CONFLUENCE
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World View
L&S Scholarship Spans the Globe
Colleagues and friends of L&S,

In the previous issue of Confluence, we shared with you the many ways in which Yellowstone National Park plays a role in the research of L&S faculty and the education of our students. Yet our scholarship isn’t bounded by regional or national borders. Faculty and students from all fifteen L&S departments are studying, writing, lecturing, and conducting research across the globe. And they are bringing that worldview back to our campus and classrooms, enhancing the teaching and learning that goes on every day here at MSU.

In the following pages, you’ll read about professors doing ecological, anthropological, geological, and microbiological research in Africa, India, Iceland, and Antarctica. You’ll learn about student exchange programs with schools in Morocco, Turkey, and New Zealand. You’ll discover student researchers who accompany their faculty mentors to Israel, Brazil, and France. And then there are new study programs in Japanese and Arabic, L&S alumni coordinating relief efforts in Southeast Asia, professors receiving international honors and awards, and the hundreds of conferences and publications to which our faculty and students contribute around the world.

At the same time, we continue to take pride in the excellent mentoring of students that takes place here on our Bozeman campus, the hands-on research opportunities offered in both undergraduate and graduate programs, the diverse accomplishments of our alumni, and the vital support of parents, friends, and donors, who make many of these accomplishments possible.

As we choose what to feature in this issue of Confluence, we are constantly reminded of how much we are leaving out. While you read and enjoy these glimpses of faculty, staff, student, and alumni achievements, we hope you’ll be inspired to learn more about what is happening across the college. Log onto our website—www.montana.edu/lettersandscience—for frequently updated news, join us for any of our public lectures, discussion groups, and learning opportunities, or visit us on campus to meet our faculty and students.

Sara Jayne Steen
Dean, College of Letters and Science
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We thank the following people for the use of their photographs:

Andy Hansen, Susan Cohen, Seth Feinberg, Jack Fisher, Steve Hamner, Linda McGurk,
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Ask most people about the international aspect of teaching and research in the College of Letters and Science, and the answer you’re likely to get is “French, Spanish, and German.” But even in the Department of Modern Languages and Literatures, says department head Mike Myers, “we spend as much time teaching the history, art, religion, politics, and philosophy of international cultures as we do the language.”
TALE OF TWO COUNTRIES

Her research into Honduran immigrants in the U.S. led sociology professor Leah Schmalzbauer to study the growing trend of transnationalism, when families are split between two countries. She reported her findings in an article published recently by the Journal of Marriage and Family.

Schmalzbauer studied 157 Hondurans over two years, interviewing the immigrants as well as the family members left behind. She found that the changes for Latin American families are more pronounced now that an increasing number of women are leaving their children in the care of proxy mothers while they migrate to the U.S. in search of a better living.

“Millions of families are living in a permanent, transnational limbo,” said Schmalzbauer. “I heard thousands of stories about these people being separated from their families.” Many of the migrants lived in “very, very tough circumstances, packed in small apartments to cut costs.” She said Honduran parents were very devoted to their children as well as to their extended families and were in agony over their finance-mandated separations.

Nearly all of the income that the immigrants make in the U.S. while working at low-paying jobs is wired back to their native countries. “Their goal is to send back every available penny except those spent for necessities,” she said.

Schmalzbauer added that while the subjects all spoke of the day that their families would be reunited, long-term reunion of transnational families is rare. “I call this ‘the Myth of Return,’ the notion that keeps you going that you are going to be united sooner or later.”

Excerpted from MSU News/Carol Schmidt
Mark Skidmore, professor of geology in the Department of Earth Sciences, conducts his research in remote field sites from the Swiss Alps and Iceland to Alaska. Often bringing along graduate student Scott Montross, Skidmore conducts research that explores the role of microbes in the chemical weathering process of glaciated systems. In addition to conducting research abroad, Skidmore presented results of his research at conferences in Canada, Finland, and Belgium.

Professor Walter Fleming, head of the Department of Native American Studies, along with Professor Wayne Stein, spent five weeks in 2004 meeting with scholars in Peru and Guatemala. As a result of that trip and continued research, they will be presenting a paper at the 7th World Indigenous Peoples Conference on Education in Hamilton, New Zealand in November 2005. The topic, “Development of a Framework for an Indigenous Ethnic Studies Exchange Project,” reflects their interest in looking at the religious, cultural, and philosophical similarities among the Incas, the Mayas, and the North American Indians. They hope to develop an exchange project that would include Montana State University, Fort Belknap College, and similar colleges and universities in New Zealand.

These examples only begin to illustrate the depth and breadth of international research in L&S. Other work includes psychology professor Richard Block’s international collaborations on the Study of Time; English professor Sharon Beehler’s research on “Global Shakespeare Pedagogy”; the archeological fieldwork of anthropology professor Jack Fisher at the Dunefield Midden site on the southwest coast of South Africa; the faculty research highlighted in this article’s three sidebars, and innumerable other examples.

“It’s important to realize that our faculty members and students are not at all isolated,” emphasized Dean Steen. “Intellectually, this campus is very connected, very involved, and incredibly influential when it comes to global issues and research.”
MICROBIOLOGIST JOINS FIGHT AGAINST GANGES POLLUTION

Virtually all the sewage from Varanasi, India runs untreated into the Ganges River, says Steve Hamner, research scientist at Montana State University. Corpses float down the river, as do chemicals and factory waste. Meanwhile, children play in the river. People drink the water, bathe in the river, and wash their dishes there.

“It’s one of the most highly polluted bodies of water possible,” said Hamner, whose first reaction after seeing it was “I’m a microbiologist. How can I help?”

Hamner visited Varanasi three years ago to learn more about Indian culture and the activities of the Sankat Mochan Foundation. The foundation was formed by Dr. Veer Bhadra Mishra, an engineer and Hindu priest who has long lobbied the Indian government to clean the river that’s considered a living goddess.

