meet the needs of a production and the comfort level of our actors.”

TO THINE OWN SELF BE TRUE

Boddy came to Bozeman in 1998 by way of Chicago, where she spent a dozen years designing costumes for the city’s vibrant theater scene. During much of that time, she also taught design classes in Roosevelt University’s Performing Arts Department, where she served as resident designer.

In Chicago, Boddy worked with notables such as Tony Award-winner André De Shields; playwright John Logan, who would later pen Oscar-nominated screenplays for *Gladiator* and *The Aviator*; and Pulitzer Prize-winning playwright August Wilson, whose play *Joe Turner’s Come and Gone* Boddy worked on at Chicago’s famed Goodman Theatre. *Joe Turner* was Boddy’s third production at the Goodman. She previously had designed costumes for two separate productions of the play *Marvin’s Room*, which ran for several years, including performances in England and off-Broadway, and won theater awards in Chicago and New York.

Boddy was in her eighth year as the resident costume designer of Chicago’s Victory Gardens Theater when her husband broached the idea of moving to Montana.

“At the time, I was doing six to seven shows a year,” she said. “I thought he was sort of nuts for wanting to move.”



But after some self-reflection, Boddy agreed to move.

Hearing there wasn't much costume design work in Bozeman, Boddy decided to pursue a teaching career and enrolled at MSU. She graduated in 2001 with her bachelor's degree in French and teaching certifications in French, art and drama.

Shortly before graduation, an art instructor suggested Boddy talk to Denise Massman, then costume designer for MSIP, to see if she needed help. As it turned out, she did. Boddy also landed a part-time position as a French teacher and began juggling the two jobs.

In 2001, Massman left MSIP, turning her work over to Boddy. The increased workload from Massman's departure, along with recent additions of a winter show and the addition of the company's elementary school tour "Montana Shakes!" prompted Boddy to retire from teaching to focus solely on her design work.

"I loved teaching, but designing is my passion," she said.

IT IS NOT IN THE STARS TO HOLD OUR DESTINY BUT IN OURSELVES

The birth of Boddy's passion can be traced back to the many places she lived while her parents worked in diplomatic relations. Born in Long Island, she also lived in Italy, Texas, New York, Morocco, France and England before moving to the U.S. to attend college at the University of Utah, where a work-study program would set the stage for her career in theater.

"In the interview, I told them I didn't know what they would be able to find for me because, as an art major, all I could do was sew and draw," Boddy said. "The woman told me they needed someone in the costume department."

A week into her new job, Boddy changed the focus of her major to costume design.

"I realized costume designing was the kind of art I like," she said. "It's down and dirty; it's different every day; you need to think on your feet; and you need to be very observant. It tied together my passions for culture and language."

Since then, Boddy's work has been lauded in Chicago's major newspapers and by industry professionals.

"Where would we be without you? Naked and lost, most likely," wrote Denis O'Hare, an award-winning actor in theater, movies and television.

Perhaps the most cherished compliment came from Pat Zipprodt, a renowned costume designer whose skill in manipulating fabric inspired Boddy's craft.

"Your production looked excellent," Zipprodt wrote of Boddy's work on the play *Terra Nova*. "Lovely colors/textures elevate the reality up into that mysterious level called 'theatrical realism.'"

While the thought of retiring might occasionally flit across Boddy's mind, it has yet to roost.

"Whenever I wonder if I could possibly quit, I realize that whenever we travel I'm always taking in everything," Boddy said. "It's like my brain is a huge junkyard of visual thoughts and images that would never get used. I need to be able to let it all out." ■



MARION POST WOLCOTT, FARM SECURITY ADMINISTRATION COLLECTION, LIBRARY OF CONGRESS

WEST WORDS

MSU launches Western Lands and Peoples Initiative to explore this place we call home

by Mary Murphy

In 1942, John Vachon fell in love with Montana and the American West. Driving his bald-tired Plymouth across the northern plains on assignment for the Farm Security Administration, he traveled the snow-dusted countryside, stopping to photograph country school children playing “fox and geese,” shepherds tending their flocks, and farm women filling oil lamps. Along the way, he also captured the architecture of the plains: snow fences, corn cribs, grain elevators and miles upon miles of empty road. Vachon wrote to his wife, “Once you see this place you cant really Love any other part of the world. Absolutely the best squarest people on the whole goddam earth.”

Millions of people before and since have likewise fallen in love with this place we call home.

For thousands of years the grasslands and mountains of the region were homelands to indigenous nations. Beginning in the 16th century and continuing into the present, the resources and beauty of the West have attracted settlers from all over the world. The connection that Vachon and others have had to Western lands, along with the meanings that people attach to place, serve as a starting point for Montana State University’s new Western Lands and Peoples Initiative.

