

CONFLUENCE

THE COLLEGE OF LETTERS AND SCIENCE • MONTANA STATE UNIVERSITY • 2010-2011 • VOLUME 7



LETTERS AND SCIENCE | A STUDENT-CENTERED COLLEGE



Paula Lutz. Photo by Kelly Gorham.

Dear friends and colleagues,

In September we celebrated the grand opening of the renovated Gaines Hall. This project, which was funded with a \$32.5 million investment from the state of Montana with strong support from Governor Schweitzer and the legislature, transformed the tired 50-year-old building into a state-of-the-art teaching facility. Most of the space in this fabulous building is dedicated to activities within

the College of Letters and Science, including instructional labs for undergraduate students in chemistry, biochemistry, biology, earth sciences and physics. The building also houses the Department of Modern Languages and Literatures and its new language laboratory. In addition to the instructional labs used for hands-on learning, the building also supports student success with an abundance of inviting new classrooms, help centers and informal learning spaces.

The restored Gaines Hall is a great example of the college's commitment to helping our students achieve by providing excellent facilities, exciting programs, hands-on learning opportunities, cutting-edge curricula and world-class faculty to teach our courses. I'm so proud of the many efforts within our college—both big and small—to support our students and help them succeed during their time here on campus, and beyond.

In this issue of *Confluence*, you'll read more about Gaines Hall but also about other smaller facilities used to enhance learning such as the Math Learning Center, the English Writing Center and the Chemistry Help Center. You'll learn about amazing opportunities provided to language students to use their skills working in Mali, West Africa; about the development of an international exchange program in the biological sciences; and about the use of technology to provide unique distance learning programs in Native American studies and mathematical sciences. You will also learn about a new orientation program for entering American Indian/Alaska Native freshmen designed to enhance their transition to the campus community.

Students in L&S are provided with these and many other facilities, programs and responsive learning options to encourage them in their academic pursuits, and provide them with the knowledge and guidance needed to achieve upon graduation. Thank you for your support in helping to make these opportunities possible.

As you read this issue of *Confluence* focused on endeavors to support student success, and enjoy these highlights of faculty, staff, student and alumni accomplishments, we hope you'll be inspired to learn more about what is happening across the college. You can visit our website at www.montana.edu/lettersandscience for frequently updated news. We cordially invite you to join us for any of our public events, discussion groups and learning opportunities, or visit us on campus to meet our faculty and students.

Best regards,

Paula M. Lutz, Dean

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CONFLUENCE is published annually by the
College of Letters and Science, Montana
State University.

Editor, Jody Sanford
Design, MSU Marketing and Creative Services
Printing, Advanced Litho Printing

Thank you to MSU News Service.

COVER PHOTOGRAPHY

All photos, Kelly Gorham

BACK COVER PHOTOGRAPHY

Clockwise from left, Kelly Gorham;
Project Archaeology; Kelly Gorham;
Megan Haywood-Sullivan

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**MONTANA
STATE UNIVERSITY**

College of
**LETTERS
& SCIENCE**

COLLEGE OF LETTERS AND SCIENCE

A STUDENT-CENTERED

COLLEGE

by Jody Sanford

Sure, there is a lot of world-class scholarship and research occurring in the College of Letters and Science, and you can read about some of the accomplishments of our faculty, students and alumni in this issue of *Confluence*. But the theme of this issue of

Confluence—a student-centered college—focuses on things which prospective students and their families wonder about. Will I feel welcome on campus? What academic support, such as tutoring, does the college offer? How about the facilities, are they modern, safe and comfortable? Do they offer the curricula my student is looking for? Will the programs prepare me for success upon graduation?

Each of the 15 departments in the college is proactively seeking ways to support student success and be responsive to the needs of our students. Some of these efforts are described in depth on pages 4 through 11, and here is a representative sampling of other programs, buildings and centers, curricula and learning opportunities illustrating how our college revolves around our students.

The renovation of Gaines Hall (see pages 6 and 7) is a big example of the excellent facilities available to students in our college, but we also have many smaller learning

centers that are used to enhance the educational experience. For example, the Department of Modern Languages and Literatures' new Multimedia Language Resource Center provides cutting-edge technology for language acquisition. The new equipment and upgraded language lab software provides instructors and students with enhanced functionality for uninterrupted audio communication, and the ability to seamlessly incorporate a wide variety of audio and video content into their language lab activities.

The Department of Agricultural Economics and Economics recently opened their Undergraduate Student Research Center, which provides economics students with space near their professors where they can work on research projects and presentations. The center includes six computers, whiteboard space and a projector that DAEE students can use to practice research presentations. "Most upper-level courses in economics require the students to write extensive research papers, and many classes also require in-class presentations of this research," said Wendy Stock, professor and department head. "Because students tend to work closely with professors on these research projects, access to the labs will enhance both student research and the student-professor interactions."

In addition to providing excellent educational spaces and equipment to our students, there are several outstanding tutoring programs in the college to provide students with extra academic support. The Department of Mathematical Sciences houses the Math Learning Center, a drop-in tutoring center providing assistance to thousands of students each year. Similarly, the Department of English operates the English Writing Center, which provides free tutoring assistance to over 2,000 students per semester in all stages of the writing process. Finally, students, teaching assistants and teaching faculty tutor individual students and small groups in the Department of Chemistry's Help Center in Gaines Hall. The room is outfitted with computers for students to use in preparing homework and lab reports, and to access online tutorials.



Amy McMahon on assignment for *Outside Bozeman* magazine.
Photo courtesy of Amy McMahon.



Rachel Rabenberg, a recent graduate with degrees in cell biology and neuroscience and psychology, conducts research on a NASA-funded project. Photo by Kelly Gorham.



Mary Rodgers and Paige Goveia participate in an archaeological excavation of a prehistoric bison kill and processing site. Photo courtesy of Michael Neeley.

We are also very proud of the hands-on learning opportunities provided in our college, such as the student projects in Mali, Africa described on pages 10 and 11. Another example of hands-on learning occurred during the summer of 2010, when anthropology students conducted an archaeological excavation at a prehistoric bison kill and processing site on the Milk River in northeastern Montana. Students in the field school gained valuable archaeological experience and

Each of the 15 departments in the college is proactively seeking ways to support student success and be responsive to the needs of our students.

training in excavation and recording techniques. After completing the fieldwork, students had the opportunity to clean and inspect the remains in the lab. Materials are currently undergoing analysis for individual student and class projects.

Physics students get to participate in BOREALIS (Balloon Outreach, Research, Exploration and Landscape Imaging System), which is the Montana Space Grant Consortium's high altitude ballooning program. Students work together to conceive, design and build payloads that are flown up to 100,000 feet to the edge of space. The science and engineering payloads are then retrieved so that the data can be analyzed and presented by the students.

English students are provided with experiential learning opportunities through a departmental internship program. Recent English graduate, William Meznarich, interned at the CNN Tonight Show in New York City. "I was privileged enough to have the opportunity to be on the ground floor in the production of a nightly news broadcast," said Meznarich. "I learned a significant

amount about cable news media and about television production, and the internship helped me realize my interest in working in TV professionally." Amy McMahon interned with *Outside Bozeman* magazine. "Interning through the English department at MSU gave me an opportunity to get out of the classroom and get some experience in a field I may want to join," said McMahon.

The departments in the college strive to be responsive by providing the programs and curricula students want, such as the study abroad program described on page 5 and the distance learning programs described on pages 6-7. For example, the Department of Cell Biology and Neuroscience has recently revised their curriculum for pre-med students so that they now take human physiology in their very first semester at MSU, rather than waiting until the third year like students do at most other universities. "When I asked students in an evaluation if human physiology is a better introduction to college science than a more general biology course, 88 percent of the students agreed or strongly agreed," said Professor Steve Eiger.

Similarly, the Department of Political Science surveyed their majors last year as part of an effort to keep abreast of student interests. They found increased interest in political theory, and added a political theory option within the department curriculum.

"Our team of faculty and staff in the college work very hard to provide our students with the support they need to be successful," said Dean Paula Lutz. "Our students really do come first."



BOREALIS high altitude ballooning program. Photo courtesy of the Montana Space Grant Consortium.



Native Pathways to Success

HELPS STUDENTS START SCHOOL ON SOLID FOOTING

By Amy Stix

Walking onto a campus of 13,000 new faces for the first time can be intimidating for any freshman, but particularly for those incoming students who must travel far from family, friends and cultural ties. That's one reason that in August 2010, the Native American Education Advisory Board initiated "Native Pathways to Success," a targeted orientation program focusing on entering American Indian/Alaska Native freshmen.

According to NAS Student Advisor, Jim Burns, who coordinated and led the Native Pathways to Success orientation, the program "was a great success." Twenty-seven Native freshmen participated in the two-day orientation, as did seven families of incoming Native students. Burns noted that the program "came with great support from Dean Paula Lutz."

He also stressed that the new orientation for Native students was not designed to replace MSU's orientation for all incoming freshmen. Rather, Native Pathways to Success, which occurred just prior to the all-student school introduction, "was a supplement" program, geared "to have a more focused effort on reaching out to Native students."

Burns said that for many Native American students, "There is such a strong connection with family and extended family. It's such a fabric of their life." Leaving those connections behind, especially for a young person who may be the only member of his or her tribe at MSU, "can be very intimidating."

Thus one of the goals of Native Pathways to Success was to "give (Native) students time at the university before the rush," said Burns and make them aware that "they're not in it alone. There are a lot of people on this campus that care about them."

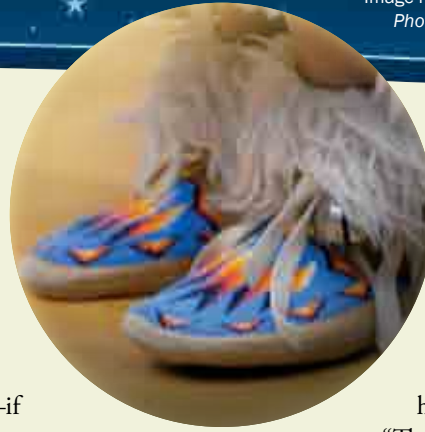
That message of care and support came from a variety of MSU faculty, staff and students. Incoming freshmen and their families, who traveled from across Montana, and states including Colorado, Washington, New Mexico and Maryland, not only toured the campus and student housing arrangements, but also learned about MSU's career services, financial aid and budgeting tools, extracurricular activities and student groups, as well as time management and study skills. After an opening prayer by Dr. David Yarlott, president of Little Big Horn College, MSU President, Waded Cruzado, welcomed incoming freshmen. They later heard from a panel of upper classmen Native students, who shared their own experiences and insights on adjusting to student life at MSU, through what Burns called an "open conversation" about the transition from high school to college.

Perhaps most important, incoming Native students were provided the opportunity to meet one another in a social setting, which helped ease feelings of intimidation and loneliness in new surroundings. Current students joined freshmen and MSU staff for a barbecue, campfire and "sharing circle" at Langhor campground, followed by a sunrise hike the following morning up to the "M."

Participants in the 2010 Native Pathways to Success Program.
Photo by Kelly Gorham.

"The most important thing they take away is connecting to a community," said Sheree Watson, who oversees MSU's "Designing our Community" program, which recruits and retains Native American students in the College of Engineering.





Watson, who assisted Jim Burns with coordination of Native Pathways to Success, noted that focused orientation programs are “the hook to the retention program. It just really works.” Students are much more likely to graduate—and thrive—if they know from the start of their college careers that they have people on campus whom they can count on for compassionate guidance, support and friendship.

Freshman Thomas Law would probably agree with that. Law, who belongs to the Fort Peck Assiniboine tribe, moved from Maryland to attend MSU. The civil engineering student and his parents came across the country together to participate in the Native Pathways to Success orientation.

“It was nice to meet people who were not only in my situation, but were from my background,” Law said. “It was definitely better having it (Native Pathways) to start off the year.” He added that, “It was key in my parents sort of approving and seeing that everything was OK.”

Native Pathways to Success was, in part, focused on parents. Over the course of the program, “We had separate meetings with parents,” said Jim Burns. “It’s that face-to-face time that is so important,” he added, allowing parents to see that, “Their children will be well taken care of, both academically and emotionally.”

In fact, though student response to Native Pathways to Success was very positive, some of the highest accolades came from parents. One parent from New Mexico noted on an evaluation, “Your energy, generosity and support made us so happy we chose MSU.”

Another parent wrote, “I think if I had support like this, I would have finished school.”

That one statement encapsulates the motivation behind Native Pathways to Success, and why Jim Burns and his colleagues look forward to repeating the orientation next year.

Exeter, Devon, Great Britain.
istockphoto.com.



BIOSCIENCE **ACROSS THE POND**

NEW PARTNERSHIP PROVIDES MSU STUDENTS WITH UNIQUE STUDY ABROAD OPPORTUNITY

You would expect to find exchange programs in departments such as Modern Languages and Literatures (and they do have many great programs!) but departments throughout the college are striving to provide their majors with international experiences within their course of study—through opportunities to go abroad as well as working with visiting international students on the MSU campus. An excellent example is a bioscience exchange program between the Department of Cell Biology and Neuroscience and the University of Exeter in Great Britain.

The fledgling program has brought 12 British students to MSU so far, but only one MSU student to Exeter. Working toward greater parity, Andrew Shaw, professor of biosciences at Exeter, and Frances Lefcort, professor of cell biology and neuroscience, compared syllabi and discovered that MSU science majors could graduate on time even if they attended Exeter. MSU students had thought that studying abroad would interrupt the sequence of classes they’d need to graduate in four years and make it difficult to fulfill their prerequisites

for upper-level courses, Lefcort said. Addressing those concerns, Shaw said Exeter offers classes that match the requirements for MSU science majors. It also offers classes that aren’t available at MSU, such as forensic science and astrochemistry.