Since his initial visit, Hamner helped compile into graphs 12 years of water quality data that the foundation collected. He returned to India to survey the ways that people use the river and how diseases may be related to these uses. Hamner described his findings in a manuscript that will be published in the International Journal of Environmental Health Research. He is now examining diarrhea-causing microbes from the river.

by Evelyn Boswell

NEW BOOK GIVES FRENCH IMMIGRANTS A VOICE

Immigration is nothing new to Ada Giusti, and neither is France. The professor of French was born to Italian parents who immigrated to France and later to New York City. When Giusti was a teenager, they lived in an immigrant neighborhood.

Her background allowed her to feel comfortable while interviewing immigrants and French natives for her new book titled Why Don’t They Just Go Home?, Giusti said. The book that addresses the issue of immigration in France was published this summer and has brought her national attention in the French media.

Written in French, the book fills a gap in the national debate by allowing immigrants to tell their own stories, Giusti said. People from Algeria, Armenia, and ten other countries explain why they decided to leave their countries, how they escaped, how they’ve been received in France, and how they see their futures. The French explain their wide-ranging convictions about immigration. Immigrants and nationals alike suggest solutions.

The idea for the book grew from her experiences as a researcher and volunteer in France, Giusti said. Even before that, her background had spurred her to start a service-learning program for MSU exchange students. She found French organizations where the students could volunteer. Then, as the students helped others, they learned more about the country while becoming integrated into its culture.

by Evelyn Boswell
“I will never forget ‘The Last Best Place,’ Montana,” said a Palestinian student, after she and 20 other students from the Middle East and North Africa visited MSU this past summer. The trip was sponsored by a grant from the US Department of State’s Middle East Partnership Initiative (MEPI) and the Bureau of Educational and Cultural Affairs, and allowed top students from 14 countries to learn about the US and gain leadership skills during a 47-day long program. MEPI was created after the 2001 Twin Towers bombing as a way to generate good will and promote democracy in the Arab world. MSU was one of only three universities in the US to be selected as a host institution.

“There’s an increased sensitivity for and interest in what’s happening in that part of the world right now, and on a political level, it’s important for people from the US and the Middle East to understand each other. We’re all in this together,” said David Engberg, director of special programs at MSU’s Office of International Programs and coordinator of the grant.

The academic program was designed by the Department of English and focused on the processes of globalization, both on a national and regional scale. In addition to attending lectures, the students learned about volunteerism by working for Habitat for Humanity and the Gallatin Valley Food Bank, visited with community leaders, and went on field trips to local sites like Yellowstone National Park, the Berkeley Pit, and Bannock. While here, the students tried to straighten out some American misconceptions about the Arab world, but also learned a lot about each other’s countries and bonded “like a nice big family,” according to the same Palestinian student, who is planning to write about her experiences for a youth group journal and start discussion groups about the US at her university.

Engberg said that MSU likely received the MEPI grant because of its extensive focus on US-Arab relations. Other initiatives to bridge the cultural gap between the US and the Middle East include the Arabic language program (see sidebar) and the State Department’s PLUS scholarship program, which allows distinguished students from Arab countries to study in the US for two years and get a degree from an American university.
MSU STUDENTS LEARN ARABIC THROUGH INTERACTIVE COURSES

Thanks to a unique instructional model developed by the Office of International Programs in collaboration with the Department of Modern Languages and Literatures and the Burns Telecom Center, MSU offers its students top-notch Arabic language instruction. The US Arabic Distance Learning Network, a program funded by the US Department of Education, enables MSU and seven partner universities to teach Modern Standard Arabic through interactive video instruction paired with on-site teaching assistant (TA) sessions. Yvonne Rudman, director of the network, said students have shown a keen interest in the program since it started seven years ago. “The students are hungry for the opportunity to learn Arabic and they’re grateful that we can offer it,” she said.

Currently, 25 MSU students and an additional 124 students network-wide are enrolled in the program and meet twice a week with an Arabic professor via two-way video links offered in multiple sections. They also meet twice weekly with their local TA, who is a native Arabic speaker. After the first year of the program, the students can opt for a second year of language learning as exchange students at Al Akhawayn University in Ifrane, Morocco.

More information about this program can be found on the web at: www.arabicstudies.edu

MSU students who are interested in Arab countries can also participate in the Model Arab League (MAL), a student leadership program based on the real League of Arab Nations. This year, MSU sent 29 students divided in five delegations representing Bahrain, Morocco, Qatar, Sudan, and Syria. MSU brought home ten individual awards and was named “Outstanding School” for the second year in a row. “I think this is one of the best ways to learn about the Arab world,” said Houssna Jabir, a PLUS student from Morocco who received an honorable mention after a tough debate on how to stop drug smuggling across Morocco’s borders and prevent nationalist fighters from entering Iraq.

Before going to the MAL, the students prepare by studying their assigned country’s economic, political, and social structure. Once at the conference, their job is to represent the country faithfully and act in character while trying to solve problems in a diplomatic setting. And even though negotiations sometimes break down and alliances are formed and broken, the most important part for the students is to practice their communication skills and gain new perspectives on current issues for the Arab world. Eric Peterson, a political science major who has gone to the MAL for the past three years, said that the conference exposes people to a lot of new ideas that don’t appear in the media coverage of the Arab world. “I think Americans have a fear of Arab culture itself and this lack of knowledge results in a lack of understanding. It’s a different culture but that doesn’t mean it’s bad,” said Peterson.
EXCITING, SCARY, AND ABSOLUTELY WONDERFUL

By Linda McGurk
They read the heart-wrenching novel Roots and other books about Africa, took classes on the horrors of slavery, and wrote papers on colonialism. But nothing could have prepared MSU students Leslie Baldus and Christopher Murfitt for the distress they felt when they stood crammed with a dozen other people in a pitch-black dungeon at a slave fort in Ghana. “It hit hard. A lot of people got really emotional,” said Murfitt, a senior with a justice studies major. Fortunately, the slave forts are now relics of the past and one of many things that Murfitt, Baldus, eleven fellow MSU students, and their professor Seth Feinberg explored during a two-week trip to this West African country.