WHY THIS INITIATIVE AT MSU?

The Western Lands and Peoples Initiative is a series of programs and events at MSU focused on the places and peoples of the western United States and Canada and highlighting interdisciplinary research and teaching on the West at MSU. The reach of the initiative is often public. But the initiative also is working behind the scenes to support the work of students. Beginning this summer, the initiative funded nearly a dozen graduate students who are working on western American research projects in American studies, geography and history.

Faculty and students in a variety of fields, including American studies, English, film and photography, geography, history, archaeology and Native American studies explore the meaning of place as expressed in a variety of texts and material objects. These scholars examine the West as a place of powerful legends and story in their studies of literature and the visual arts. Students and faculty also trace the role the region has played in the creation and development of American national identity. In the process, they study the history of encounters between diverse populations in the West and the ways the region has served as a laboratory for working out relations between immigrant groups.

The West is also understood as a contested space where different populations have struggled over the control of land and resources and as a site of tensions between rural and urban populations. The region is likewise important as a forefront of technological and scientific innovation, even as many folks in the region maintain a deep fondness for a “simple” past.

Nicol Rae, dean of the MSU College of Letters and Science, said the college hopes that through the Western Lands and Peoples Initiative, MSU will become an international hub for the study of critical issues relevant to the past, present and future of Montana and the region.

“MSU is the ideal home for such a center due to our expertise, our land-grant mission and community networks and our geographic location at the interface between the Great Plains and the Mountain West,” Rae said.

Ultimately, scholars involved in the Western Lands and Peoples Initiative seek to understand the many contradictions and complexities associated with this beloved and much-storied American region and engage the people of Montana in a rich and ongoing dialogue about this place we call home. ■

MSU history professor Mary Murphy, along with professors Bob Rydell, history, and Susan Kollin, english, are directors of the new Western Lands and Peoples Initiative.



Audrey Harvey, graduate student in the Department of Land Resources and Environmental Science, makes observations on a research plot of bluebunch wheatgrass.



ADRIAN SANCHEZ GONZALEZ

HOME TO MANY

MSU to build American Indian student center in the valley that has long been a home to many tribes

by Michele Corriel

Montana State University sits on land that has been welcoming to members of all tribes for centuries. According to Blackfeet legend, the Valley of the Flowers, so called because of the great variety of wildflowers found both on the mountainsides and in the valley, has been a welcoming place to American Indians since a maiden and a white flame appeared to warring members of the Sioux and Nez Perce tribes at a site at the top of the Bridger Mountains. In a sweet voice the maiden sang to the warriors: “There must be no war in the Valley of Flowers, all must be peace, rest and love.” The warriors put down their weapons and the valley became a neutral ground to all tribes who traveled across it—Blackfeet, Crow, Bannock, Nez Perce, Flathead and Snake.

Because the number of American Indian students has mushroomed in recent years—there are more than 650 American Indian and Alaska Native students currently enrolled at MSU—the need for services for the students outgrew the former American Indian Clubroom in the basement of Wilson Hall. The 900-square-foot MSU American Indian Student Success Center is located along a hall of classrooms on the lower floor

of MSU’s Wilson Hall. Native students also congregate in the American Indian Council clubroom in the basement of Wilson Hall, where there are computers, tables and a place for students to visit.

The unassuming spaces contrast to MSU’s rising national status as a leader in Native American education with a breadth of programming and resources that support Native American students. *Indian Country Today* identified MSU as one of just five “hot” universities for Native students. Yet, the spaces in Wilson Hall lack what Native students need—“(a) tribal place to be”—as author Sherman Alexie called it.

“When students are coming to MSU, they’re coming home in a lot of ways,” said Walter Fleming, chair of MSU’s Native American Studies Department, who first came to MSU in 1977 as a graduate student. Fleming said Gallatin Valley is historically Indian Country.

“This whole area has always been part of the Indian world.”

Yet, coming to Bozeman can be a “culture shock and a difficult transition,” for Native students, Fleming said. For instance, students coming to a university from a reservation suddenly find them-

THIS CENTER IS NOT JUST FOR NATIVE STUDENTS, BUT FOR THE WHOLE COMMUNITY. IT WILL BE A PLACE OF GATHERING. THERE WILL BE ACADEMIC AND CULTURAL ACTIVITIES AND SPACE FOR OTHER TYPES OF CLASSES. WE THINK OF IT AS **A GIFT** TO THE STATE OF MONTANA.

—Walter Fleming

selves as part of a minority for the first time in their lives.

“Fortunately, they are able to make their own community when they interact with other tribal communities that share the same traditions and values.”