Lefcort and Shaw said MSU students—like Exeter students—would benefit from attending school in another country. Exeter is only eight miles from the sea, close to a national park and approximately 2½ hours by train to London.

Frances Lefcort.
MSU photo.



CAREER ADVANCEMENT WITHIN REACH

By Amy Stix

“This grew with the Internet,” said Maurice Burke, MSU professor of mathematics, when describing the university’s unique Master of Science in Mathematics Education program. The advanced degree, which is designed for high school and junior college math teachers, is rare because it can be earned from anywhere in the world.

In the mid-1990’s, MSU’s traditional campus-based mathematics masters program was declining, due in part because, “Teachers were becoming more place bound,” said Burke.

Many fulltime teachers who desire to deepen their understanding and competence in high school mathematics and pedagogical knowledge lack the extra time—and financial resources—to uproot to a new city and pursue a two-year graduate degree. For teachers who have children, that scenario is even more out of reach.

“It became clear that we had to offer an option for place bound teachers who had families or couldn’t afford spending all that money for tuition,” said Burke. So he and his colleagues went to work designing a challenging graduate curriculum that one could follow from home. Their first course was offered in 1998; soon after, “We quickly enlarged that into a full suite of programs.”

In 2001, MSU’s Master of Science in Mathematics Education was accepted into the Western Interstate Commission for Higher Education (WICHE) Student Exchange, which enables students at 14 state universities to enroll in eligible graduate programs with

in-state tuition rates. Enrollment in MSU’s program skyrocketed. Today, students participate from around Montana and the world. “We get students from military bases,” said Burke, who has taught students based in Japan, Portugal and Hong Kong.

Students do get some face time with professors and each other. During the summer, participants come to MSU for a three-week “high octane” learning session, said Burke, who calls the masters program a “hybrid distance model.”

After months of intensive online assignments, working groups and back-and-forth discussions, the in-person session is a “great opportunity to see and meet people,” said Leslie Pehl, a current masters student (and MSU grad) who also teaches high school algebra, geometry and calculus in Columbus, Mont.

But as much as she enjoyed meeting and spending time with her online classmates, Pehl believes that the round-the-clock nature of online learning lends itself to deeper learning. “I have actually always thought the online classes are almost more in depth, because there are always things to add. You can always contribute to it,” she said.

“It became clear that we had to offer an option for place bound teachers who had families or couldn’t afford spending all that money for tuition.”

– Maurice Burke

“I think the professors should be credited. They foster community. I think there is probably an art to teaching online,” Pehl added.

As for the professors, said Burke, “Ours is a great program. We feel totally committed in reaching out to teachers and providing this avenue for improvement.”



KELLY GORHAM

BRINGING NATIVE AMERICAN STUDIES TO THE WORLD

By Amy Stix

In 2006, Department of Native American Studies faculty began exploring distance learning and distance teaching as a means to reach out to reservation and tribal college communities across Montana, and across the country. Just two years later, NAS faculty began development of an online program, with a grant from MSU's Office of the Provost. The department's first distance course offering was a graduate class entitled, "Native America: Dispelling the Myths."

It was "designed with K-12 teachers in mind, but relevant to all considering entering the field of Native American studies or related disciplines," said assistant professor, Kristin Ruppel, who teaches in the distance learning program.

As soon as it was offered, the "Dispelling the Myths" class "filled to beyond capacity, drawing students from around Montana, California, Oregon, and as far away as New York state," said Ruppel.

"We believe that there are students across the globe interested in graduate courses in Native American studies and this innovative offering fills that need."

– Walter Fleming

With that success, the department then offered a second online course, focused on American Indian art. And, by the end of 2009, the department was ready to roll out its online graduate certificate program, which officially launched in spring 2010. Ten students are already enrolled in the program, which requires 12 credits for completion. Now, in addition to the "Myths" course and American Indian arts, students can delve into classes entitled, "Federal Indian Law and Policy" and "Indigenous Nations of Montana."

The distance learning graduate certificate program in Native American studies is believed to be the first such program in existence, according to Walter Fleming, head of the department. "We believe that there are students across the globe interested in graduate courses in Native American studies and this innovative offering fills that need," Fleming said.

Judging from the achievement and fast growth of the department's online courses so far, the program looks well positioned to connect with, and inspire, many more students the world over.

GAINES HALL

A STATE-OF-THE-ART BUILDING
FOR TRAINING THE NEXT GENERATION OF SCIENTISTS

Room 053 – Paleontology Teaching Laboratory

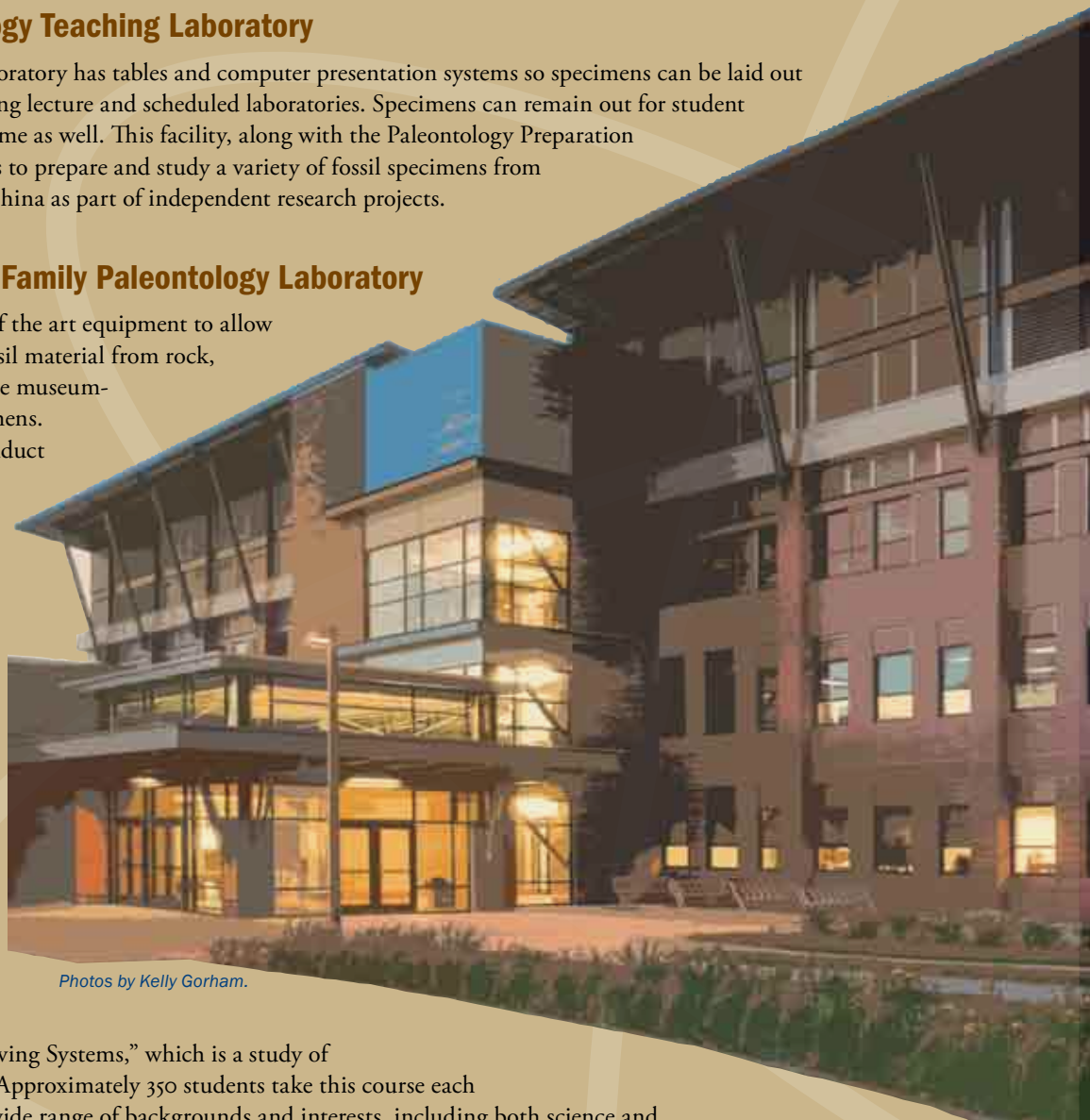
The Paleontology Teaching Laboratory has tables and computer presentation systems so specimens can be laid out for students to study or see during lecture and scheduled laboratories. Specimens can remain out for student examination during their free time as well. This facility, along with the Paleontology Preparation Laboratory, will permit students to prepare and study a variety of fossil specimens from Montana, Idaho, Nevada and China as part of independent research projects.

Room 051 – Varricchio Family Paleontology Laboratory

This laboratory will have state of the art equipment to allow students to carefully remove fossil material from rock, mold and cast fossils and prepare museum-ready displays of modern specimens. Students will also be able to conduct taphonomic experiments on organism decay and the process of fossilization. This laboratory has storage areas for fossils that are ready to be extracted and for fossils that are used for teaching. There is a Geochemistry Wet Laboratory (Room 046) available nearby for staining, chemical treatments and extractions.

Room 018 – Biology Teaching Laboratory

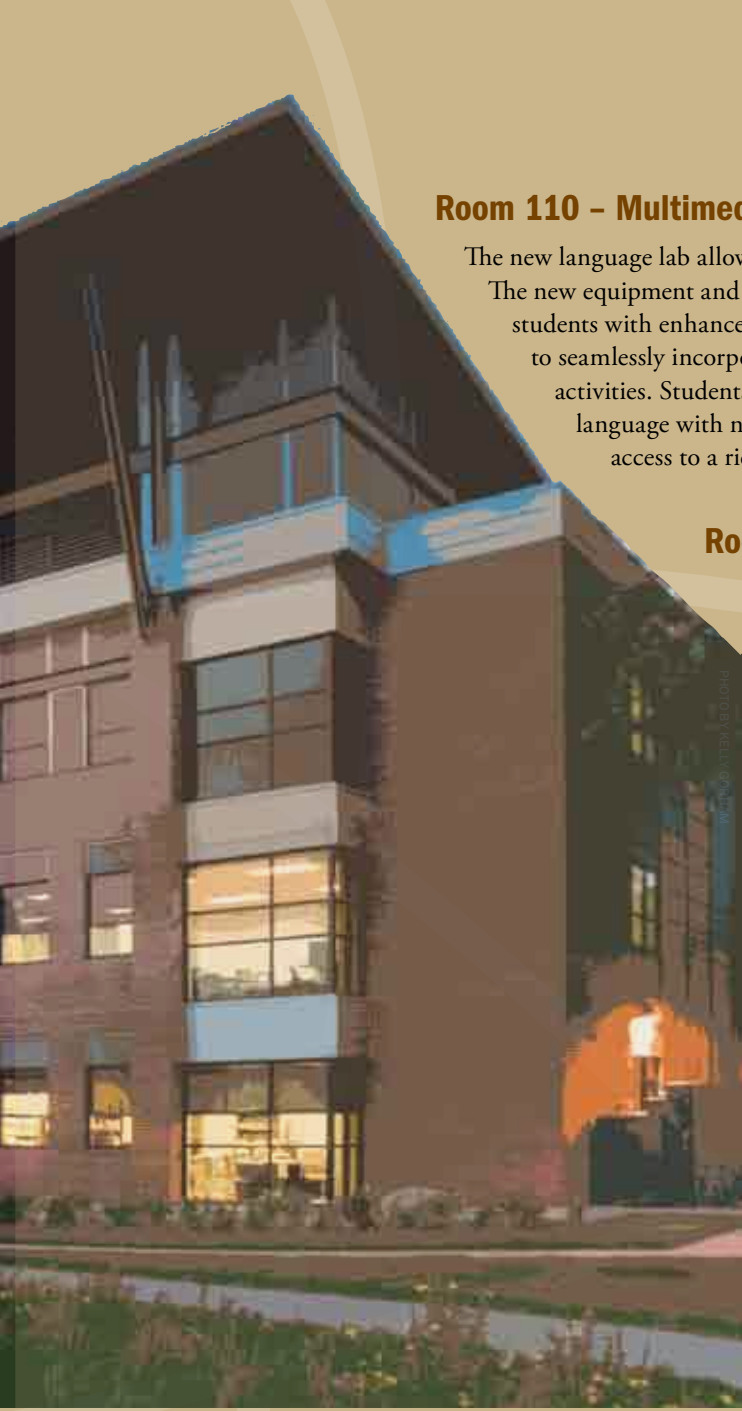
This room is used for teaching the laboratory portion of “Biology 160: Principles of Living Systems,” which is a study of cellular and molecular biology. Approximately 350 students take this course each academic year, coming from a wide range of backgrounds and interests, including both science and non-science majors, and including freshmen through senior students. There is a wide range of laboratory experience in this portion of the course, from observing and manipulating chemical models, to observing tissues, cells and internal cell structures, and to performing and analyzing results of experiments. Students study cellular and molecular processes such as diffusion and osmosis, enzyme function, respiration, photosynthesis, mitosis, meiosis and genetics.



Photos by Kelly Gorham.