Ghana is one of many existing Travel Study Course destinations for MSU students who are curious about other cultures, and the College of Letters and Science is working actively to explore more options. “Studying abroad is a really valuable opportunity for our students. It could be an eye-opener and provide you with perspectives that you can’t get without visiting other countries and cultures,” said Adele Pittendrigh, associate dean of the College.

Murfitt thought the three-credit course would be a neat alternative to studying abroad for a whole semester, and Baldus, a justice studies major in her fifth year, had always dreamed about going to Africa. Neither of them had ever left North America before. In collaboration with MSU’s Office of International Programs (OIP), Feinberg worked out an ambitious itinerary for the group, but one of the first things the students learned was to be flexible and adjust to what the locals refer to as “Ghana Maybe Time” (GMT). “The itinerary was usually shot after breakfast,” contended Murfitt and chuckled when he thought of the times when their guide took them on hour-long detours because he didn’t know the way and of dinners that would often drag on for two hours. “But we did a lot of impromptu things that weren’t on the schedule, too,” Murfitt continued.

The touring students were constantly reminded of Ghana’s rampant poverty, but during a trip to a rural village they got a chance to give something back to the country. After being greeted by the chief of the tribe and taking a tour of the village, they all rolled up their sleeves and got to work on a health clinic that was under construction. That, in combination with donating the group’s $200 of emergency funds to the village, is what Murfitt and Baldus consider one of the most rewarding parts of the trip. And their efforts were sincerely appreciated. Before they left, the village chief even declared them honorary citizens of Ghana and gave them all Ghanaian names during a special ceremony.

Murfitt and Baldus both describe the trip as a life-changing experience. “I grew up in Montana where there are few minorities and I always thought that was kind of sad,” said Baldus. In Ghana, she got to be a minority herself and thinks that the experience has made her “a better person.” Murfitt, who also grew up in Montana, agreed: “I think I developed greater tolerance for other cultures.”

Next year, the College of Letters and Science, in collaboration with the OIP, will offer new Travel Study Courses, including a literary and cultural exploration of Great Britain and a research journey to the Marshall Islands. David Engberg, OIP’s director of special programs, encourages adventurous students to consider a Travel Study Course. “It’s going to broaden their horizons and make them understand the world beyond their place. And it will make them more responsible and courageous travelers.”

After going to poverty-stricken Ghana, Baldus cautions that some travel is not for comfort-prone people who expect everything to be like in the US. But for those who are tolerant and appreciative of other cultures, “it’s worth every penny,” she said.
When Jill Eliel first met the man who would become her husband, she thought he was a snob. He thought she was fat.

One of Eva France’s most vivid childhood memories was sleeping in a tepee in the summer with her auntie who dipped their drinking water from a nearby creek.

These recollections and others like them mark the beginning of a new oral history collection created by a group of undergraduates taking history professor Mary Murphy’s Integrative Seminar in Women’s Studies.

Nineteen MSU students chose female neighbors, relatives, church friends, or other acquaintances to interview for the research seminar. Most of the women were from Montana, and each had to be at least a generation older than the student interviewing her. The oldest woman interviewed was 90.

Marie DeBernardis, a senior from Gallatin Gateway, Montana, with double majors in biomedical science and studio art, spent two summers at Stanford University helping researchers study Fragile X Syndrome. As a result of her research, she’ll be listed as a co-author in an article to be published in the Journal of Autism and Development Disorders. A second article has been submitted to the American Journal on Mental Retardation.

Fragile X is the most common form of inherited mental retardation. Symptoms vary by person, but they occur because one gene can’t produce enough of a protein that’s needed by cells. In one of DeBernardis’ studies, she experimented with teaching basic math and geography skills to children with Fragile X. In the other, she watched videotapes of children with Fragile X and coded their behaviors as they tried to escape social interaction.

Stanford researchers normally don’t involve undergraduates from other schools, but both of Marie’s projects were funded by the National Fragile X Foundation. Marie has an older sister who was diagnosed with Fragile X at the age of twelve.

“There’s so little about women’s history that we know,” said Abby Johnson, a psychology major and women’s studies minor from Bozeman, Montana. “It’s ridiculous.”

Johnson said that when she first interviewed Janice, who was born and raised on her parents’ farm outside of Bozeman, it seemed that “one woman’s life history was insignificant in the context of the world.” Later, Johnson said, she realized that “she must be like a drop of water, which falling into a pool forms a ripple.”

MSU history professor Mary Murphy said a recent Oral History Association meeting inspired her to create the class project. “I think in the end it was very valuable,” said Murphy, the author of Hope in Hard Times, an award-winning book on photographs of the Depression in Montana. “As a teacher, I’m just wowed by what they’ve done.”

The collection will be housed in the MSU Renne Library, where others can add to it, Murphy said.

Excerpted from Annette Trinity-Stevens, MSU News
L&S STUDENTS EXAMINE FLYING SUITCASES

Two open suitcases, their contents exposed to the elements, clung to the outside of the International Space Station. Radiation bombarded them. Particles struck. After losing their ride home, the suitcases orbited 2 1/2 years longer than expected. Scientists and Montana State University students wondered what they’d find when the suitcases finally returned to Earth.

After 47 months in space, the suitcases and materials inside landed Tuesday, August 9, in California. Three L&S students had already been preparing for their arrival.

Barrett Sakow, a chemistry major from Bozeman, Tanner Horne, a physics major from Elliston, and Curtis Small, a biochemistry major from Butte, are involved in a project to see how the materials survived the space environment. Those that performed well could wind up on the outside of future spacecrafts.