However, Fleming said that as far as a physical space, “there isn’t really much (here now) to make them feel at home or a part of the MSU community. A building that is culturally appropriate and is designed to help them feel at home will go a long way to increasing enrollment, retention and, ultimately, graduation.”

The solution is the proposed American Indian Student Center, a building to be built on the Centennial Mall’s eastern edge that would be a touchstone for Native students: a safe place to share meals; a gathering room where people come together to share collective wisdom. The AISC is conceived as a much-needed space to practice Native ceremony and culture. Additional rooms may house tutoring, counseling and mentoring areas, a kitchen, a drum room, space for a future Elder-in-Residence, and rooms for students to visit, study or work on projects.

Fleming hopes to see a drum room, where students can practice singing Native music, and a suite for visiting elders from tribal communities who can mentor students.

“One of the things in building a community is bringing multi-generations together,” he said. And he envisions a space for communal meals because, “food is an important component of creating community.”

The American Indian Student Center also will serve as a bridge between Indian

and other cultures and will bring a new focus on the Native American community.

“This center is not just for Native students, but for the whole community,” Fleming said. “It will be a place of gathering. There will be academic and cultural activities and space for other types of classes. We think of it as a gift to the state of Montana. Although, it will be privately funded through philanthropy, it will be something everybody can access. The center is a noble cause.”

The late Elise Donohue believed the proposed project was noble. She felt so strongly about supporting MSU’s Native American student population and the importance of sharing American Indian culture that she donated a \$1 million leadership gift to get the AISC project underway before she died, making the program a top priority for MSU’s current comprehensive campaign. It is estimated that the project will cost \$10 million, Fleming said.

Sam Phares, Donohue’s son, said the project was important to Donohue, who died in 2015.

“I think my mom had a tremendous sense of fairness and she was aware that there had been too many promises broken to Native Americans over our history,” Phares said. “She hoped the center would be able to help a broader base of students, especially Native American students.”

The AISC is also a priority for MSU President Waded Cruzado, who sees the center as a way to keep Native American students enrolled in college.

“MSU is home to more than 600 American Indian students from 53 tribal

nations and 15 U.S. states,” Cruzado said. “As one of the nation’s top institutions where American Indian students earn degrees, we have seen Native enrollment double since 2010. More than ever before, our Native sons and daughters are pursuing degrees in nursing, education, agriculture, science, engineering, art and architecture, and are eager to return to their communities as leaders.”

However, Cruzado said, dropout rates nationally and locally are a concern—almost 22 percent more than non-Native counterparts.

“Too many (American Indian students) feel as though they don’t fit in, become distracted, and the pull to return to family is overwhelming. Many leave the university before completing their education. Our Native students tell us that one of the biggest obstacles to succeeding at college is the feeling of separation and loss from being uprooted from their communities for several years. MSU can do better to provide a home away from home for them.”

According to the *Chronicle of Higher Education*, American Indian and Alaska Native students have the highest high school dropout rate and are least likely to enroll in college. Once they are enrolled, they’re the second least likely ethnic group to graduate on time, just behind black students, facing the challenge of suddenly becoming a minority in an overwhelmingly white environment.

During a 2015 visit to MSU, author Alexie, a member of the Spokane-Coeur D’Alene tribe who was raised on the Spokane Indian Reservation, was asked what universities needed to do to help American Indian students achieve their goals.

“Simple,” Alexie said. “Buy a house and make it a Native house. Intensely tribal people need an intensely tribal place to be.” ■

Learn more or become involved at
MSUAF.ORG/AISC



A drum group performs during a traditional round dance at MSU's celebration of Indigenous People's Day.

THE IMPACT OF GIVING

MANY WAYS TO GIVE

With philanthropic intention and commitments that suit their finances, these donors have found a variety of ways to make impacts across campus.

ESTATE BEQUEST

Irene Hansen-Peters and **Bruce Peters** established an estate bequest in memory of Irene's mother, *Martha Gilman-Hansen*.

IMPACT College of Nursing student scholarships

IRA ROLLOVER GIFT

Connie M. Rumely gave \$5,000 via a distribution from her IRA through the IRA Rollover provision.

IMPACT Botany instruction and research with a preferred focus on field studies of native Montana plants

OUTRIGHT GIFT

Norman F. Weeden, professor, gave \$10,000, as he has every year since 1999, for a giving total of \$196,000.

IMPACT Legumes genetics research and graduate students in the Department of Plant Sciences and Plant Pathology

BENEFICIARY GIFT OF PROPERTY

Helen J. Lee, former College of Nursing faculty member, designated MSU as the beneficiary of her home (estimated value \$220,000).

IMPACT General support and research for the College of Nursing

BEQUEST AND OUTRIGHT GIFT

Cynde and **Clem Pellett** designated a \$100,000 gift in memory of Cynde's mother, *Betty L. Reed*, in their will and gave an outright gift of \$25,000.