Gaines Hall houses all of the teaching labs for the Department of Chemistry and Biochemistry. Students performing basic experiments in general chemistry, as well as students in more advanced labs, can now take advantage of teaching spaces that are designed for optimal learning in a safe environment. Especially noteworthy are the organic labs where all students perform their experiments in well ventilated hoods, the computational spaces for advanced work in organic chemistry, biochemistry and physical chemistry, and the instrument room that provides access to state-of-the-art instrumentation.



Room 110 – Multimedia Language Resource Center

The new language lab allows students to use cutting-edge technology for language acquisition. The new equipment and upgraded language lab software provides language instructors and students with enhanced functionality for uninterrupted audio communication, and the ability to seamlessly incorporate a wide variety of audio and video content into their language lab activities. Students are able to record and compare their speaking ability in the target language with native speakers and easily implement corrective strategies. Instructors have access to a rich variety of content authoring tools to effectively enhance instruction.

Room 010 – Physics Senior Laboratory

This laboratory is used to introduce students to methods, instrumentation and data acquisition techniques used in modern physics research. Experiments in the fall semester are typically in the optical area and include interferometers, fiber optics, spectral measurement, polarization and laser optics. Experiments in the spring semester are typically in solid state physics and particle spectroscopy. Emphasis is placed on practical skills because many students will be employed by optics and other high-tech companies.

“Collision Areas”

Comfortable common areas, or “collision areas,” fill a need for open study areas that facilitate peer-to-peer education aimed at providing additional support for student success, and for rapid transformation of students to active, integral members of the academic community.

“The new facility will help our students keep pace with the frontier of research.”

– David Singel, professor and department head,
Department of Chemistry and Biochemistry

“As the world becomes more interwoven, Gaines Hall prepares us for that future with its modern language labs, where students will learn tools to help them be citizens of the world and ambassadors of Montana and the nation.”

– Teresa Borrenpohl, regent, Montana Board of Regents

Gaines Hall is the first LEED certified building on the MSU campus, meaning its construction and operations are environmentally responsible. LEED refers to Leadership in Energy and Environmental Design, the internationally recognized certification of the U.S. Green Building Council. A LEED certified building must adhere to the following metrics: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Gaines Hall, built in 1961, was named after P.C. Gaines who worked for 43 years in the chemistry department, was a master teacher and served four times as acting president of MSU. Twenty plus members of the Gaines family attended the September 17 grand opening celebration for the renovated building.



MALI, AFRICA

By Suzi Taylor

A chance meeting of two Montana State University faculty members some 20 years ago has led to an interdisciplinary project that crosses colleges, cultures and continents while improving life for rural communities in Mali.

Ada Giusti, a professor of French, and Florence Dunkel, a professor of entomology, met decades ago through a local French cultural organization, but didn't collaborate academically until the mid-2000s. Now, the instructors—along with many others within and beyond MSU—dedicate themselves to guiding students impassioned about international service learning.

Their work centers around rural villages in Mali, one of the world's poorest countries.

Dunkel has worked on integrated pest management in Mali since 1994. In 2000, she began traveling with students. Giusti heard about Dunkel's project and suggested that her French students—who study the language and culture of all French-speaking countries, including those in West Africa—could help Dunkel's students prepare for their trips to Mali. Giusti also believed her own research on economic poverty could be beneficial to the project.

The geography and philosophy were a perfect fit. More than 100 students, representing everything from business to agriculture to engineering have now traveled to Mali and worked with local people.

"My teaching is guided by the belief that our students can greatly benefit by learning to engage peoples from other cultures in their own language and on their own terms," said Giusti.

On Giusti's first trip to Mali in

2005, representatives from Sanambele and other villages told Giusti, Dunkel and four MSU students that malaria was a top concern, but that they wanted to fight it using local resources. The students returned to MSU and researched solutions: testing plant samples, studying protein deficiencies and brainstorming ways to communicate their findings. Their ideas—integrated over many visits—have made a difference.

"Malaria is barely a problem in Sanambele at the moment, because of all the work students and faculty have been doing the past few years," said Megan Haywood-Sullivan of Marshfield Hills, Mass., who traveled to Mali as an MSU student in 2010. "MSU's holistic way of approaching aid/teaching has been nothing but success in Sanambele and will continue to help these people end malaria, retain their cultural traditions and improve their living conditions."

Kelsey Meyer of Fargo, N.D. and Megan Matzick of Bozeman visited Sanambele in 2008 and used their business background to help village women develop an income source. They brought Malian handicrafts back to MSU and sold them at lectures and bazaars. Beautiful hand-made items, which took a week to make and sold for less than \$1 in Mali, fetched prices ten times higher. The students shared ideas with the village women for new products, colors and pricing.

"Our project was a way for them to have another income to provide for themselves. They had all the tools. We were there to provide more minds—more jumping points, if you will."



Dunkel and Giusti have developed interdisciplinary courses that prepare students before traveling to Mali, including "Health, Poverty, Agriculture: Concepts and Action Research" (PSPP 465R), and "Malian Culture and Literature" (MLF 450), taught entirely in French.

Ada Giusti.
Image courtesy of Ada Giusti.



MSU also collaborates with other institutions, including Virginia Tech, the U.S. Agency for International Development, St. Thomas University in St. Paul, Minn. and Chief Dull Knife College in Lame Deer. The project, officially dubbed the “Virtual Teaching and Learning Center for Alleviating Rural Poverty and Valuing Traditional Ecological Wealth,” is funded primarily through the USDA Higher Education Challenge Grant Program. MSU’s Undergraduate Scholars Program has contributed travel funds.

The project also works with K-12 schools, and supports Malians working and researching in the U.S. All participants share a vision of long-term intercultural exchange and the urgent need for sustainable use of local resources.

“This is a teaching-learning situation,” said Dunkel. “We try to work holistically. We have no agenda, we go without a plan. We go and sit and find out what’s happening, and the community shares what it needs. It requires no money to sit and listen to a village.”

Both Dunkel and Giusti have earned the MSU President’s Award for Excellence in Service Learning, a testament to their integration of classroom experience and larger civic responsibility. They connect with other MSU faculty who share similar holistic goals for cultural exchange, including LRES professor Cliff

Megan Haywood-Sullivan with a friend. Image courtesy of Megan Haywood-Sullivan.

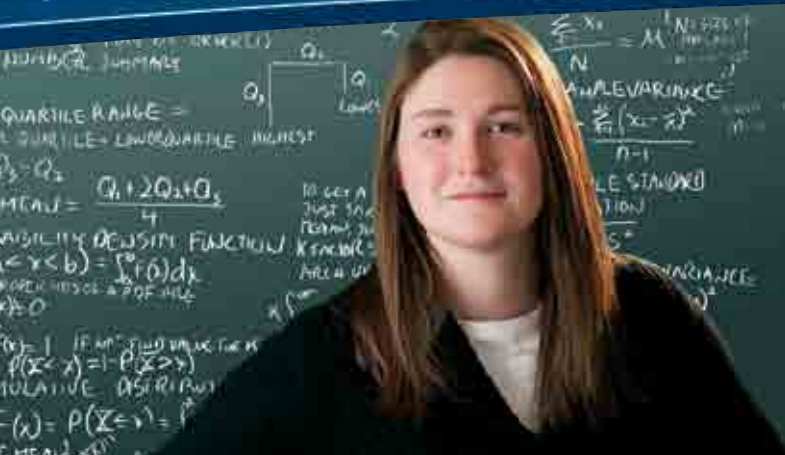
Montagne, who works in Mongolia, and Lori Lawson, who traveled with students to the Dominican Republic.

“We want to help grow this kind of teaching all over the country,” said Dunkel. “We want to create a generation that is culturally competent. These classes can change our students’ lives.”

“On a personal and professional level, this project represents a dream come true,” said Giusti. “It is a joy to provide students with the knowledge necessary to travel to Mali and collaborate with villagers on their goals to fight malaria, preserve their culture and improve educational resources. When students participate in these projects, they inevitably become more informed and compassionate world citizens. It is so exciting for me to witness their transformation.”

Suzi Taylor is Assistant Director of Outreach and Communications, MSU Extended University





Jamie Thornton, one of the tallest math majors at MSU, was a center on the MSU women's basketball team. Photo by Kelly Gorham.

FOR THIS MATH MAJOR, HARD WORK AND COMMITMENT LEAD TO SUCCESS IN THE CLASSROOM AND ON THE COURT

Jamie Thornton, a 6'3" math major and a center on the MSU women's basketball team, succeeded in both academics and athletics during her undergraduate career at MSU. Thornton, who graduated in May, was one of 40 top seniors who received an MSU Award of Excellence. The award goes to seniors who have at least a 3.5 grade point average and have demonstrated campus leadership and community service. Thornton earned a 3.96 grade point average, was captain of the women's basketball team, helped start a recycling program in the Brick Breeden Fieldhouse and involved herself in other community service activities around Bozeman.

Thornton also served as president of MSU's Student-Athlete Advisory Committee and was a four-time Big Sky Conference All-Academic. She won the Bobcat Pride Award in April for best exemplifying the women's basketball program on the court and in the classroom.

"When you look at student athletes that have been successful both academically and athletically, they always have two consistent traits: work ethic and time management," said Tricia Bader-Binford, head women's basketball coach. "Jamie is extremely organized, wakes up every day with a positive attitude and has seen every obstacle as a detour rather than a road block. She commits herself in everything she does and knows you have to work hard in order to achieve the desired results."

Thornton plans to earn her master's degree in statistics at MSU and assist with the women's basketball program. After that, she's considering combining her dual passions in math and sports by becoming a college coach or working in sports statistics.

Excerpted from Evelyn Boswell, MSU News Service

STUDENT MAKES HISTORY AS MSU'S FIRST NATIVE AMERICAN ROTC GRAD

Heather Parsons, an enrolled member of the Blackfeet Nation, was commissioned as a lieutenant in the U.S. Army in August. In doing so, Parsons became the first Native American to complete and graduate from MSU's ROTC program, according to MSU ROTC.

"She's an outstanding student and she's very dedicated to ROTC," said Lt. Col. James West, commander of MSU ROTC, of Parsons.

West said that Parsons has demonstrated an excellence at synthesizing her passions for both her psychology major and the military experiences, and he praises her ability to balance both the requirements of ROTC and scholastic excellence. Parsons added that psychology and a military career fit well together. She said her training in psychology helped her get through the competitive LDAC training held last summer in Fort Lewis, Wash.

"Heather is a fantastic student, is well organized, works very well with others, and is a responsible and mature individual," said Keith Hutchison, professor and interim department head in the Department of Psychology. "I do not know if these qualities have emerged through her experience in the ROTC or if, instead, these preexisting qualities underlie her success in both the ROTC and our psychology program."

After graduation, Parsons will be a chemical officer with the famed 10th Mountain Division stationed in Fort Drum, N.Y. She hopes that she will be deployed to Afghanistan from Fort Drum, which would be "a big career boost." She would also like the opportunity to earn a master's degree in psychology one day. Her ideal future assignment would be with the Army's Psychological Operations, or Psy Ops.

Excerpted from Carol Schmidt, MSU News Service

Heather Parsons credits involvement in ROTC with transforming her from a floundering student to an excellent student and a leader. Parsons was the first Native American to graduate from MSU's ROTC program. Photo by Kelly Gorham.





ASPIRING PHYSICIST AND GLACIAL RESEARCHER WINS PRESTIGIOUS GOLDWATER SCHOLARSHIP

Tim Brox, a physics major from Fresno, Calif., received a prestigious Goldwater

Scholarship in 2010. The

Goldwater is the nation's premiere scholarship for undergraduates studying math, natural sciences and engineering. The scholarship will give Brox up to \$7,500 a year for tuition, fees, books, and room and board.

Brox, who explores the hidden world inside glaciers, said he has been fascinated by ice ever since the Boy Scouts of America did a national search and selected him as an Eagle Scout to participate in a National Science Foundation program in Antarctica. He went back to Antarctica in 2007 and 2009

as part of a team led by Mark Skidmore, an assistant professor in earth sciences at MSU. The researchers collected samples from the Taylor Glacier then returned to MSU to study them in MSU's Subzero Science and Engineering Research Facility. Since Brox is a machinist as well as an MSU student, he designed some of the equipment they used.

Brox said he's intrigued by ice because it looks solid but between the ice crystals are networks of liquid veins that house microorganisms. The microbes reveal information about Antarctica and might contribute to the search for life on other planets.

Skidmore said, "I think Tim's award is timely and well-justified. Tim has worked really hard in the lab and turned out excellent research."

Excerpted from Evelyn Boswell, MSU News Service

STUDENTS' RESEARCH LEADS THE WAY TO CLEANER DRINKING WATER ON CROW RESERVATION

Mari Eggers and Crystal Richards, graduate students in microbiology, have confirmed contamination of surface and ground water used as a source of drinking water on the Crow Reservation, something that residents had suspected.

The students found evidence of bacteria in some sources of drinking water that can cause stomach problems, diarrhea, ulcers, pulmonary disease, pneumonia and Legionnaire's disease. They also found evidence of coliform bacteria in the surface water source for municipal water. A tribal water and wastewater committee is raising money to upgrade their water and sewer system. The data from Eggers' and Richards' analysis are providing necessary information for their grant applications.

Eggers and Richards didn't know each other before starting their project, but they have more than their interest in environmental health in common. They are both recipients of the EPA STAR fellowship—Eggers in 2007 and Richards in 2008. The EPA's prestigious STAR graduate fellowship program supports master's and doctoral candidates in environmental studies. Both women are also students at the Center for Biofilm Engineering at MSU. When Eggers graduates from MSU she plans to continue working on environmental health problems on the Crow Reservation. Richards is applying for postdoctoral fellowships.