The students won summer internships with the Montana Space Grant Consortium (MSGC), a component of NASA’s National Space Grant College and Fellowship Program, to study some of the space-exposed materials. They’ll also compare materials eroded at MSU with samples eroded in space.

“This is a very unique and exciting opportunity,” said Donna Minton, deputy director of the MSGC. “The International Space Station has proven to be an important test bed for the durability of spacecraft materials in the low-Earth orbit environment.”

In 2001, researchers with the National Aeronautics and Space Administration sent up approximately 400 materials inside two containers that looked like suitcases, Minton said. Attached to the outside of the International Space Station, the containers and materials stayed in space much longer than expected after the Space Shuttle Columbia exploded and NASA stopped sending shuttles into space. Scientists started gearing up for the return of their luggage, though, when NASA announced plans to resume the flights, Minton said. The “suitcases” returned to Earth on the shuttle.

Small said he was involved in “space stuff” as a kid, so when the internship became available, “It was kind of like, ‘Wow. I can do a research project doing something I enjoyed as a kid.’”

Sakow, Horne, and Small received an overview of the project when they visited NASA and Boeing personnel at the Johnson Space Center in Houston in early June, Minton said. Now that the shuttle has landed, they’ll have the opportunity to travel to NASA-Langley Research Center in Hampton, Virginia, to help remove samples from the experiment trays. They will then bring some of the materials back to Bozeman for analysis.

Excerpted from Evelyn Boswell, MSU News

PHYSICS GRAD STUDENT MEETS WITH NOBEL LAUREATES

Keith Gilmore, a doctoral student in physics, received a U.S. Department of Energy and National Science Foundation Graduate Student Award to attend the June 2005 meeting of Nobel Laureates in Lindau, Germany. Gilmore attended lectures and interacted informally with Nobel laureates and some of the world’s top graduate students in the sciences.

Over 45 Nobel winners and 700 graduate students from 56 countries attended the annual assembly that encourages international conversations among scientists.

“Out of all the people I know in the physics department, he thinks about the big problems very deeply,” said Yves Idzerda, professor of physics and Gilmore’s advisor, who nominated him for the award. “I thought he would appreciate these people who also think about these problems on a deep level.”

www.montana.edu/lettersandscience
HUMAN RIGHTS SCHOLAR CHAIRS STATE COMMISSION

Governor Brian Schweitzer recently appointed political science professor Franke Wilmer as the chair of the Montana Human Rights Commission. The commission, which has four other members and meets every other month, reviews appeals of reports by human rights investigators and decisions made by hearing examiners in Montana.

Wilmer, an international authority on indigenous people and international human rights, cut her professional teeth as a human rights investigator in North Carolina. She earned her Ph.D. in government and politics from the University of Maryland, and has been a professor at MSU since 1991. She’s taught international human rights, international relations theory, international law, Native American politics and governments, and women and world politics, among other courses. Wilmer stepped down this summer as chair of the Political Science Department.

She is a member of the Gallatin Human Rights Task Force and has served on the Montana Committee for the Humanities. Wilmer also travels throughout the world to speak on the rights of the world’s indigenous peoples.

Wilmer said she was honored that the opportunity presented itself. “I’m the sort of person that thinks public service is important when you have the ability and background,” said Wilmer, peering over boxes of cases that the commission was set to hear this month. “Serving on these sorts of committees is what democracy truly is all about.”

Excerpted from Carol Schmidt, MSU News

ECONOMIST APPOINTED TO PRESIDENT’S COUNCIL OF ECONOMIC ADVISERS

When Dino Falaschetti says he’s a microeconomist, few people understand what he does. However, when he says he will be on the Washington, D.C., team that studies Social Security for President George W. Bush, the interest level definitely heightens.

On July 25, 2005, Falaschetti began a one-year appointment to the President’s Council of Economic Advisers and will work in Washington, D.C. for a year. The council monitors and analyzes the economy and advises the president on economic developments, trends, policies, and the economic implications of policy alternatives.

Falaschetti earned his Ph.D. in economics from Washington University in St. Louis, and has been a professor at MSU since 2002. He has a book forthcoming titled Money, Capital Markets, and Governance. Among other courses, he teaches Health Economics, and Economics and the Politics of Strategy.

The experience in Washington D.C. should enliven his classes in subsequent years back at MSU, he said. “It will be great to bring my experiences back here. Now I won’t be studying from afar but will be in the middle of it. Meeting people in D.C. will open opportunities for my students. It will add to the network for their placements in internships, graduate studies, and professional careers.”

Excerpted from Carol Flaherty, MSU News
ECOLOGY PROFESSOR RECEIVES NATIONAL AWARD

Chris Guy, affiliate professor of ecology and assistant leader of the Montana Cooperative Fishery Research Unit, received the American Fisheries Society Education Section’s Excellence in Fisheries Education Award. The award is the section’s highest honor and recognizes Guy for his excellence in organized teaching and advising in fisheries science or management.

Guy, who received his Ph.D. from South Dakota State University, specializes in research on the ecology and management of coolwater and warmwater fish species. Current projects include understanding the relationship between angler movements from stream to stream and the spread of whirling disease, and the assessment of threatened bull trout populations in Glacier National Park. In both cases, data will be useful in developing monitoring and management strategies.