IMPACT Library Special Collections and Archives

To be a part of the change and make your own impact, visit

MONTANA.EDU/WHATIT TAKES

An equation for change

Since Montana State University's What It Takes comprehensive campaign launched in September 2015, hundreds of people from all walks of life and income levels have given their financial support to MSU students and programs. Here is a sample of how a few of those people are impacting the future of higher education in Montana.

Laura Sullivan-Russett

is a native of Bozeman and a computer science major at MSU. **Robert Olsen** from Deer Lodge is studying chemical and biological engineering.

Both students are recipients of the **Woodward Family Scholarship** and are thankful for their respective scholarship awards. Sullivan-Russett and Olsen each feel fortunate about how the internship and lab experiences MSU offers motivate and inspire them. **Clem Izurieta** and **Jeff Heys**, MSU professors who have Sullivan-Russett and Olsen in their classes, describe them as hard-working students who seem truly happy in preparing for their chosen fields.

Sullivan-Russett and Olsen are the kind of Montana students who **Eugene (Jim)** and **Carol Woodward** envisioned would benefit when they established their family-named scholarship with the intention of helping keep college affordable for students. Thirty years ago, the Woodwards gave their first gift to MSU—\$50 to benefit engineering scholarships. Every year since then, they have donated to MSU at increasing levels, culminating this spring in gifts totaling \$75,000. The Woodwards' gifts will benefit the South Campus Development, MSU Library, KUSM, College of Engineering's greatest needs and the Woodward Family Scholarship.

GIVING BACK IS SOMETHING I NOT ONLY WANT TO DO, BUT SOMETHING I NEED TO DO.

—Jim Woodward

Jim Woodward grew up in Whitehall and earned an industrial engineering degree from Montana State in 1969. While in college, he received financial assistance from his aunt and his father's cousin. Jim worked for more than 40 years as an engineer at 3M in Minnesota and credits MSU with providing the foundation for his career opportunities and success. **Carol Woodward** earned an undergraduate degree from University of Oregon and a master's degree in library science from University of Washington.

When asked why he has been such a loyal donor, Woodward explained, "I wouldn't have made it to and through college without the help of my family and my family's friends. Giving back is something I not only want to do, but something I need to do." In addition to their recent gifts, the Woodwards have also included MSU in their estate plans.

Now retired, the Woodwards' generosity to MSU is hard at work supporting students like Olsen, who wants a career working to improve human health and is considering the field of pharmaceutical production, and Sullivan-Russett, who aspires to a career in technology. ■

The MSU Alumni Foundation takes seriously the responsibility to honor the confidentiality of donors and their gifts to MSU. All donor and gift stories are published with the express approval of donors and affected family members.



Connie Rumely has set up several gifts to support the John H. Rumely Award in memory of her late husband. These gifts included naming MSU as the beneficiary of her IRA, a charitable remainder trust and annual gifts via the IRA rollover transfer. John Rumely was an MSU professor of botany and curator of the MSU Herbarium for 32 years. The award is designated to support the instructional, research and scholarly activities of the curricula traditionally known as botany.



Victoria Barnick made a gift to endow the Robinson-Barnick STEM Scholarship, and included an additional current use gift to award the scholarship in fall 2016. In addition, Barnick included MSU in her estate plans through a bequest, which will fund four awards in perpetuity through the Robinson-Barnick STEM Scholarship and provide support to the Microbiology Department.



Loren Schillinger documented a \$500,000 bequest gift to be split between the College of Engineering, the Jake Jabs College of Business and Entrepreneurship and the Library, in addition to supporting his two named scholarships for chemical engineering students and business students majoring in finance or accounting. Schillinger grew up on a farm in Vida and attended MSU through a chemical engineering scholarship. He spent most of his career with Dow Agrisciences.



Sue Justis plans to gift a \$100,000 property to MSU via a beneficiary deed. Justis is a professor of medical biology at Flathead Valley Community College and serves on the College of Nursing Dean's Advisory Council. Her gift will be directed to establish an endowment in the College of Nursing that will award scholarships to non-traditional students transferring from FVCC.