Their research was funded by the Center for Native Health Partnerships with additional funding from INBRE and the Environmental Protection Agency.

Excerpted from Melynda Harrison, MSU News Service

MSU microbiology graduate students Crystal Richards and Mari Eggers study a culture of a water sample. Photo by Kelly Gorham.





Christopher Pinet, a French professor at Montana State University, received a medal recognizing him as an “Officier” in the French Order of Academic Palms from Patrice Servantie, the Deputy Consul General of France for the French Consulate in San Francisco. *Photo by Kelly Gorham.*

FRANCE RECOGNIZES SCHOLAR CHRIS PINET FOR UNIQUE CONTRIBUTIONS TO FRENCH CULTURE

Christopher Pinet, an associate professor of French, received a rare French designation, “Officier,” in the French Order of Academic Palms, for a career researching French culture and his

editing of *The French Review*. Pinet received the distinction, including a medal symbolic of the academic palms, from Patrice Servantie, the Deputy Consul General of France for the French Consulate in San Francisco.

While awarding the honor, Servantie said that this year only about five Americans would receive the relatively rare French “Officier” distinction. “Throughout your life, you have nurtured a profound family connection with France,” he said. “You have made a wonderful and effective contribution to our country with your real ability to understand its culture and history.”

Servantie detailed Pinet’s long career researching the roots of French farce and comedy as well as French popular culture and politics. Pinet, whose forefathers were French, began his scholarly investigation of France while an undergraduate at the University of Kansas and a graduate student at Brown University more than four decades ago. Pinet has also been managing editor and editor in chief of *The French Review*, the most widely distributed scholarly journal of French and Francophone studies in the world.

Pinet retired in May after a 29-year career at MSU. “It has been an honor and a pleasure to serve the people of Montana as a teacher of French language, literature, and culture and I am proud to have been a faculty member at Montana State University, Bozeman,” he said.

Excerpted from Carol Schmidt, MSU News Service.



ENGLISH PROFESSOR TAKES HIS PASSION FOR TEACHING TO INDONESIA WITH FULBRIGHT AWARD

Kirk Branch, an associate professor of English, received a Fulbright Scholar Award to teach English for a year at Satya Wakana Christian University in Salatiga, Java, Indonesia.

Branch has taught literacy studies to graduate students at three universities, as well as to students on an Indian reservation and in an urban jail.

Branch is a specialist in rhetoric, composition and English teacher training. He and fellow English professor Lisa Eckert direct MSU’s Yellowstone Writing Project. He also served for two summers as the academic adviser to MSU’s Middle East Partner Initiative, a U.S. State Department summer program that brings high-achieving students from the Muslim world to the U.S.

“I love working with teachers of English and I love seeing a different context for teaching and education,” he said. “I get very interested in figuring out how to teach in places that I don’t know about.”

MSU English professor Kirk Branch, who is an expert in teaching rhetoric, composition and English teacher training, said he likes to teach in unusual locations. This fall may be the most unusual as a Fulbright Scholar Award takes him to Java to teach for a year. *Photo by Kelly Gorham.*

Branch is teaching English and U.S. literature to Indonesian students who speak English. He hopes to return to MSU having learned new insights about how to prepare students how to teach as well as grow once they are in their classrooms. He is also interested in studying Indonesian techniques of teaching English writing in their language departments.

Excerpted from Carol Schmidt, MSU News Service





MSU political science professor David Parker is the co-recipient of a national political science award for the best journal article or book written by a junior scholar. Photo by Kelly Gorham.

ARTICLE ON CONGRESS AND CONSTITUENTS GARNERS PRIZE FOR POLITICAL SCIENCE PROFESSOR

David Parker, assistant professor of political science, was the 2010 co-recipient of the American Political Science Association’s Alan Rosenthal Prize for the best journal article or book written by young scholars about democratic practices.

Parker received the award with Craig Goodman of Texas Tech University for “Making a Good Impression: Resource Allocation, Home Styles and Washington Work.” The article, which they co-wrote, was published in *Legislative Studies Quarterly* last year.

Parker said he and Goodman published the article following research into how constituents perceived their congressman and an accompanying analysis of how congressmen spent money allotted to them in three separate areas: travel, staff and franking, or free mail service. Parker and Goodman studied congressional expenditures from 1996-2000. They found that if the congressmen put a larger percentage toward travel back to their home districts, for instance, they were perceived by voters as someone more responsive to constituent concerns. Conversely, if they emphasized staff, they were perceived as policy experts.

“We found their style of representation was reflected in how they spent their money,” Parker said.

Parker and Goodman received the award at the APSA’s annual meeting in Washington, D.C. in September.

Excerpted from Carol Schmidt, MSU News Service

IN MEMORIAM

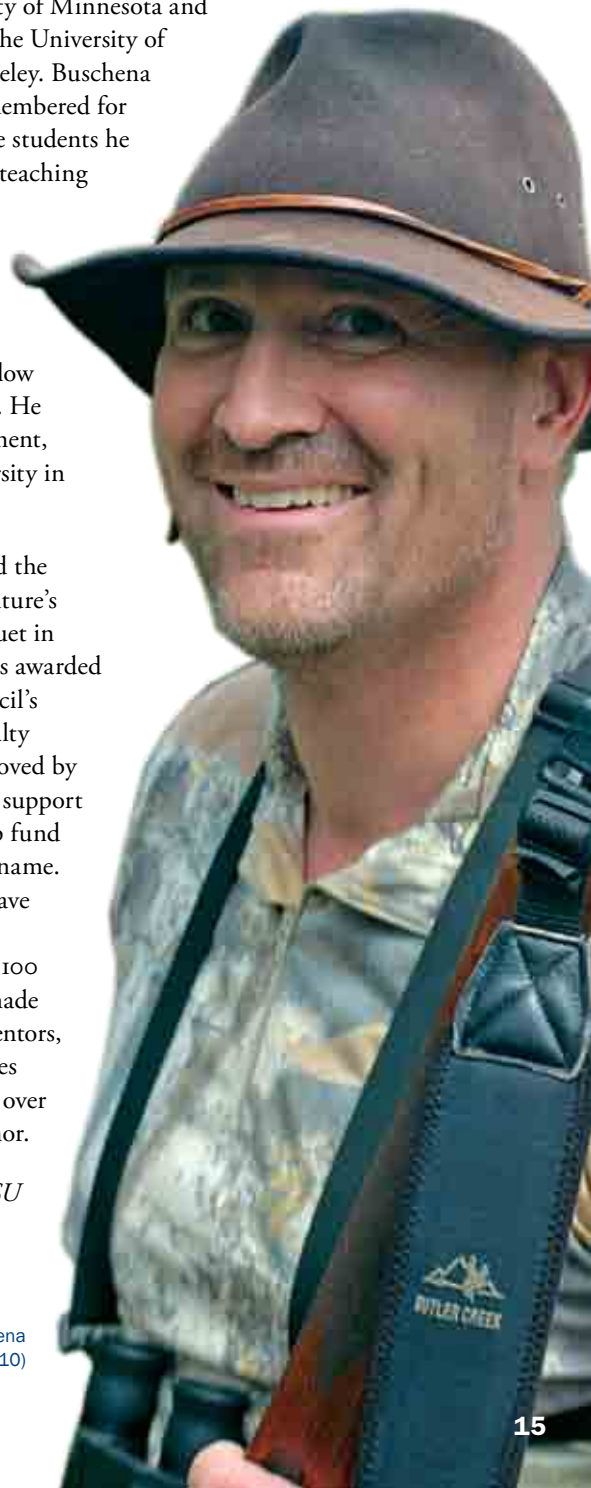
On Monday, April 26, David Buschena, professor of agricultural economics and economics, passed away peacefully after a valiant and inspiring struggle with cancer.

He joined the faculty of the Department of Agricultural Economics and Economics in December, 1992. He received a bachelor’s degree from Southwest Minnesota State University, a Master of Science degree from the University of Minnesota and a doctorate from the University of California at Berkeley. Buschena is particularly remembered for the many graduate students he mentored and for teaching undergraduate students about agriculture in a global context in the international “Follow the Grain” course. He served his department, college and university in many capacities.

Buschena attended the College of Agriculture’s Scholarship Banquet in April where he was awarded the Student Council’s Outstanding Faculty Award. He was moved by the outpouring of support for the scholarship fund established in his name. The department gave him a plaque with the names of over 100 people who had made donations. His mentors, students, colleagues and friends raised over \$25,000 in his honor.

Excerpted from MSU News Service

David Edward Buschena
(1964 - 2010)



MSU BIOCHEMIST AWARDED \$1.2 MILLION TO UNRAVEL VIRUSES AND APPLICATIONS FOR GENE THERAPY

The National Institutes of Health awarded Brian Bothner, a faculty member in the Center for Bio-Inspired Nanomaterials and an assistant professor in the Department of Chemistry and Biochemistry, a \$1.2 million four-year grant to understand how viruses assemble themselves, enter cells and seize control. He and his collaborators will use that knowledge to build viruses that can carry genes to specific targets. For example, a doctor might want to send a healthy gene to a heart muscle or an optic nerve.

Working with researchers Mavis Agbandje-McKenna and Robert McKenna from the University of Florida, Bothner will study four types of the Adeno-associated Virus (AAV) to learn more about their structures and tricks for getting inside cells. Nick Muzyczka, a molecular biologist, also at the University of Florida, will use those findings to build specialized AAVs. “This could dramatically expand their uses as a delivery vehicle,” Bothner said.



Brian Bothner and Shannon Kruse.
Photo by Kelly Gorham.

AAVs are unique human viruses that are popular in gene therapy, partly because they don't cause any diseases in humans or animals. “If you mess up, you won't get someone sick with this virus,” Bothner commented.

MSU graduate and undergraduate students will be involved in the project. One undergraduate student, in particular, had a significant part in obtaining the NIH grant in the first place, Bothner said. Biochemistry major Shannon Kruse tested several AAVs to see how they reacted to fluctuating temperatures and pH levels. That was important, Kruse said, because viruses experience pH changes when they enter a cell. Bothner added that Kruse's experiments also narrowed down the number of AAVs to the ones that will be used in the research project. “She played a major role in getting the data that allowed us to get the grant,” Bothner said.

Excerpted from Evelyn Boswell, MSU News Service

UNDERSTANDING SCIENCE IN VICTORIAN TIMES: HISTORIAN LEADS INTERNATIONAL PROJECT ON INFLUENTIAL 19TH CENTURY SCIENTIST

The National Science Foundation awarded Michael Reidy, an associate professor of history, \$580,000 for a three-year project to finish transcribing 8,000 letters by John Tyndall, publish them and hold an international conference. The project will involve graduate students and scholars from 12 universities in the United States, Canada, the United Kingdom and New Zealand. Among those institutions are Harvard University and Cambridge University. Co-principal investigator is Bernard Lightman, professor of humanities at York University in Toronto. He has been studying Tyndall since the mid-1970s and invited Reidy to propose the project to the NSF.

Reidy said, “It's really cool. It reflects very nicely on our department, on our graduate program. It puts us at the center of all these other very well-known programs around the world.”

Reidy stated that Tyndall, one of the most influential scientists of the 19th century, was a contemporary of naturalist Charles Darwin, biologist Thomas Huxley and chemist/physicist Michael Faraday—all renowned British scientists of the 1800s. The letters they sent each other touched on topics still debated today, such as the professionalization of science, government funding of science and the relationship between science and religion. Tyndall, one of the original agnostics, defended Darwin against his harshest critics and published numerous essays and books on the role of science in the Victorian culture, Reidy continued.

“Said simply, Tyndall stood at the intersection of some of the most important developments in science and society, and his correspondence touches on all of them,” Reidy wrote in a project summary.

Excerpted from Evelyn Boswell, MSU News Service



MSU historian Michael Reidy is heading up a new project to publish the letters of 19th century physicist John Tyndall. Photo by Kelly Gorham.

John Tyndall, shown here at age 37, lived from 1820-1893. Image courtesy of Michael Reidy.



The Department of Chemistry & Biochemistry's 171 percent increase in grant funding over the past four years is attributable to the opening of the new Chemistry and Biochemistry Building in 2007.

SETTING A RECORD FOR RESEARCH: MSU WINS UNPRECEDENTED \$109.5 MILLION IN RESEARCH FUNDING

MSU was awarded a record \$109.5 million in research funding for the fiscal year ending June 30 (FY10). The largest areas of growth were in research related to the biomedical sciences, energy and the environment. Of the seven colleges at the university, the College of Letters and Science was the leader in research expenditures in FY10 at approximately \$29.1 million (27 percent of the campus total). Further, two departments in the college were in the top three among academic departments for research expenditures—Chemistry and Biochemistry at \$12.2 million was first and Physics at \$6.7 million was third.

The university's growth in biomedical research has taken place mostly in the last decade, fueled in part by the priorities of federal research funding agencies and by the arrival of new facilities such as the Chemistry and Biochemistry Building. In the year before moving into the new building (FY06) the Department of Chemistry and Biochemistry had \$4.5 million in research. This year, that department led the campus with \$12.2 million—a 171 percent increase in four years.

The college's ability to earn more NIH funding will be significantly enhanced in coming years with the renovation of Cooley Lab. The NIH awarded a \$15 million ARRA (stimulus) grant to MSU earlier this year for the renovation of the 50-year-old building into a state-of-the-art facility for faculty and students doing work on biomedical research. The building should be ready by 2012.