Photos by: Chris Guy

2005 AWARDS

President’s Excellence in Teaching Award
• Marvin Lansverk, English

Cox Family Fund for Excellence Award
• Gwendolyn Morgan, English

Charles & Nora L. Wiley Faculty Award for Meritorious Research
• Neil Cornish, Physics
• Trevor Douglas, Chemistry and Biochemistry
• Franke Wilmer, Political Science

James and Mary Ross Provost’s Award
• Greg Francis, Physics

MSU Excellence in Outreach Award
• Gordon Brittan, History and Philosophy

Provost’s Award for Undergraduate Research/Creativity Mentoring
• David Klumpar, Physics
• Kimberly Myers, English

Phi Kappa Phi Distinguished Teaching Award
• Larry Carucci, Sociology

Betty Coffey Award
• Wendy Stock, Agricultural Economics and Economics

MSU Employee Recognition Award
• Genevieve Burmeister, Native American Studies
• Dallas Johnson, Chemistry and Biochemistry

L&S Dean’s Award for Meritorious Research
• Yves Idzerda, Physics

L&S Outstanding Teaching Awards
• Michael Reidy, History and Philosophy (Tenure Track)
• Angie Sower, Chemistry and Biochemistry (Adjunct)
• Julia Sharp, Mathematical Sciences (Graduate Teaching Assistant)

L&S Staff Excellence Awards
• Rose Waldon, Physics
• Jim Burns, Native American Studies

RETIRING FACULTY (and the year they joined MSU faculty)
• Tom Diamond, Psychology (1993)
• Joan Henson, Microbiology (1984)
• Jack Jelinski, Modern Languages & Literatures (1973)
• Jim McMillan, Cell Biology and Neurosciences (1973)
• Mary Pohl, Mathematical Sciences (1979)
MONTANA T. REX YIELDS TWO BIG DISCOVERIES

A Tyrannosaurus rex discovered in eastern Montana—and the oldest T. rex on record—has produced two major discoveries in dinosaur paleontology, said Jack Horner, Regents Professor of Paleontology in the Department of Earth Sciences and curator at Montana State University’s Museum of the Rockies.

Mary Higby Schweitzer, who received her doctorate in biology from MSU while working with Horner, led a research team that found soft tissues preserved in the hind thigh bones of the dinosaur. They announced the discovery in an article in the 25 March issue of the journal Science. Two months later, the team announced another important find: the same specimen yielded bone tissue that is common in female birds, proving that the dinosaur was female.

The dinosaur, the oldest Tyrannosaurus on record, is believed to have died 68 million years ago. Known as B. Rex, it was named after Bob Harmon, chief preparator of paleontology at the Museum of the Rockies, who found the dinosaur north of Jordan. The first discovery, of soft tissue, was the most surprising and controversial. “I am quite aware that according to conventional wisdom and models of fossilization, these structures aren’t supposed to be there, but there they are,” said Schweitzer, now an assistant professor at the University of North Carolina in Raleigh. “I was pretty shocked.”

Horner, part of the research team, said, “I see this as a really important discovery that will change our methods of collecting and study. The discovery means that our preconceived ideas about preservation were wrong.”

He continued, “With these new discoveries of cellular preservation, we move to a new kind of paleontology: cellular and molecular paleontology.”

Excerpted from Evelyn Boswell, MSU News

$17.9 MILLION GRANT ADDRESSES CLIMATE CHANGE

The U.S. Department of Energy awarded $17.9 million to a multi-state partnership headed by Montana State University to further develop ways of capturing and storing greenhouse gases, especially carbon dioxide, in underground geological formations, cropland, and forestland.

The coalition, called the Big Sky Regional Carbon Sequestration Partnership, includes public and private sector research institutions, businesses, and state agencies. Professor Susan Capalbo, Department of Agricultural Economics and Economics, directs the partnership, which includes scientists from Wyoming, South Dakota, Idaho, Oregon, and Washington, tribal nations, and international collaborators in Norway, India, and the Netherlands.

“By facilitating the move of carbon sequestration technologies into the field, this grant will help America take a huge step toward significant greenhouse gas reduction while using our coal and other fossil fuel resources,” Capalbo said. “These fuels are important for meeting America’s energy needs and economic development in the region.”

Capalbo said this grant shows that MSU is becoming known as a leader in energy research. Extensive storage of carbon dioxide in basalt rock formations is possible. Capalbo said the carbon dioxide storage capacity of the Columbia River Basalt alone would exceed the emissions of all U.S. coal-fueled power plants for the next 20 to 30 years. The research will also look at next-generation energy power plants that produce electricity and hydrogen without emissions of carbon dioxide.

More information about this project is available at http://www.bigskyco2.org.
L&S Launches Speaker Series at Aspen Pointe

Mary Murphy, history professor, talked about Montana during the Depression. At the next lecture, Dave Lageson, earth sciences, spoke on the causes of tsunamis, followed by Tim Ford, microbiology, who informed his audience about the public health issues that accompany such events. A few weeks later, Jerry Calvert, political science, made a modest proposal for reforming the state legislature.

No, it’s not a new interdisciplinary course offered by L&S. This series of talks was designed for the residents of Aspen Pointe, an active retirement community in Bozeman. In a new program launched last spring, L&S faculty members regale the enthusiastic audience with accounts of their current research interests in a monthly lecture series.

Michael Sexson, professor of English, kicked off the lecture series again in September 2005. “This is a class teachers only dream of,” said Sexson.

“The sense of complete engagement permeates the room….If it were possible to rent out an audience, this one would be the one to rent.”

Jessie Bloss, the program director at Aspen Pointe, says that’s not surprising. “These are active, intellectually-curious folks. They want more than bingo.”

Sara Jayne Steen, dean of the college, said, “It’s great for our faculty members to get into the community to share the incredible research they are doing. We know that busy schedules often keep folks from coming up to campus for lectures and talks.”

Other speakers slated for the fall schedule include physics professor Yves Idzerda, who will speak about the nanotechnology revolution, and French professor Ada Giusti, who will share stories from her recently published book on French immigration.