Marla Patterson provided for a gift estimated at \$66,000 to the College of Nursing in her living trust. Cmdr. Patterson (Ret.) joined the U.S. Navy as an operating room nurse after earning her nursing degree from MSU. She retired after more than 28 years of service. ■

FALL 2016 CAMPAIGN REPORT

CAMPAIGN

ACHIEVED

GOAL \$300 million
SECURED \$307,988,615

PEOPLE

ACHIEVED GOAL \$75 million
RAISED \$95,974,336

PLACES

GOAL \$125 million
RAISED \$101,608,104

PROGRAMS

ACHIEVED GOAL \$100 million
RAISED \$110,406,175

CAMPAIGN PROGRESS BY DIVISION

(as of August 31, 2016)

ATHLETICS

GOAL \$25 million
RAISED \$22,145,789

COLLEGE OF AGRICULTURE

GOAL \$22 million
RAISED \$20,652,190

COLLEGE OF ARTS & ARCHITECTURE

GOAL \$7 million
RAISED \$5,966,498

JAKE JABS COLLEGE OF BUSINESS & ENTREPRENEURSHIP

GOAL \$45 million
RAISED \$41,957,772

COLLEGE OF EDUCATION, HEALTH & HUMAN DEVELOPMENT

ACHIEVED GOAL \$3.25 million
RAISED \$3,256,470

COLLEGE OF ENGINEERING

ACHIEVED GOAL \$110 million
RAISED \$114,733,673

COLLEGE OF LETTERS & SCIENCE

GOAL \$30 million
RAISED \$27,084,085

COLLEGE OF NURSING

ACHIEVED GOAL \$8.5 million
RAISED \$12,140,845

MSU LIBRARY

ACHIEVED GOAL \$1.75 million
RAISED \$1,837,297

GRADUATE SCHOOL

GOAL \$300,000
RAISED \$220,044

HONORS COLLEGE

GOAL \$7 million
RAISED \$2,996,244

DIVISION OF STUDENT SUCCESS

ACHIEVED GOAL \$2.1 million
RAISED \$2,542,069

GREAT FALLS COLLEGE-MSU

GOAL \$2 million
RAISED \$1,473,775

MUSEUM OF THE ROCKIES

GOAL \$7 million
RAISED \$4,750,242



Gail Small, Northern Cheyenne,
MSU professor of Native American Studies

ADRIAN SANCHEZ-GONZALEZ

REACHING HIGHER

In recent weeks, Montana State University President Waded Cruzado announced that the university has exceeded its goal of raising \$300 million, two years before the campaign comes to an end Dec. 31, 2018.

“This incredible accomplishment is possible thanks to the generosity and commitment of MSU’s extraordinary alumni, faculty, staff, students and benefactors,” Cruzado said. “We are grateful to everyone who has helped achieve this important milestone in the history of our university.”

MSU Alumni Foundation President and CEO, Chris Murray pointed out that while many projects identified as campaign priorities have been funded, there are still areas of need and much more to accomplish.

“This campaign has funded many projects central to the future of a better and stronger MSU, but we still have additional scholarships, professorships and the American Indian Student Center yet to fund,” Murray said. “We remain fully committed to these campaign priorities. With the continued help and generosity of our alumni and friends over these next two years, we will no doubt succeed.”

FUNDRAISING PRIORITIES

- SCHOLARSHIPS & FELLOWSHIPS · LEARNING & LEADERSHIP CENTERS
- PROFESSORSHIPS & CHAIRS · COMMUNITY & GLOBAL ENGAGEMENT FUNDS
- STUDENT SUCCESS FUNDS · FACULTY RESEARCH & LEADERSHIP GRANTS & AWARDS

IT TAKES YOU.

montana.edu/whatittakes

*P.O. Box 172750
Bozeman, Montana 59717-2750
406-994-2053 | 800-457-1696
info@msuaf.org*

2020

A virtual look at the MSU's Class of 2020

contributions by MSU freshmen · photos from MSU Debut events by Adrian Sanchez-Gonzalez

At more than 3,500 strong, they are the largest freshman class in Montana State history. Most of them were born in 1998. They have never seen an airplane ticket. They'd prefer if you send them a text—emails are often ignored—and telephone land lines are mostly a luxury. They are informed, complex and diverse. They are MSU's Class of 2020.

Throughout the past summer, Nilam A. Patel, MSU's social media strategist—provided a closed Facebook forum, or a group open only to class members, to MSU's incoming freshman class. As the class members approached their first days of college, Patel asked them several questions about their lives so far, their opinions and how they see their place in the world. She let the students know that their answers may appear in *Mountains and Minds*. The answers to a few of those questions follow as they were written, providing a revealing and often poetic snapshot of MSU's Class of 2020.



WHAT GLOBAL PROBLEM WOULD YOU LIKE TO SOLVE?

AND HOW CAN MSU HELP YOU SOLVE THAT PROBLEM?

Connor The balance between agriculture and industry in economic development.

Brent Our energy problem

Hailey Health. I think everyone should have an opportunity to see a doctor and get the medical help they need. This would include fresh and clean water around the globe to keep people healthy and safe. The healthier our minds and bodies, I believe the healthier our communities.