Excerpted from Tracy Ellig, MSU News Service

2010 AWARDS

L&S Dean's Award for Meritorious Research

Tomáš Gedeon, *Mathematical Sciences*
Timothy LeCain, *History and Philosophy*

L&S Outstanding Teaching Awards

Ada Giusti, *Modern Languages and Literatures (Tenure Track)*
Carla Riedel, *Physics (Adjunct)*
Daniel Zizzamia, *History and Philosophy (Graduate Teaching Assistant)*
Carl Olimb, *Mathematical Sciences (Graduate Teaching Assistant)*

L&S Kathy E. Griffith Employee Excellence Award

Lisa Musgrave, *Cell Biology and Neuroscience*
Jennifer Smith, *Chemistry and Biochemistry*

Cox Faculty Fund for Excellence Award

Mary Cloninger, *Chemistry and Biochemistry*
Tomáš Gedeon, *Mathematical Sciences*

James and Mary Ross Provost's Award for Excellence

John Peters, *Chemistry and Biochemistry*
Wendy Stock, *Agricultural Economics and Economics*

Charles and Nora Wiley Award for Meritorious Research

Charles Kankelborg, *Physics*
Frances Lefcort, *Cell Biology and Neuroscience*

President's Excellence in Teaching Award

Lisa Eckert, *English*
Todd Feeley, *Earth Sciences*

Excellence in Outreach Award

Paul Lachapelle, *Political Science*

Provost's Award for Undergraduate Research/Creativity Mentoring

Trevor Douglas, *Chemistry and Biochemistry*

President's Award for Excellence in Service Learning

Ada Giusti, *Modern Languages and Literatures*

Betty Coffey Award

Jessi Smith-Klaphake, *Psychology*

Retiring Faculty (and the year they joined MSU faculty)

William Locke (*Earth Sciences*, 1982)*
Christopher Pinet (*Modern Languages and Literatures*, 1981)*

*Conferred with the rank of Professor Emeritus by the Montana Board of Regents.

OUT OF THE CLASSROOM AND INTO THE WORLD: UNDERGRADUATE HELPS DISABLED CHILDREN IN SOUTH AFRICA

Benjamin Burns, a senior in psychology, spent a month last summer volunteering in a South African township called Khayelitsha, which is located a few miles outside of Cape Town. During his time in South Africa, Burns volunteered in a school for mentally and physically disabled children who are HIV positive. He developed schedules and lesson plans for the overwhelmed teachers, as well as fed, taught and entertained the children. The teachers at the school were not certified or trained to work with disabled children.

Along with another student from Columbia University, Burns designed a lesson plan and schedule for each individual classroom, and taught the teachers

techniques used to effectively teach mentally disabled children.

They also prepared customized lesson plans for each child based on each student's mental and physical abilities. After a month, Burns found that the children were more attentive and respectful and most were eager to learn. The teachers embraced the lesson plans and started to make progress with the children. The overall quality of education and level of happiness of both students and teachers increased considerably.

"I appreciate how our university is having an international impact and how far the long arms of Montana State University can reach," said Burns. "I believe this is a good example of the excellent quality of education at MSU and how students from this university have an effect on others around the world."



Benjamin Burns. Photo courtesy of Benjamin Burns.

PROJECT ARCHEOLOGY COMBINES SCIENTIFIC INQUIRY WITH HANDS-ON LEARNING TO HELP TEACHERS BRING HISTORY ALIVE

Project Archaeology, a summer graduate program at MSU, helps elementary teachers use archaeology to introduce concepts in social studies, scientific inquiry, mathematics, history, art, and language in upper elementary classrooms. Project Archaeology is a national organization dedicated to archaeological and heritage education. Montana's Project Archaeology center is located in the Department of Sociology and Anthropology.

Teachers in a summer MSU course worked closely with historians and archaeologists at an excavation site in Nevada City, Mont. Photo courtesy of MSU Project Archaeology.

In 2010, the program offered two courses—"Project Archaeology: Investigating a Plains Tipi" and "Project Archaeology: Educator Field School." Participants learned how to use archaeological tools and concepts like artifacts, maps, illustrations, historical photographs and oral histories to engage children in scientific inquiry and civic discussion. All participating teachers received a complete curriculum guide from Project Archaeology, including activities to help fulfill core requirements in Indian Education for All, social studies, science, mathematics, language arts and art. Participants received two graduate credits for taking the course.



Teachers study a tipi site during a Project Archaeology course. Photo courtesy of MSU Project Archaeology.

PROVOST'S EXCELLENCE IN OUTREACH AWARD

Paul Lachapelle, assistant professor of political science and Extension community development specialist, was a 2010 recipient of the Provost's Excellence in Outreach Award. Lachapelle works in 35 communities across Montana to address poverty through community capacity building. He played a lead role in the Montana Horizons program, a partnership with the Northwest Area Foundation, to address rural poverty in Montana. His work on the Crow Reservation has resulted in the Crow Men's Health Project. Lachapelle's local governance programs have reached over 2,000 elected and appointed government officials through trainings on open meetings policies, conflict management, and leadership and team-building skills.



Paul Lachapelle.
Photo by Leslie McDaniel.

MSU GRAD STUDENT MAKES LASTING IMPACT IN KENYA THROUGH RESEARCH AND REACHING OUT

Paul Schuette, a graduate student in ecology, recently concluded his third field season studying the interactions of wildlife, livestock and Maasai pastoralists on two community conservation areas and Maasai group ranches in the South Rift Valley in southern Kenya. The overseers are interested in Schuette's findings because they want to protect wildlife and improve livelihoods there.

Funded by the National Science Foundation and affiliated with two African organizations, Schuette uses radio collars and battery-powered cameras to survey the wildlife and see how people, wildlife and livestock share the land. Some of his methods expand on those used by his adviser, Scott Creel, to study elk-prey interactions in the Greater Yellowstone Ecosystem.

His research has led to satisfying interactions between MSU and the local community, Schuette said. In addition to the women who own the research camp where he lives and the Maasai

men who assist him in the field, Schuette regularly visits the market and six schools in the area. He and Creel, along with Creel's wife, Nancy, and Schuette's fiancée, Christine Kovash, recently raised \$4,200 in a Bozeman fundraiser to buy textbooks and other supplies

for the schools. They want to contribute in tangible ways that will benefit the schools for years to come instead of making one big splash that dies down when they leave, Schuette added.

Roseann Hanson, U.S. representative to the African Conservation Centre, said by e-mail that, "It's shocking and disheartening to hear time and again how many researchers waltz into a community area, conduct their research with little contact with the local people, then leave and never share their findings."

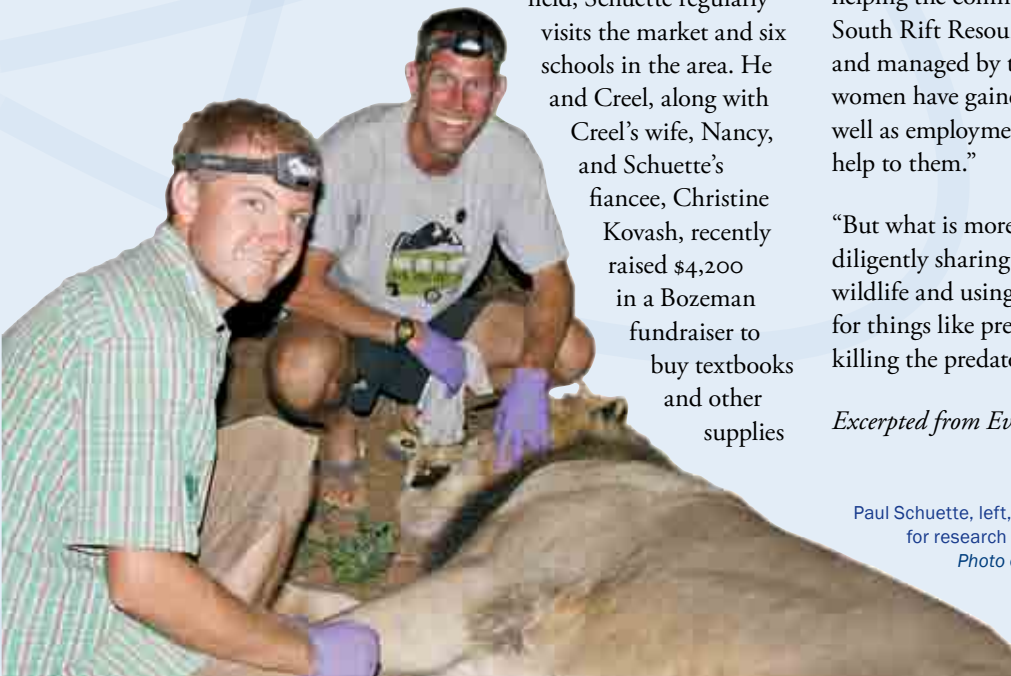
"With Paul and Scott, it's different," she added. "They took extra time to develop close working relationships with the community leaders, both men and women, including countless and probably seemingly endless meetings where everyone has to have their say. They consult regularly with the community and have trained at least half a dozen young morani, or warriors, as field assistants and resource assessors."

"More importantly, they are also devoting a lot of the time to helping the community develop, improve and promote their South Rift Resource Centre, which is owned by the community and managed by the women's group," Hanson said. "So far the women have gained more than \$7,000 in fees from the centre, as well as employment for a dozen people. This is hugely significant help to them."

"But what is more valuable is the information Paul and Scott are diligently sharing with the community—about their land and wildlife and using that information to plan coping mechanisms for things like predation on their livestock that don't involve just killing the predator."

Excerpted from Evelyn Boswell, MSU News Service

Paul Schuette, left, and Scott Creel place a radio collar on a lion for research they are conducting in southern Kenya.
Photo courtesy of Paul Schuette.





FROM BARREL RACER TO MEDICAL RESEARCHER

Bridgett McNulty, a former rodeo barrel racer who paid her way through college by selling her horses and working long hours, won a prestigious post-baccalaureate fellowship from the National Institutes of Health. A recent graduate with a bachelor's degree in biochemistry and a second major in cell biology and neuroscience, McNulty will use the \$30,000 fellowship to fund a year of research, with an option to continue for a second year, at the NIH campus in Bethesda, Md. She will work in an NIH researcher's laboratory, studying the molecular and cellular factors in the development of the inner ear. When development occurs incorrectly, it can result in a loss of hearing, which often leads to deafness. Because this type of hearing loss is relatively common, McNulty's laboratory research discoveries could have wide-reaching effects.

The support of MSU faculty was important to her and she said her experiences as an MSU student were invaluable. "I wouldn't have been able to do research as a freshman at UW or UCLA," McNulty said. "I was able to engage in research at a very early

age and I continue to engage in research. Ultimately, this was the best school I could have gone to."

McNulty recently took the MCAT, the medical school entrance exam, and plans to apply to medical schools while she is completing the NIH fellowship. She would like to pursue clinical research through a program for medical doctors. Eventually, McNulty, who is part Chippewa Cree, would like to return to Montana to work on the Crow Reservation. "That is where I grew up. I think going back is required of me," she said.

*Excerpted from Anne Cantrell,
MSU News Service*



Recent MSU graduate Bridgett McNulty's \$30,000 fellowship will fund a year of research at the NIH campus in Bethesda, Md. She will work in an NIH researcher's laboratory, studying the molecular and cellular factors in the development of the inner ear. Photo by Kelly Gorham.

MSU GRADUATE AWARDED \$121,500 FROM NATIONAL SCIENCE FOUNDATION TO PURSUE DOCTORATE IN PALEONTOLOGY

Paul Ullmann, who graduated with a bachelor's degree in earth sciences from MSU in December 2008, has received a fellowship from the National Science Foundation that totals more than \$120,000. Ullmann, 24, will use the three-year Graduate Research Fellowship to fund his doctoral studies in paleontology at Drexel University in Philadelphia. He plans to research molecular taphonomy, or the study of decaying organisms and how they become fossilized.

Ullmann says his experiences at MSU enabled him to earn the prestigious NSF fellowship. "I chose MSU for the strength of its paleontology program and I definitely got a great education there," said Ullmann, who grew up in Florida. "From what I can tell from other places I've been and from recommendations I've heard from others, it's one of the premier programs in paleontology. I can personally vouch for that."

MSU GRADUATE NAMED A LEAD AUTHOR OF INTERNATIONAL CLIMATE CHANGE REPORT

MSU graduate and U.S. Geological Survey scientist Margaret Hiza Redsteer has been named a lead author in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

Hiza Redsteer has been assigned to Chapter 15 of the Fifth Assessment Report (AR5), entitled Adaption, Planning, and Implementation. The AR5 has a 4-year drafting process, with publication expected in 2014. The IPCC has issued four of these reports since its creation in 1988, with the purpose of assessing the major scientific and technical issues confronting governments and other parties interested in climate change.

Hiza Redsteer, a member of the Crow Nation, is a research geologist who leads the Navajo Land Use Planning Project in Flagstaff, Ariz. Much of her work has centered on studying the linkages between geology, climate and land-use history to assess climate change impacts to communities and the landscape they live on.

Her education includes a B.S. in geology with an extended hydrogeology emphasis, a M.S. in sedimentology from Montana State University, and a Ph.D. in isotope and trace element geochemistry from Oregon State University.

Hiza Redsteer is among 311 coordinating lead authors, lead

authors and review authors, who were chosen from 1,208 nominees submitted by governments all around the world for the Working Group 2 contribution to IPCC Fifth Assessment Report. The position of lead author is voluntary as no pay is given by the IPCC.