Dinosaurs, Mining Towns, Wine: Summer Workshops Continue

For the second year in a row, MSU students, alumni, and other participants from as far away as Kenai, Alaska, spent a weekend in Choteau, Montana, searching for dinosaur bones among the rock outcroppings of the Two Medicine Formation. Led by Frankie Jackson, adjunct professor of geology and Museum of the Rockies researcher, the course—Dinosaur Paleontology at Egg Mountain—was one of several offered by Letters and Science’s Landscapes of the Mind Summer Workshops series.

The series offers one- and two-day workshops that span the subjects of L&S disciplines and are taught by Montana State University’s world-class researchers and outstanding teachers. They are open to everyone: MSU students, alumni, community members, out-of-town visitors, and anyone else interested in an exciting Montana learning experience.

Other well-attended workshops included a repeat of Professor Mary Murphy’s “Mining Town Women,” in which participants enjoyed a day-long visit to historic Virginia City and Nevada City, Montana, followed by a day of classroom instruction with photographs, texts, and films on the subject. A new course, taught by Professor Dave Lageson, head of the Department of Earth Sciences, focused on the complex interaction of geology, climate, weather, soil, culture, and time in the making of wine. During the one-day workshop, titled “The Terroir of Wine,” students spent time both in the classroom and out in the field learning about how geological factors affect the flavor of wine. They finished the day with a mandatory wine tasting.

Workshops will be offered again during the summer of 2006, with anticipated courses to include Western Women Writers, Super Volcanoes of Yellowstone, Dinosaur Paleontology, and more. For more information, or a brochure, contact L&S at (406) 994-4288 or email: lands@montana.edu.
A friendship that began 15 years ago at Montana State University has resulted in a multi-cultural relief effort for victims of the Pacific Rim tsunami disaster. Brock Albin (English, ’92), a Bozeman attorney now living and teaching in South Korea, and Dr. Robert Lame Bull McDonald (Biomedical Science, ’95), an emergency room physician in Browning, organized an emergency medical relief mission that sprang into action following the tsunami last winter.

Albin and his family were vacationing in northern Thailand during the Christmas break when disaster struck. Albin said that he and his family felt the hotel shake when the earthquakes hit that resulted in the devastating tsunami. He said that the family was vacationing in northern Thailand because the hotels in the area of Phuket raise their rates during Christmas.

“It was a decision that probably saved our lives,” Albin said.

McDonald, who has experience providing emergency medical services to remote areas of Indian reservations in the U.S., was asked by the World Health Organization how soon he could be deployed to help with the tsunami rescue work. McDonald immediately thought of Albin as someone who could help him with the effort.

“I thought he was in Korea when the tsunami hit. I also had a gut instinct that he would want to join me to volunteer in the disaster. When I contacted him about it, he said, ‘Dude, I’m here.’”

Albin said that he and his family immediately flew from northern Thailand to the southern part of the country when they learned of the magnitude of the disaster. The Albin family spent three days in the hardest hit areas of Thailand, including Phuket, Kao Lok, Phangnga, and Rachi Island.

At the same time, he and McDonald were organizing a more sustained volunteer effort through the Youth Imperative, Inc., a Bozeman-based non-profit that Albin organized in 1995 to provide international relief and legal, professional, and human rights services to youth.

By early February 2005, fifteen volunteers from China, Korea, America, Canada, Thailand, France, Australia, and Malaysia were on the ground in Thailand. The group, which included teachers and medical professionals, a professor, a nurse, an EMT, a lawyer, a contractor, and others, provided services in and around Nam Khem Village in southwest Thailand, the hardest hit area of the country. They provided medical, educational, psychological, media, construction, and other services to the traumatized community.

A third volunteer mission is currently in the planning and funding stages. Youth Imperative hopes to create an educational institute to provide English language instruction for all ages, specialized education for pre-school children, and additional education services for Nam Khem Village and the surrounding residents. Nam Khem Institute plans include a school, library, technology center, and volunteer clearinghouse.

McDonald said that while the disaster may seem very far socially and geographically, our wired world has shrunk the globe. “Montana is a fingertip away from anywhere in the world,” McDonald said.

To learn more about Albin and McDonald’s efforts, visit the organization’s website at www.youthimperative.us.

Excerpted from Carol Schmidt, MSU News
NEW BOOK ON DEAD PRESIDENTS FOR SARAH VOWELL

Sarah Vowell (Modern Languages and Literatures, ‘93) thinks that she may have begun to develop her irreverent writing style while working at the Pickle Barrel Restaurant during her college years. “I was a quiet person before that, but I found I had to stand up for myself among a pretty rowdy crew there.” Combined with her passion for dead presidents, this style has earned Vowell rave reviews for her new book, Assassination Vacation, published in April 2005 by Simon & Schuster.

Assassination Vacation takes readers on a thought-provoking journey to sites of American political violence and Presidential assassination. From New York to Alaska, Washington DC to Florida, Vowell examines the deaths of Lincoln, Garfield, and McKinley, noting how politically important blood has been used for fun and profit, as well as for political and cultural advantage. She visits landmarks such as the assassination spot of Abraham Lincoln, as well as more obscure locations such as Dry Tortugas Island, where several Lincoln assassination conspirators were sentenced to life in prison.

Assassination Vacation is simultaneously an exploration of America’s past and an examination of contemporary culture. Rich, quirky, and thoughtful, Vowell’s book manages to address the country’s shortfalls and also convey pride in the nation.

Vowell is perhaps best known for the National Public Radio program “This American Life” for which she is a contributing editor, as well as for her appearances on late-night television (David Letterman, Conan O’Brien). Her previous books include The Partly Cloudy Patriot (2003) and Take the Cannoli (2001).

IN MEMORIAM

The man credited with saving more lives than any other scientist in the past century, microbiologist Maurice R. Hilleman, died April 11, 2005 in Philadelphia. He was 85.

Hilleman, a Miles City native and a 1941 graduate of what was then Montana State College, credited his Montana education for part of his success. His dual majors in microbiology and chemistry eased his entry into the University of Chicago for graduate studies. There he found that his background was extensive enough for him to cut off two of the five years needed to get a Ph.D.