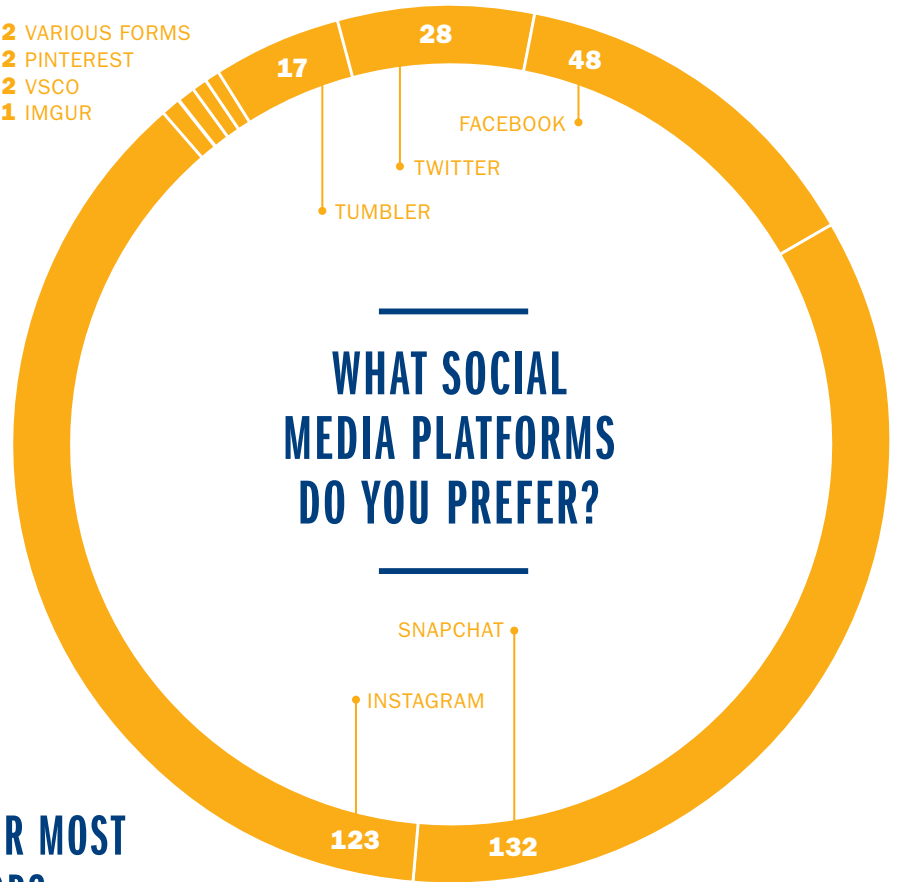
Bohdan The distribution of wealth and resources

Courtney The education gap.





2 VARIOUS FORMS
 2 PINTEREST
 2 VSCO
 1 IMGUR



WHAT SOCIAL MEDIA PLATFORMS DO YOU PREFER?

WHAT HAS BEEN YOUR MOST INTERESTING JOB?

Chris Reffing hockey. I've seen it all, heard it all, called it all. But the pay is good so I can't complain

Grant Helping flip houses was the most interesting job I ever had. You never knew what you were getting into until you started removing drywall, flooring, pipes, and so on. What I found wasn't pleasant most of the time. I never knew such smells even existed.

Bekah Teaching 6th graders science outdoors at Jefferson County Outdoor Lab in Colorado. Outdoor Lab is a program run by my county's public schools where all 6th graders come spend a week in the mountains. I lived on the site, taught curriculum, managed the dining hall, and monitored bunkhouse time for a semester. It was very fun, difficult, and rewarding.

Michael Beekeeping and honey making at Fitzgerald farms in Goochland Virginia! I maintained all organic, locally owned bee hives kept on the farm, along with many crops and flowers to keep the hives happy and healthy. We sold the honey, along with fruits and vegetables, on the Virginia Co-op! Definitely the most interesting job I ever had!

I worked at the National Cancer Institutes for a little over a year. I researched hematopoiesis and cell differentiation relating to leukemia, anemia, etc.

—Eric

Raleigh Working at Paws Up Resort! I got to meet all kinds of amazing people I never thought I would, and we got to do all the activities they had available to guests. Hot air ballooning, white water rafting and staying in the glamping tents were just a few of the many things I did that summer.

Spencer Working at Walmart because you see the strangest stuff and the weirdest people on a daily basis

Olivia Working at a florist. Especially during the Valentine's Day rush when I had to de-thorn 10,000 roses





HOW DO YOU FEEL ABOUT GENDER ROLES AND RACE IN TODAY'S AMERICA?

Connor Gender doesn't matter; it's each person's brain and their ability to make rational decisions. Even if the decision happens not to be the right one, mistakes happen. Rationality it's the only role.