The IPCC is a joint project of the United Nations Environment Programme and the World Meteorological Organization. It provides non-partisan, independent scientific information on the effects and processes of climate change to governments and other stakeholders.

Melynda Harrison, MSU News Service



MSU graduate Hiza Redsteer has been named a lead author in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Photo courtesy of the USGS.

Paul Ullmann, who graduated from MSU in 2008, recently won a Graduate Research Fellowship from the National Science Foundation. Ullmann will use the three-year, \$121,500 fellowship to fund his research and doctoral studies in paleontology at Drexel University in Philadelphia. Photo courtesy of Paul Ullmann.

Ullmann points to a variety of opportunities, such as cleaning and preparing fossils in labs and the university's geology-oriented paleontology curriculum, as important to his education. But, what was most rewarding to Ullmann, were the many opportunities he had to conduct field research. "For those of us that love field work and paleontology, you have to have



field experience," Ullmann said. "And (MSU) gives you much better, more diverse and more in-depth training in the field than most other universities."

*Excerpted from Anne Cantrell,
MSU News Service*

DEPARTMENT HIGHLIGHTS

CHEMISTRY AND BIOCHEMISTRY

Ben Naab, a recent graduate who won a prestigious Goldwater Scholarship in 2009, received a National Science Foundation Graduate Research Fellowship to pursue his doctorate in chemistry at Stanford University. The fellowship gives Naab \$30,000 a year for three years, \$1,000 for international travel and access to the NSF's super computer, TeraGrid. Twelve thousand students applied for 2,000 fellowships awarded this year. Approximately 100 of the fellowships went to chemistry majors. Three fellowships went to MSU graduates, including Naab. Besides winning major awards, Naab conducted significant undergraduate research and published his findings in scientific journals.

Naab is the second chemistry alumnus to receive a major pre-doctoral award in recent years. In 2009, Luke Oltrogge won a National Defense Science and Engineering Graduate Fellowship, which is sponsored and funded by the Department of Defense. The NDSEG fellowship pays for tuition and required fees for three years plus an annual stipend at any accredited U.S. college or university that provides advanced degrees in science and engineering. Oltrogge, who also received a Goldwater Scholarship in 2007, is also currently a graduate student at Stanford University.



Ben Naab. Photo by Kelly Gorham.

Tim Minton was named an American Chemical Society Fellow and was recognized during the society's national meeting in Boston in August. This year's program honored 192 distinguished scientists who have demonstrated outstanding accomplishments in chemistry and made important contributions to the ACS, the world's largest scientific society. Minton is the first and only ACS Fellow from Montana. The group represents academe, industry and government. Minton also received National Science Foundation funding as part of a new Phase I award through the Centers for Chemical Innovation Program. The CCI Program is designed to support the formation of centers that can address major, long-term basic chemical research problems that have a high probability of both producing transformative research and leading to innovation. CCI centers are also expected to integrate research, education and outreach, and to include a plan to broaden participation to under-represented groups.



Tim Minton. Photo by Steve Winslow.

EARTH SCIENCES

Geography professor Bill Wyckoff recently published a new edition of his textbook, *Globalization and Diversity: Geography of a Changing World*. Wyckoff has co-authored the popular Prentice Hall college text since the late 1990s, along with Lester Rowntree (UC Berkeley), Martin Lewis (Stanford University) and Marie Price (George Washington University). Widely used at major universities throughout the U.S, the text is now being translated into other languages, including Korean. Wyckoff's book was one of the earliest in the field to highlight the regional consequences of globalization, and its issues-oriented topical approach has proven innovative in a field long dominated by books that have simply offered traditional country-by-country assessments of the world. The book has also

taken a leading role in exploring with students the potential regional consequences of global warming. One of the most fascinating parts of producing the book, according to Wyckoff, is that the project superbly mirrors the very processes of globalization featured in the text. Wyckoff noted that the authors harvested materials from photographers and cartographers from around the world, and that substantial parts of the editing and production of the book occurred outside of North America. "Our book is like a Ford automobile," said Wyckoff, "pieced together from every corner of the globe."



CELL BIOLOGY AND NEUROSCIENCE

MSU successfully obtained another four-year grant from the Howard Hughes Medical Institute (HHMI) to better integrate biomedical curriculum, fund summer and academic-year undergraduate research experiences for MSU students and continue the Montana Apprenticeship Program (MAP), which brings Native American high school students to MSU to help prepare them for college. It is the third time MSU has received the Hughes grant for research universities. This year MSU is one of 50 universities nationwide to be awarded the highly competitive grant. In 2002 and 2006, the awards were used to develop a summer research program for undergraduates, including the program in cell biology and neuroscience, and to dedicate two laboratories to undergraduate research. The previous grants were also used to overhaul and increase the rigor of courses in cell biology and neuroscience, revise the introductory biology sequence of classes and hire four new professors. “We’ve seen enrollment almost triple in some of those biology classes since we revamped them,” said

Gwen Jacobs, principal investigator and director of the Hughes Undergraduate Biology (HUB) Program and professor of neuroscience at MSU.

“The goal was to improve how students learn about biological systems and HHMI was very impressed with what we did.”



Anna Gerasimova, a 2009 participant in the Hughes Undergraduate Biology Program’s summer undergraduate research program, works on a project related to development of the embryonic nervous system in Dr. Christa Merzdorf’s lab. MSU file photo.

Geology professor David Mogk and three collaborators from other institutions won a 2009 Science Prize for Online Resources in Education (SPORE) for their website, titled “On the Cutting Edge.” The website was one of 12 winners from nearly 100 entries. An essay in the Feb. 26 issue of *Science* says “On the Cutting Edge” transformed the culture of geoscience education by promoting the sharing of scientific content and teaching methods. Teachers go to the site to learn the latest scientific information and emerging themes in their fields. They share teaching tips and advice about managing their careers, post classroom activities that worked well for them, and take online courses to enhance their teaching. They go online to review information they learned at face-to-face workshops developed by the website creators. The website—

Drago Guggiana, a recent MSU graduate with a triple major in chemical engineering, biochemistry and biotechnology, was awarded a graduate fellowship from Phi Kappa Phi. The honor society

awarded Guggiana, who is from Chile, \$5,000 for his first year of graduate study. “He is doing the kind of basic research as an undergraduate that we would expect from an advanced graduate student,” said Thomas Hughes, department head in cell biology and neuroscience. “He is an exceptional student, gifted in the laboratory and a really, really nice guy that goes out of his way to help out other students.” Guggiana, who is currently in a doctoral program in biophysics at Harvard University focusing on biomedical research, came to MSU after attending a graduate student workshop affiliated with MSU’s Center for Biofilm Engineering at his university in Chile. In addition to his studies, Guggiana volunteered in the community to advance public understanding of science and engineering. He shared his love of science at Science Saturdays, put on by the Center for Bio-Inspired NanoMaterials at MSU. The program provides an opportunity for children to learn about new science projects at MSU, and to meet the scientists and MSU students who are shaping the future in Montana.



supported by the National Science Foundation—now contains more than 4,000 pages and offers more than 1,200 ideas for classroom activities in several disciplines, according to the *Science* essay. In 2008, 550,000 visitors made more than 650,000 visits to the site and viewed more than 1.5 million pages. Of those visitors, 13,000 returned to the site at least six times. “The idea is that if we provide the tools for faculty that improve teaching and learning, then students will have a better opportunity to learn,” Mogk said.



David Mogk. MSU file photo.



Wyatt Cross, Jim Junker and Gisli Mar Gislasón (from left) examine an Iceland stream. Photo courtesy of Wyatt Cross.

ECOLOGY

MSU students and faculty spent the summer in Iceland gathering information from the perfect laboratory for studying climate change in the upper northern latitudes. Iceland's streams are ideal study systems in the far north, an area of the world where scientists expect the most severe climate warming to occur, said ecologist Wyatt Cross.

Cross and his collaborators, in a four-year study funded by the National Science Foundation, will concentrate on one watershed that contains over 15 streams. The streams are heated indirectly by geothermal activity and have likely been at these temperatures for hundreds of years. The researchers want to see what happens when they experimentally add slightly warmer water to these streams. They are currently gearing up for a three-year temperature manipulation of a whole stream ecosystem.

"This site represents an unparalleled opportunity to test hypotheses regarding ecosystem-level responses to climate warming," said Cross.

Using data from 21 North American wolf populations, ecology professors Scott Creel and Jay Rotella have found that the recently proposed levels of hunting for Montana and Idaho wolves are

likely to have larger effects on wolf numbers than has been suggested. Recent wolf-hunting quotas may be based on a flawed assumption that human-caused mortality—like hunting and predator control operations—is mainly compensatory, meaning that hunting simply substitutes one form of death for another in the overall wolf population. Instead, Creel and Rotella have found that increased human-caused mortality was associated with a strong increase in the overall death rate and a strong tendency for wolf populations to decline. "If the level of harvest proposed for 2010 was implemented, the data suggest that wolf populations are likely to decline by a substantially larger margin than is currently stated by management policies," Creel said. "The underlying assumption that wolf populations can compensate for heavy levels of human harvest was not supported by the data." Creel and Rotella's paper was published in September in *PLoS One*, the *Public Library of Science*.



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ECONOMICS AND AGRICULTURAL ECONOMICS



Wendy Stock. Photo courtesy of Wendy Stock.

Wendy Stock, professor and department head, introduced two new complementary courses: "ECNS 291: Study in the Economic Way of Thinking" and "ECNS 492: Peer Leadership in Economics." ECNS 291 is an optional one-credit course designed to aid students enrolled in "ECNS 101: Economic Way of Thinking" to better understand economic concepts and solving economics problems. ECNS 492 is a three-credit course for top students in economics and agricultural business. Each student in the ECNS 492 course leads their own ECNS 291 study section, reads and reports on research on economics pedagogy, writes problems for the study sections each week and writes a research paper on economics pedagogy. For a research project, ECNS 492 students assessed the impact of the ECNS 291 class on student learning in ECNS 101. Estimates indicate that ECNS 101 students who enrolled in ECNS 291 saw improvements in exam scores and overall grades relative to their peers. Two students from ECNS 492, Teresa Snyder and Justin Folsom, presented their research from the class in a poster at the MSU Student Research Celebration and at the National Conference on Undergraduate Research in Missoula, Mont.

Senior Katy Hansen, an economics and industrial engineering major, was one of just 32 U.S. recipients of the 2011 Rhodes Scholarship, given by the Rhodes Trust for advanced study at Oxford University, one of the world's most distinguished universities. During her time at MSU, Hansen was very involved in the active chapter of Engineers Without Borders, traveling to Kenya to help build groundwater wells in the Khwisero District and later became president of the MSU EWB chapter. She said learning to build consensus in that organization was her most transformative moment as an undergraduate. Last spring, Hansen became the first MSU student to win a Boren Fellowship for graduate study. With her Boren Fellowship, she has been working on water conservation projects between Israel and the Palestinian Authority at the Arava Institute at Kibbutz Kefura in the Negev Desert. While an undergraduate, she also traveled to Mali to work on a program directed by Florence Dunkel, MSU professor of plant sciences and plant pathology. Hansen plans to use her Rhodes Scholarship to study water policy in the world's neediest areas.



Katy Hansen. Photo by Kelly Gorham.



ENGLISH

Rio Gonzalez, a sophomore from Bozeman, has received a McNair Scholarship as part of the McNair Scholars Program, a federally funded (Department of Education) TRIO program named in honor of Ronald E. McNair. McNair, a nationally recognized physicist and NASA mission specialist astronaut, perished aboard the Challenger space shuttle in January 1986. Gonzalez plans to earn a doctorate in English literature and become a professor. He is researching the use of technology in teaching to enhance student comprehension and retention. “My research will phase out linear methods of teaching, which limit the ability to involve student interaction and the ability to delve into tangent discussions from involved questions,” Gonzalez said. The two-year McNair Scholarships help talented first-generation college students in financial need and those from groups underrepresented in doctoral study to prepare for successful admission into and completion of doctoral programs. While undergraduates, students receive a stipend while they conduct research with faculty mentors and engage in other scholarly activities.

Can undergraduates in the humanities contribute new knowledge to their fields of study?

Doug Downs, an assistant professor of English, researches this question by setting up research projects for undergraduates exploring how writing works and how writers write—and then observing how undergraduates create research relevant to and useful for experts on writing. One example is Downs’s work with English major ZuZu Feder, who received an Undergraduate Scholars Program grant to study what metaphors freshmen use to describe writing. He studied how Feder came up with her research question, and what she learned in order to receive approval to study human subjects and to win a grant. He also studied how she actually accomplished the project and the additional learning it required. Downs is currently writing a book that will include Feder’s project as one of several case studies. “Science and social science students can do research in labs and in the field that genuinely creates new knowledge,” he said. “I hope to be able to show how humanities professors can consistently teach their undergraduates to do the same.”



Brett Walker. Photo by Kelly Gorham.

HISTORY AND PHILOSOPHY



Brett Walker, professor and department chair, examines the complex historical, cultural and ecological issues associated with industrial disease in Japan in his new book, *Toxic Archipelago: A History of Industrial Disease in Japan*.