In a talk he gave at the Museum of the Rockies in September, 2000, Hilleman said, “I would say to you that you have much to be proud of here at MSU.”

Dr. Hilleman and his team at Merck & Company developed about three dozen experimental and licensed animal and human vaccines, including 8 of the 14 routinely given to young children in the U.S. today. His work is credited by scientists for virtually wiping out many of the dreaded and deadly childhood diseases that remained common just 40 years ago. His MMR vaccine protects children against three different diseases—measles, mumps, and rubella.

The World Health Organization and many other organizations have honored his work, as did former President Ronald Reagan, who awarded Hilleman the National Medal of Science in 1988.

In an article on his death, The Times (U.K.) declared that Hilleman “did as much for the human race as any medical scientist of the 20th century. He saved tens of millions of lives, and preserved the health of yet more millions around the globe.”
CELL BIOLOGY AND NEUROSCIENCE

Until now, neuroscientists have been unable to image the network activity of the brain because they could only record information from one neuron at a time. An invention by undergraduate researcher Robbie Mealer, a senior in Cell Biology and Neuroscience (CBN), promises to solve this problem, and his discovery is in the process of being patented by MSU.

Supported by the Hughes Undergraduate Biology program (HUB), Mealer joined the Molecular Motion Lab of Professor Thom Hughes during his junior year. Building on the discovery that fluorescent proteins could be split into two parts to produce fluorescence, Mealer reasoned that if these fragments could be placed on two different portions of a voltage gated ion channel, their activity could reveal voltage changes, or neuronal signaling, far better than any previous invention.

Robbie is one of many talented students doing undergraduate research in the department. Some students, for instance, engage in a progressive research experience which begins in the freshman summer through a program funded by the National Science Foundation and directed by Anneke Metz. This program focuses on minority and first-generation college students and provides two weeks of hands-on laboratory experience. Other students are supported throughout their undergraduate years through continuing funding from the HUB program.

Many students present and publish their work: Seniors Katie Newell and Lisa Sun Rhodes are co-authors on publications submitted to peer-reviewed journals with faculty members Roger Bradley and Christa Merzdorf, respectively. Lisa presented her work at the NIH Minority Trainee Forum in Washington D.C.; Katie’s work was presented at the Society for Neuroscience in San Diego; and Robbie Mealer will present his groundbreaking discovery at the annual Biophysical Society meeting in Salt Lake City in February.

CHEMISTRY AND BIOCHEMISTRY

The cornerstone for the new Chemistry Research Building, with a quote from Aristotle, was unveiled on September 30, 2005. This building will provide needed space for chemistry and biochemistry research programs, enabling the department to offer a rich laboratory experience for undergraduate and graduate students working beside faculty and staff. In addition, it will provide a safer, healthier environment in which to conduct complex research on anti-cancer, anti-bacterial, and anti-fungal drugs, laser and optical advances, nanotechnology, proteomics and more. The centerpiece of the brick, glass, masonry, and metal building will be cutting-edge laboratories that will line the outside of the building, with a stately four-story atrium and staircase. Also at the center of the design is a lecture hall “think tank” where scientists will be able to interact with other specialists about their work.

Professor Tim Minton became senior editor of the Journal of Physical Chemistry on May 1, 2005, a position he will fill in addition to his duties at MSU. One of 14 senior editors at the journal, Minton hired MSU graduate Nicole Megaard (Sociology, ’04) as his full-time editorial associate to help run the journal office. The office will be moved to MSU’s new chemistry/biochemistry building once the building is completed. Minton’s own research uses gas phase and gas-surface molecular beam scattering techniques and various surface analysis tools to understand the interaction between fast atoms or molecules and surfaces. Such interactions may affect the outcome of processes such as materials growth, etching, materials degradation in space, and surface-chemistry modification.

www.montana.edu/lettersandscience
EARTH SCIENCES

Mark Skidmore is a new faculty member in the Department of Earth Sciences who investigates the biogeochemistry and geomicrobiology of glaciated systems. Until recently glaciated systems were considered to be abiotic; however Skidmore and his colleagues have demonstrated that microbes play an important role in mineral weathering and nutrient cycling in these systems. Field sites include glaciers in Antarctica, the Swiss Alps, Alaska, the Yukon, and Washington. The field research is complemented by low temperature laboratory studies of microbial activity at near freezing/subfreezing temperatures. He has recently been funded by the National Science Foundation to conduct experiments on artificial ices to investigate whether microbes can produce carbon dioxide at subfreezing temperatures since microbial activity within glacial ice could potentially help explain anomalies in the gas composition of some ice core records.

The summer paleontology fieldwork of David Varricchio has yielded evidence of two new species of small, herbivorous dinosaurs. The skeletons, discovered by Varricchio and graduate students Josh Bonde and Mike Knell, were collected among the mid-Cretaceous rocks of southwest Montana. These strata represent rare terrestrial environments during a time of unusually high sea level. Once reassembled, the dinosaur skeletons should provide important clues into past biogeographic and evolutionary events during a time when rising seas shrank available habitat space for terrestrial animals. Thirteen teens from Chicago also participated in Varricchio’s excavations. The ‘junior paleontologists’ were participants in Project Exploration, a non-profit organization promoting science among inner city youths.

ECOLOGY

East Africa supports the largest, most diverse assemblage of terrestrial mammals in the world. Professors Andy Hansen and Jim Robison-Cox, along with collaborators from East Africa, recently studied large mammal populations in a portion of the greater Serengeti ecosystem and the effects of human population and land use changes in the region since 1977. By looking at data for both human factors (population density, agriculture, livestock densities) and biophysical factors (climate, plant productivity) the researchers determined that the transition from the traditional nomadic lifestyle of the Maasai people in this region to agriculture and permanent settlements is having a strong negative effect on several large mammal species. This effect is not only in unprotected areas that are experiencing land use intensification, but also in protected areas such as Massai Mara Reserve and Amboseli National Park. Researchers conclude that maintaining this globally significant mammal community will require regional scale management that better integrates ecological and human factors.