▶ That goes for race too

Jake Even if you don't understand how someone could be a gender that is not male or female, it doesn't matter and their choice isn't affecting your life at all.

▶ Also, there are real race problems in our country, but there are also race problems that don't exist that are being pushed by the mainstream media. If everyone was just kind to each other and listened to people's stories and problems, a lot of the division in our country would disappear.

Even if you don't understand how someone could be a gender that is not male or female, it doesn't matter and their choice isn't affecting your life at all.

—Jake

Hailey I just wish the whole world could be more accepting of all the people around them. I feel like a lot of people in all generations have deep opinions that aren't exactly the kindest or most open; I think the more accepting society becomes, the better. I think we're working as a society to that point; I don't think we've made it yet.

Lyla I think that there is way too much pressure on everyone in general, no matter who you are, to fit into a clean cut "group." Gender roles are a problem that media outlets control, they show commercials with dads doing yard work and moms doing dishes, and single moms and dads and usually too busy for their own good or alcoholics. That isn't how real life works. Race is also controlled by media for a majority, if media only produces what they think we want to hear then there is a bias and it isn't a truth, it's a loose interpretation of what they think we want to hear. There is a serious race problem in America, but it isn't a one way street there are racist people in every group that will cause problems and that is unfortunate.

DO YOU PREFER SKIS OR BOARDS?





WHAT IS YOUR FIRST MEMORY OF A MAJOR WORLD EVENT?

WHEN WAS IT?

Meghen Ronald Reagan's death in 2004, I drew an American flag and set it out for his memorial. Also the 2004 Indian Ocean tsunami—I remember seeing so much water on the news. I don't think I understood just how devastating it was though.

▶ I mean, I kinda remember 9/11 but not as clearly as these two events...I mean I was only 3 in 2001 and 6 in 2004 so that makes sense

Connor 9-11 I was in Manhattan with my uncle and grandfather.

Ethan Steve Irwin's death for sure

▶ **Meghen** That was so sad

Emma Does Mr. Rogers' death count?

Jaydyn 9/11 I remember watching it on TV and not understanding why my parents were freaking out!

Hailey On 9/11 my whole family was watching the news as it happened. My birthday was just a week later and we had planned to go to Disneyland. I remember the park being almost empty since everyone was afraid of traveling at the time.

Cameron When Hostess went bankrupt in November of 2012. Twinkies became a glimpse of the past.

Jake In 2007 the I35W bridge collapsed near my house, and it was the first thing I ever remember watching on TV. My dad is a first responder so I remember him rushing out of the house to get there as fast as he could

Mindy Probably Hurricane Katrina in 2005. I remember it was covered so extensively, and in school we were all exposed to it.

Patrick 2004 Pres election. I didn't pay attention to it but I knew it was happening because we did an election in my 1st grade class which is really stupid looking back on it lol.

Connor I love how all the things we remember are either tragedies (terrorist attack, natural disasters) or stupid things that happened like catching a lot of fish or asking first graders to vote in the election

Desiray 2001 earthquake in WA. I was in 1st grade and part of our ceiling collapsed into the classroom. A light fixture fell on another student in a neighboring classroom. Kinda glad I moved away from there lol

*Traditional college
students in the class
of 2020 were born in
1998–1999.*

WHERE DO YOU SEE YOURSELF IN FIVE YEARS?

Taylor Serving the country as an officer in the US Army

Maria Doing research for NASA :)

Emily Working to rehabilitate race horses!

MacKenzie Hopefully working as a nurse overseas!

Spencer Freelance Photographer abroad

Meghen Hopefully making a difference somehow

Eric Commercial Pilot

Luke In dentistry school!

Bohdan Traveling engineer

Hailey Opening up a music venue and coffee shop with my friend, hopefully. We may need a lot of help with that...

Laurel I would love to travel abroad and work with women and children in rural or developing countries after earning my Nursing/Public Health degrees!

Lauren Teaching English as a second language to elementary students abroad

Rachel Pediatric oncology nurse

Elizabeth In my last years of school for veterinarian degree and working in someone's office as a vet tech and possibly married and having kids

Becca Finding time for adventures while getting my graduate degree in Neuroscience

Aanya Hopefully beginning med school and/or doing Americorps/Doctors without Borders

Matthew Waist deep in a river with a rod in hand

Neil Infantry Officer in the U.S. Marine Corps

Madi Being 100% happy with my life and teaching in my own classroom :)

Oriana In graduate school, hopefully having figured out what I want to do for the rest of my life. Living with a small group of friends and lots of pets.