Increasingly renowned as an environmental historian, Walker finds that wide-ranging, interdisciplinary approaches are required for anyone who deals with major health problems resulting from industrial engineering or pollution. Such approaches will help them avoid cultural and religious minefields, and the tendency to erroneously reduce causes to one explanation and to ignore history. Walker’s book focuses on deaths, genetic deformities and other health issues that resulted from major pollution episodes in Japan. Besides encephalitis and cadmium poisoning, some of those problems included lung disease from asbestos and sulfur dioxide and congenital deformities from methyl-mercury. “These episodes aren’t the fouling of a small stream,” Walker said. “These are the release of certain types of toxins and heavy metals that led to tens of thousands of people dying.”



Robert Rydell, a history professor who specializes in world’s fairs, was the guest curator for a new exhibit in Washington, D.C. focusing on world’s fairs during the Great Depression.

“Designing Tomorrow: America’s World Fairs of the 1930s” is the first-ever exhibit to consider the impact of all six American world’s fairs of the Depression era on popularizing modern design and creating a modern consumer culture. Those fairs were held in Chicago, San Diego, Cleveland, Dallas, San Francisco and New York. Expected to run about nine months, the exhibit covers 5,000 square feet in the National Building Museum and contains objects representing the splendor of modern industrial designs. Visitors can participate in a variety of activities, including the manufacturing of souvenir tin cans. “This has been wonderful,” said Rydell, the Michael P. Malone Professor of History. “I have worked with people on different exhibits before. This was the first time I have had a fairly major role of shaping the content of an exhibit, really working with the intellectual content.” Rydell, who has devoted 35 years to studying world’s fairs, also co-edited a recently published book titled *Designing Tomorrow: America’s World’s Fairs of the 1930s*.



Robert Rydell. Photo by Kelly Gorham.



MATHEMATICAL SCIENCES



Jill Roberts. Photo by Kelly Gorham.

Jill Roberts, a recent graduate with a degree in math education, won a coveted Fulbright Fellowship to teach English in the German state of Brandenburg and study German methods of teaching math. “Math has always been my strongest and favorite academic subject, and teachers of this content are simply more employable,” said Roberts about her decision to major in math education. She also played violin in the MSU Symphony, traveling with the symphony to Southeast Asia last summer. Roberts is also a violin teacher, a math tutor, gives German lessons and recently completed student teaching in Livingston. “Jill combines intellectual ambition with a generosity of spirit and a commitment to hard work,” said Patricia Simpson, professor of German Studies. “The Fulbright is a wonderful opportunity for her to gain teaching experience and for her students and co-workers to benefit from her expertise as well.”



Five faculty members in the Department of Mathematical Sciences received a five-year, \$3.5 million grant from the National Science Foundation to study how instructional coaching helps elementary schools teach math to students across the country. Schools often hire instructional coaches to work with teachers to implement new curriculums and reforms—such as those required by the 2001 No Child Left Behind Act—and improve students’ classroom experiences. But so far, little research has been done on the effect coaches have or what they need to know about math and coaching to do their jobs well. “We’re spending a lot of money hiring these coaches, but we’re not quite sure that coaching’s effective or what the coaches need to know,” said David Yopp, one of the principal investigators on the grant. “This grant and our study will contribute significantly to answering those questions,” said Elizabeth Burroughs, another principal investigator on the grant. Burroughs added that the NSF-funded study would help put MSU at the forefront of research that will impact mathematics and science teaching nationwide.

MICROBIOLOGY



Steve Hamner. Photo courtesy of Steve Hamner.

Research associate Steve Hamner presented findings that could allow us to better protect food from contamination by harmful bacteria, as well as understand how they manage to cause disease, at the Society for General Microbiology’s spring meeting in Edinburgh, Scotland. Bile is secreted into the small intestine and exerts an antibacterial effect by disrupting bacterial membranes and damaging bacterial DNA. While bile is a human defense mechanism, Hamner and his colleagues at MSU and the University of New England found that some bacteria such as *Escherichia coli* O157:H7—an

important food-borne pathogen known as *E. coli*—have evolved to use the signal to their advantage. These bacteria use the presence of bile as a signal to tell them that they are in the intestine, which allows them to adapt and prepare to cause disease. “By learning how the bacteria attach to food surfaces such as spinach leaves or to host tissues such as the lining of the intestine, we hope to better be able to protect food sources from contamination by these bacteria,” Hamner said.

A grant from the National Institutes of Health will allow MSU to upgrade its 50-year-old Cooley Laboratory into a state-of-the-art facility for faculty and students researching everything from treatments for infectious diseases to safeguards against bioterrorist attacks. The NIH announced in March that it would award almost \$15 million toward the \$17 million project, mostly with stimulus money from the American Recovery and Reinvestment Act. A renovated Cooley Lab will help advance one of the university’s major strengths: biomedical research. Of the \$100 million MSU wins annually in competitive grants for research, roughly \$40 million of that goes to studying everything from influenza, to heart disease, to using parts of viruses for pinpoint delivery of drugs, to examining plants for medicinal properties. The plans so far call for keeping Cooley’s brick exterior, but completely gutting and rebuilding the five-story building so it contains fully equipped research laboratories. The building will be energy efficient, air-conditioned and meet federal standards for withstanding seismic activity and providing access to people with disabilities.



MODERN LANGUAGES AND LITERATURES



Elliott Ribner, who graduated in May with a degree in economics, was the recipient of a full scholarship from the China Scholarship Council (CSC) to pursue postgraduate studies in China. Ribner, who also spent the summer of 2009 teaching English in China, will use his one-year scholarship to take advanced Chinese language and culture classes at a Chinese university. While at MSU, Ribner took classes in Mandarin Chinese through the new Chinese program in the Department of Modern Languages and Literatures. Language courses offered through the program include Elementary Chinese I and II, as well as Intermediate Chinese I and II. The program also offers courses on Chinese history, culture, literature and cinema. The Chinese program hired Hau Li, assistant professor of Chinese, and began offering courses in the fall of 2009.



Patricia Catoira. Photo courtesy of Patricia Catoira.

Patricia Catoira, assistant professor of Spanish, traveled to Cuba last March with the U.S. Women and Cuba Collaboration group. Over the course of eleven days on the Caribbean island, the group met with different women's organizations at the state and grassroots levels. Catoira was particularly interested in how these groups were addressing the increasing presence of sex tourism on the island, which has resulted from the revitalization of the tourist industry since the breakup of the Soviet Union in the 1990s. Her research focuses on sexuality and prostitution in Cuban literature in the post-Cold War era. When she went to the island in 2000, ordinary Cubans were not ready to talk about the taboo topic of prostitution, even when it was hard to avoid it on the streets.

Catoira says that during those years fiction became one of the few outlets within Cuba in which the surge in prostitution was addressed. In her trip in March, Catoira found prostitution institutionalized in tourist resorts outside of the public eye, which led some Cubans to continue denying its existence.

Patricia Anne Simpson, professor of German studies, recently completed a year as a research ambassador for the German Academic Exchange Service, abbreviated DAAD, the German national agency for the support of international academic cooperation. Simpson was part of the inaugural class of 17 professors around the country honored for their long-term research projects in Germany at the doctoral level or above. Simpson received support from DAAD to study in Freiburg and in (West) Berlin. She has taught all aspects of German-language culture, literature and popular literature for nearly two decades. Simpson has served as MSU's German Section coordinator for eight years, advising students about study abroad and the need for intercultural communication skills. In addition, she serves on the executive board of the German Studies Association, co-edits the "Women in German Yearbook" and is executive secretary of the Goethe Society of North American. Currently she is the project director of a Department of Education Title VI UISFL grant (2008-10), and she continues to support and advise students and colleagues interested in international education.



Patricia Simpson. Photo courtesy of Theo Lipfert.

John Thompson, an associate professor of Spanish, spent several months locating and photographing anti-fascist monuments in Galiza, Spain, and interviewing the artists for an article he is preparing. These monuments provide sites where people come together to reconstruct a common past to address Franco's forty year fascist regime and the atrocities committed by this regime. He lectured about the monuments to the Department of Fine Arts at the Universidade de Pontevedra and also to a group of historians in the town of Goián. He also lectured in the city of Ferrol and the town of Boiro about his recently published book, *As Novelas da Memoria: Trauma e Representación da Historia Na Galiza Contemporánea*, which he wrote in the Galizian language. Finally, he spoke to a Galizian high school in Friol on the importance of learning the history of fascism in Spain and Galiza. Thompson, who is fluent in Galizian, advocates for affirmative action for the Galizian language, which is in danger of disappearing. Spanish is the dominant language in Galiza.

John Thompson. Photo courtesy of John Thompson.



An anti-fascist monument in Galiza, Spain. Photo courtesy of John Thompson.



NATIVE AMERICAN STUDIES

Last spring, graduate students, faculty and staff from the Department of Native American Studies and the Diversity Awareness Office organized a two-day conference called “Earth Rights: Learning the Languages of Indigenous Environmentalism” to kick off the 35th Annual MSU American Indian Council Pow Wow. Henrietta Mann, professor emeritus and currently the first president of the Cheyenne Arapaho Tribal College in Weatherford, Okla., set the tone with the closing words of her morning keynote. “As one humble grandmother of this land’s first people,” she said, “I am thankful to be here, and I throw my words and blessings over you in your continued deliberations.” The two other conference keynotes, legendary Native Hawaiian rights activist Walter Ritte, Jr. and Haskell Indian Nations University Professor Daniel Wildcat, took up where Mann left off, inspiring audience members alternately to laughter and to tears as they recounted the stories, histories and prophecies of climate change, environmental degradation and the ongoing struggles of indigenous peoples. Other speakers included faculty, graduate and undergraduate students from MSU, Haskell and Stanford universities, as well as tribal representatives from the Crow Water Quality Project, the Montana/Wyoming Tribal Leaders Council, the Crow Men’s Health Project and the Makah Nation.

Assistant professor Matt Herman had a new book published titled *Politics and Aesthetics in Contemporary Native American Literature: Across Every Border*. In the book, Herman assesses the status of the contemporary Native American literary text through a series of case studies involving the work of authors and critics such as Sherman Alexie, Elizabeth Cook-Lynn, Louise Erdrich, Arnold Krupat, Simon Ortiz, Richard Van Camp and Craig Womack. His basic contention holds that a recent turn to politics—and away from cultural analyses—in Native American literary studies is reopening foundational questions over the nature, function and value of the Native American literary text. Herman finds that despite the shaping power of a range of emergent liberalizing tendencies among both writers and critics, there remain strong countervailing impulses to maintain core principles and values. By examining key instances within this new push-and-pull over the politics, propriety and protocols of Native American writing, *Politics and Aesthetics in Contemporary Native American Literature* hopes to lend some clarity to increasingly messy questions over what Native American literature should be, do and mean.



Photo courtesy of NASA.

PHYSICS

Research professor Piet Martens and associate research professor David McKenzie helped design and calibrate four telescopes that were launched in February on the Solar Dynamics Observatory from the Kennedy Space Center in Florida. They were partners with scientists at the Lockheed Martin Solar and Astrophysics Laboratory and the Harvard-Smithsonian Center for Astrophysics. Graduate student Jason Scott helped design and test the software that’s operating the cameras on the telescopes. MSU graduate student Andres Munoz wrote the programs to carry out the simulations of solar magnetic fields that are featured on the SDO website and that will be tested with SDO observations. The telescopes will spend at least three years collecting ultraviolet images from the sun’s atmosphere. The main goal of the UV telescopes is to help scientists understand the physics behind the activity on the sun’s corona, which drives space weather. The ultimate goal is to use this information to develop advanced forecasting tools in NASA’s Living With a Star program. The Solar Dynamics Observatory is the first mission in the program.

Assistant professor Anton Vorontsov, who studies the effect of superconductivity in condensed matter, received a three-year National Science Foundation CAREER Award grant totaling \$250,000. The CAREER Award is the NSF’s most prestigious award to support early career development of teacher-scholars. Notable because it goes to a single person instead of a team, it honors outstanding scientists who haven’t yet received tenure. With his NSF grant, Vorontsov plans to continue his research, develop new courses at both graduate and undergraduate levels, and develop an educational website with graphical demonstrations and links to other physics, chemistry and biological research conducted at MSU. Vorontsov’s CAREER award supports his theoretical and computational research investigating the nature of superconducting states that are highly non-uniform, or display strong interactions with magnetism.



Anton Vorontsov.



POLITICAL SCIENCE

Thomas Goltz, an adjunct faculty member, taught an innovative course over the summer. “The New Silk Road” had students traveling from Baku, Azerbaijan to Istanbul, Turkey. The route they followed was roughly the same as the 2,000-mile Nabucco natural gas pipeline that will eventually terminate in Austria. Along the way, students were immersed in the regional politics of energy, nationalism, global economics, as well as the history and culture of the region. The students met with experts and representatives of government, including a chance meeting with President Mikheil Saakashvili of the Republic of Georgia. Native students from the Republics of Azerbaijan, Georgia and

Turkey joined the caravan along the way and a rich exchange of interests in music, language and popular culture were shared. The class was initiated based on interest generated by the more traditional “Black Sea Politics” class offered in spring 2010. That class was funded by a generous grant from the office of Mr. Elin Suleymanov, the Consul General of the Republic of Azerbaijan in Los Angeles, Calif.



Thomas Goltz. Photo by Kelly Gorham.