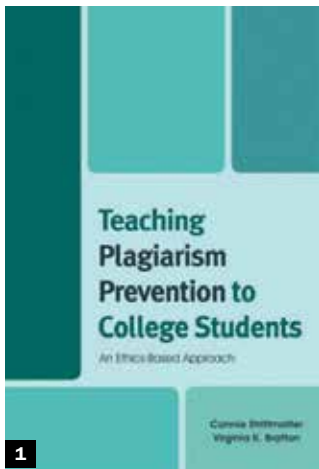
Stephanie Grad school for architecture

Mindy Keepin' nature natural as a National Park Service ranger

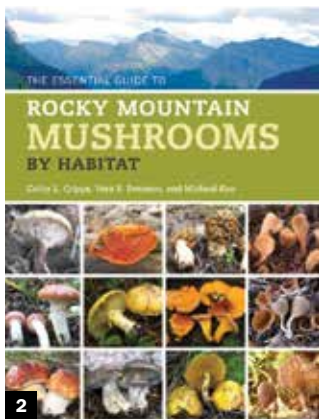
SHOW YOUR COLORS

Mountains and Minds wants to see your completed Bobcat coloring page, created by the magazine's art director, Bridget Ashcraft. The winning page will receive Bobcat gear and will appear in the spring issue of *Mountains and Minds*.

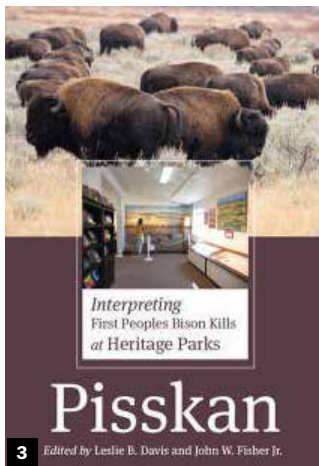
Send a copy of your page with your name and location to
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 431 Culbertson Hall
 Bozeman, Montana 59717
 or email a high-resolution image to
 mountainsandminds@montana.edu



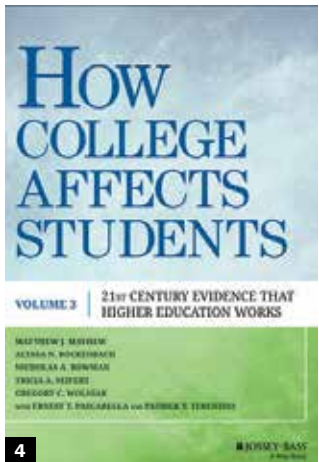
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4

BOOKMARKS

- 1 **Teaching Plagiarism Prevention to College Students** *Virginia K. Bratton*
 MSU management professor Bratton and Connie Strittmatter wrote this book that provides tools to address why plagiarism is an important ethical issue in an academic environment.
Published by Rowman & Littlefield Publishers

- Fernando de Alva Ixtlilxochitl and His Legacy** *Galen Brokaw*
 The Modern Languages and Literatures professor and Jongsoo Lee wrote this book about the controversial and provocative Mexican chronicler from the colonial period.
Published by The University of Arizona Press

- 2 **The Essential Guide to Rocky Mountain Mushrooms** *Cathy Cripps*
 MSU mycologist Cripps, along with colleagues Vera Evenson and Michael Kuo, wrote the definitive reference book about finding and identifying mushrooms in the Rockies.
Published by University of Illinois Press

- 3 **Pisskan: Interpreting First Peoples Bison Kills at Heritage Parks** *Jack Fisher*
 The MSU anthropologist Fisher co-edited this book that is a comprehensive exploration of the multifaceted linkages between archaeological research and public education with the late Les Davis, professor emeritus at MSU and former curator of archaeology for the Museum of the Rockies.
Published by The University of Utah Press

- Climate Change in Wildlands: Pioneering Approaches to Science and Management**
Andrew Hansen
 MSU ecology professor wrote this book about climate and land use changes affect montane landscapes of the Rockies and the Appalachians, and how these findings can be applied to wildlands elsewhere, with a team of scientists and writers including William Monahan, David M. Theobald and S. Thomas Olliff.
Published by Island Press

- A History of Western American Literature** *Susan Kollin*
 MSU English professor Kollin edited this history that encompasses the intricacy of Western American literature by exploring myriad genres and cultural movement.
Published by Cambridge University Press

- 4 **How College Affects Students: 21st Century Evidence that Higher Education Works, Volume 3** *Tricia Seifert*
 Seifert, department head for education and associate professor in adult and higher education, co-authored a book that is already the most-cited book in the field since its September launch.
Published by Jossey-Bass



Explore online exclusives for this issue of Mountains and Minds online at
WWW.MONTANA.EDU/MOUNTAINSANDMINDS

MSU's record incoming freshman class, the class of 2020, forms an M shortly after arriving on campus.

PHOTO BY KELLY GORHAM