Professor and department head, Jerry Johnson, edited a recently published book titled *Knowing Yellowstone, Science in America's First National Park*. The book features the science and research of the Greater Yellowstone Ecosystem, and was developed with grant support from the Big Sky Institute and the Thermal Biology Institute at MSU. Presently in Yellowstone there are almost 200 active research permits that involve over 500 investigators, but only a small fraction of this scientific work is reported in the popular press. The goal of the book is to describe how science informs policy in the Greater Yellowstone Region, how scientists from an array of disciplines do their work, and finally, how the nature of that work enables or limits future plans for managing the park and surrounding lands. Some of the chapters ask: How do we come to understand grizzly bear biology and behavior, what impact are wolves having on elk, and how do citizens think about the region and resource management? Scientists from MSU, the U.S. Geological Survey and the National Park Service contributed chapters.

The Political Theory Consortium is a student initiated and organized club that is now in its second year. The club meets every other week throughout the semester. Membership is open to anyone interested in discussing short political theory readings and their bearing on current events. Last year's readings included titles such as “The Evolution (Or Devolution) of Privacy,” “A Study of Self-Presentation in Light of Facebook,” “Health Care is Not a Human Right,” “The Right to Health in the U.S.,” “Queens for a Day: Queer Eye for the Straight Guy and the Neoliberal Project,” “On Being Conservative,” “Failed States,” and “Escape from Freedom.” Discussions are informal, often very lively and there are no tests or quizzes!

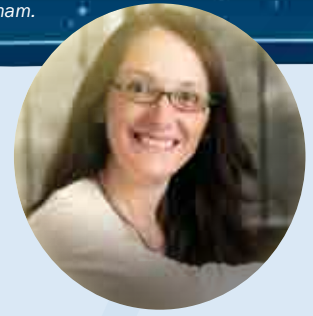


Associate professor Linda Young spent the spring semester on sabbatical in Latin America. After an intensive month of training in Spanish, she travelled through Bolivia, Peru and Ecuador talking to family farmers. Small indigenous producers have been encouraged to export high value agricultural products to the world market by their governments and aid agencies in hopes that this will provide a route out of poverty. Young talked to producers of quinoa, trout, broad beans, passion fruit, broccoli and other crops about exporting to the world market, in an investigation of the nature of the risks they face through reliance on the international market. She found that non-governmental organizations are playing a key

role in facilitating high value exports by providing credit and export marketing services to some producers. Other producer groups, like those of habas (broad beans) in an isolated region of Bolivia, are crippled by a lack of knowledge of world markets and have little choice but to sell with international marketing firms, accentuating their perception of risk. Young also talked to women weavers in Bolivia who sell through a non-governmental organization guided by both market and social goals, a marketing channel developed for their unique needs.



Photo courtesy of Linda Young.



PSYCHOLOGY

Meg Huntoon, a senior in psychology with minors in both women's and gender studies and health and human development, was selected to be one of seven 2010 Septemviri members. Membership is based on scholarship, leadership and service to MSU. She was also selected for the 2010 Outstanding Psychology Student Award, which is based on excellence and future interest in the field of psychology. Meg is the president of the Psi Chi national honor society, and is actively involved in the National Society of Collegiate Scholars and the Mortar Board Honor Society. She currently works in two psychology research labs—Jessi Smith's Motivation and Diversity lab and Michelle Meade's Memory and Aging lab. Meg received funding from the IDeA Networks of Biomedical Research Excellence and the Undergraduate Scholars Program (USP) to present two research projects at the 2010 National Conference of Undergraduate Research in Missoula, Mont., and at the 2010 MSU Student Research Celebration. She has applied for USP funding to complete her women's and gender studies thesis working with Jessi Smith. Meg also volunteers in the community at Reach, Inc., Big Brothers-Big Sisters and at the HAVEN domestic violence shelter.

Meg Huntoon. Photo
courtesy of Meg Huntoon.



Associate professor Jessi Smith recently received a \$217,859 grant from the National Science Foundation to study how the gender experience impacts Native American student success in the STEM fields of science, technology, engineering and mathematics. Smith is working on the project with Anneke Metz, a former MSU cell biology and neuroscience professor now at the University of Southern Illinois. Native Americans, particularly female Native Americans, are under-represented in the STEM fields, and Smith and Metz hope to provide insights on how Native women going into the fields can stay and become successful. Increasing Native participation in these fields is important, Smith said, because society is shaped by science and technology. Not only is participation from diverse populations important to under-represented cultures, but diversity in the sciences helps society as a whole because it leads to higher-quality decisions, products and innovations. "We expect to make concrete, data-driven recommendations to academic institutions that lead to more equitable learning environments for Native students in the disciplines," Smith said.



Wade Cole. MSU
file photo.

SOCIOLOGY AND ANTHROPOLOGY

Wade Cole, assistant professor of sociology, received a grant from the Spencer Foundation to study curricular composition and change at minority-serving and women's colleges in the U.S. The grant will primarily

support archival work at Stanford University,

Cole's graduate school alma mater, which houses an extensive collection of course bulletins from colleges and universities across the U.S. This research will document and analyze the extent to which tribal, historically black, Hispanic-serving and women's colleges incorporate "group-differentiated" content into the curriculum, defined broadly as the number of courses that focus explicitly on one group to the exclusion of others. Cole's previous research has shown that distinctive curricula are much more common at tribal colleges and universities than at other types of institutions. The Spencer Foundation grant will allow him to trace changes in minority-serving and women's college curricula over time, with a special emphasis on the effect of the civil rights movement on curricular composition.

David Eitle and Tamela McNulty Eitle, associate professors of sociology, received a Ro3 grant from the National Institute on Drug Abuse (NIDA) to study risk and protective factors associated with adolescent meth use in Montana. The Montana Teen Stress and Health Survey is designed to explore the role of stressful life events and chronic stressors in predicting meth use specifically and illicit drug use generally. While the nature and extent of meth use among Montana teens has been well documented, research examining what specific factors increase or decrease the risk of kids trying and using meth is relatively scant. This study allows David and Tamela Eitle to extend prior research inspired by the stress-process model/General Strain Theory specifically to methamphetamine use. David Eitle's prior research has documented the association between stress exposure and deviant behavior among young adults, as well as identifying

important personal and social resources that serve as moderators of the stress-deviance association. Tamela Eitle's prior research has explored racial and ethnic disparities in alcohol use and abuse, and the social and personal factors associated with substance use.



One of 700+ entries to the 2010 Montana Meth Project "Paint the State" competition.

The College of Letters and Science welcomes Justin Davis as its new Director of Development. A native of Livingston, Mont., Davis earned a bachelor's degree in marketing from MSU's College of Business. Davis began his career in institutional investment management in Boston, Mass., where he managed investments for state pension funds and foreign governments.



Since returning to Bozeman, Davis has worked as a financial advisor and has held several positions at the MSU Foundation. He holds a certificate in financial planning from Boston University. Within the college, Davis works with alumni and friends of Montana State University in developing meaningful ways to support the college and students.

VARRICCHIO FAMILY ENDOWMENT SUPPORTS PALEONTOLOGY EDUCATION AND RESEARCH

Panoramic view of the new Varricchio Family Paleontology Laboratory. Photo by Matt Hume.

Philip Varricchio has a love of life and learning. At the recent dedication of the Varricchio Family Paleontology Laboratory, he challenged students to follow their passions throughout their lives and remember to give back. The new lab, supported by an endowment from the Varricchio family, enables paleontology students to have a state-of-the-art classroom and lab space. "This is such a step up and a necessity for these students," commented Mr. Varricchio. Prior to the opening of the paleontology lab, paleontology students occupied a small, dark and inadequate facility in the basement of Traphagen Hall.

Philip Varricchio is the patriarch of the family and began his career in the U.S. Navy. He progressed rapidly through the ranks and retired as a commander. Following his service in the Navy, Mr. Varricchio built a highly successful accounting practice in Pennsylvania. He is also very involved with the Association of the U.S. Navy, and was responsible for reactivating the Las Vegas Chapter of the organization. Now 88 years old, Mr. Varricchio loves being involved in the research and teaching that his son, David Varricchio, is performing as a professor at MSU. Dr. Varricchio's research focuses on the biology of dinosaurs, and involves theropods (the group of primarily carnivorous dinosaurs that includes birds) from the Cretaceous period of Montana and abroad (China, Africa, Argentina). His research exposes undergraduate and graduate students to some of the best paleontology work in the country.

The dedication of the lab, held in conjunction with the grand opening of the renovated Gaines Hall, was truly a wonderful event, with many paleontology students expressing their gratitude to Philip and the Varricchio family. Mr. Varricchio asked the students to remember this when they are successful in their careers and seek out ways that they too can give back. And he is by no means done. He stated that, "This is the first of much more to come."

By Justin Davis, Director of Development, College of Letters and Science

BRITTANS SUPPORT THE STEGNER CHAIR

Gordon “Corky” Brittan, who retired in 2008 after teaching philosophy at MSU for 35 years, will do whatever he can to cultivate the next generation of leaders in the American West. A recent commitment by Brittan and his wife, Vanessa, has completed the funding for the Wallace Stegner Chair in Western American Studies. Brittan has been involved in the Stegner chair since its inception in 1991, and has been instrumental in attracting funding and support to make the chair a reality. Wallace Stegner, who died in 1992, is considered one of the most important writers, historians and conservationists of the West.

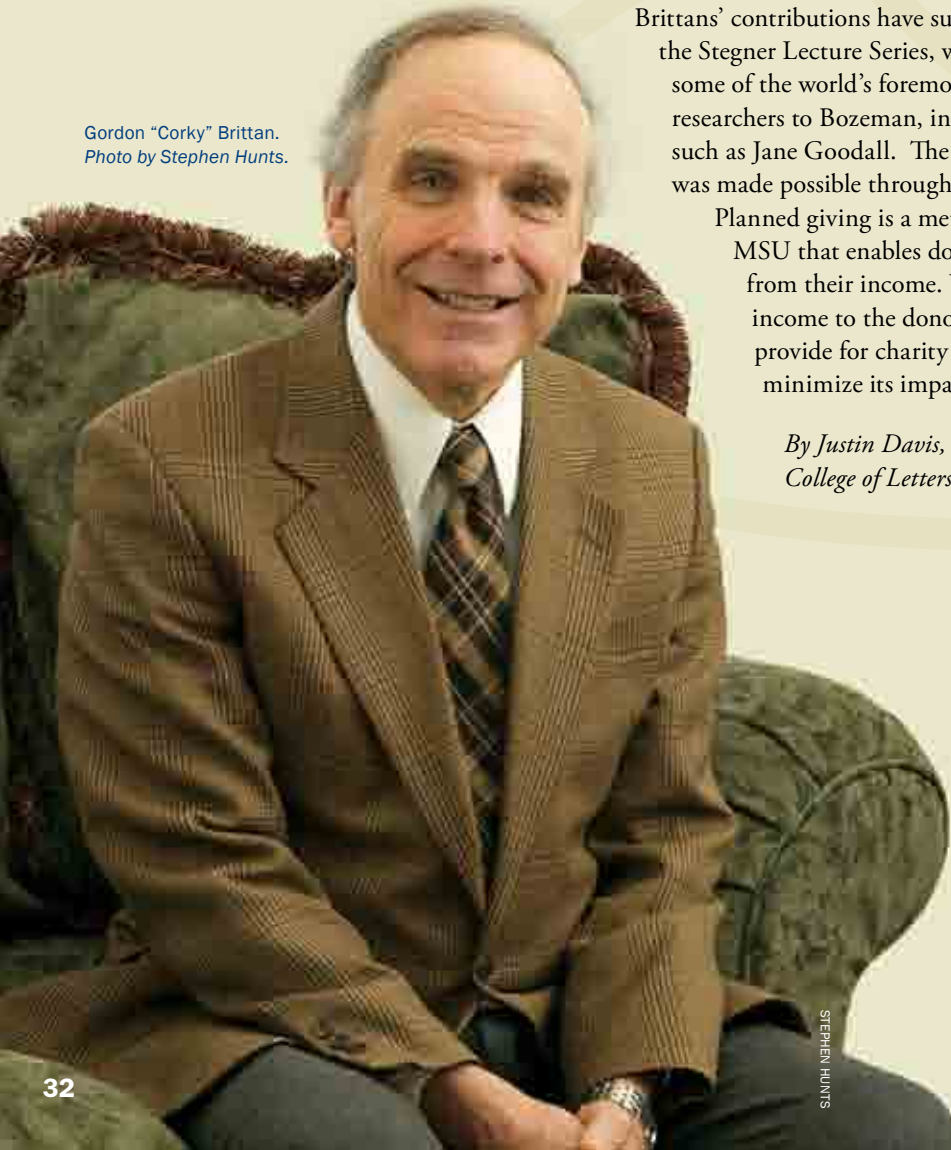
“The chair is meant to focus attention on the historical, philosophical and literary dimensions of the land-use problems the West faces,” Brittan said. “Stegner told me that the biggest land-use issues are ahead of us, not behind us. And I believe that’s true.” The most recent chair was internationally known natural science writer David Quammen.

In addition to the Stegner chair, the Brittans’ contributions have supported the Stegner Lecture Series, which brings some of the world’s foremost thinkers and researchers to Bozeman, including figures such as Jane Goodall. The Brittans’ gift was made possible through planned giving.

Planned giving is a method of supporting MSU that enables donors to make larger gifts than they could make from their income. While some planned gifts provide a life-long income to the donor, others use estate and tax planning techniques to provide for charity and other heirs in ways that maximize the gift and minimize its impact on the donor’s estate.

*By Justin Davis, Director of Development,
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Gordon “Corky” Brittan.
Photo by Stephen Hunts.



Wallace Stegner, circa 1960s. Special Collections Department, J. Willard Marriott Library, University of Utah.



David Quammen most recently held the Stegner chair. Photo by Stephen Hunts.

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