Florida Manatees, also called sea cows, are the unlikely subject of graduate student Lisa Schwarz’s doctoral research. The endangered species suffers from boat collisions and the loss of the warm water springs that manatees need to survive the winter. Over one-quarter of observed manatee carcasses show that the manatees died from boat injuries, and many more carry old scars. Old style, water-cooled electric power plants in Florida actually helped the species, by providing warm water, but these plants are scheduled to be replaced by more efficient designs that do not warm the water. The State of Florida Wildlife Research Institute collects manatee carcasses, conducts autopsies, and sends the results to Schwarz for analysis of mortality rates. Schwarz’s advisor, professor Daniel Goodman, directs the Environmental Statistics Group at MSU and specializes in studies of endangered species and population dynamics.
AGRICULTURAL ECONOMICS AND ECONOMICS

Professors Robert Fleck and Andy Hanssen are looking to ancient Greece for insights into the links between politics and economics. In a paper to be published in the *Journal of Law and Economics* next spring, they examine how economic conditions affect the incentive to establish democratic institutions. In a more recent paper, “Rulers Ruled by Women: An Economic Analysis of the Rise and Fall of Women’s Rights in Ancient Sparta,” they examine the extraordinary rights possessed by the women of ancient Sparta. More than 2000 years before the modern rise of women’s rights, the women of ancient Sparta controlled 40% of its agricultural land, were educated alongside men, and allowed to move about freely. Fleck and Hanssen point out that while we normally view women’s rights as an indicator of progress and enlightenment, Sparta was the least enlightened of the Greek city states. They conclude that these rights resulted from Sparta’s unusual political and economic circumstances, which rendered the use of women’s time in non-traditional tasks very valuable, and caused a decline in population that eventually led to Sparta’s downfall.

Department head Richard Stroup was named the holder of the 2005-2006 Hayek Endowed Chair. Hayek Professors are internationally renowned scholars placed on a rotating basis in Austria’s universities to teach in the tradition of the Austrian School of Economics, with an emphasis on the ideas of F.A. Hayek, who received the Nobel Prize in economics in 1974. In addition to a public lecture in Vienna, Stroup will present a series of lectures at the University of Graz this fall on “Incentives and the Environment” for environmental science majors. Stroup has written extensively on environmental topics, including the 2003 book, *Eco-nomics: What Everyone Should Know about Economics and the Environment.*

ENGLISH

Three English Department faculty members won prestigious university awards last year. Marvin Lansverk, who teaches 18th- and 19th-century British literature, won the President’s Award for Excellence in Teaching. Lansverk has designed and taught distance learning courses in introductory literature, supervised student internships, and sponsored a wide range of undergraduate student research. He is an adviser to 25 undergraduate majors and to the MSU English Club. Gwendolyn Morgan, specialist in Anglo-Saxon literature, won the Cox Award for Creative Scholarship and Teaching. Morgan integrates ancient themes into contemporary issues in ways meaningful to today’s students. For example, she teaches courses on Joan of Arc through the ages, medieval authority in pop culture, and sexual politics in the vampire fiction of Anne Rice. Kimberly Myers won the Provost’s Award for Undergraduate Research/Creativity Mentoring, recognizing her innovative scholarship and teaching, especially in the field of medical humanities.

Expanding its commitment to undergraduate student writing, the English department opened a new satellite of the Writing Center in the Renne Library. Called the “Writing Center at the Library,” the new program makes a professional tutor available to help students in the library setting with essay and research design and development. Since 1983, the Writing Center has been a free service for MSU students working on university writing assignments. Tutors help undergraduate writers brainstorm, organize, and develop their ideas. The Center provides services to over 6000 students a year and employs 30 to 40 tutors.
HISTORY AND PHILOSOPHY

Professor Susan Cohen completed archaeological investigations at her Gesher site in Israel and is developing a new excavation project at Tel Zahara, located in the central Jordan Valley. Cohen, who has excavated at various sites in Israel since 1987, focuses her work on understanding the forces of urban development in Canaan ca. 1950-1750 BCE. The material culture from Tal Zahara will provide a representative data set about the site’s economic and cultural history; the architectural elements will add to understanding of the organizational patterns of a rural village and provide evidence regarding spatial organization and land resource use. At her Gesher site, Cohen drew on the talents of several MSU students and is laying the groundwork for building a team of students and professionals for the upcoming summer.

A partnership with the new Yellowstone Heritage and Research Center in Yellowstone National Park offers new research opportunities for faculty and students. The new $7 million building, which opened in May 2005, contains the second largest archival collection in the National Park Service. It houses a 5.3 million-item collection cataloguing Yellowstone’s history, as well as its natural and cultural resources, including materials that date back to the park’s U.S. Army administration, as well as a large, rare book collection. The partnership will lead to new opportunities for faculty members with research interests in Environmental History and the Philosophy of the Environment, as well as hands-on experience for students in digitizing, cataloguing, and working with exhibits. Already, thanks to the generosity of the Yellowstone Park Foundation and Jack and Susan Davis, the department has been able to offer research internships to two undergraduate and two graduate students.

MATHEMATICAL SCIENCES

Numerous mathematical sciences faculty are now working in the area of mathematical biology, collaborating with scientists across campus and around the world on problems inherently biological in nature. One such project focuses on the understanding of cricket neural systems, a first step in studying those of far more complex organisms. With the Center for Computational Biology, researchers developed a data-mining technique that was applied to neural input-output data from a cricket’s sensory system. In another project, researchers developed a comprehensive model of a cricket mechanoreceptor system, a system that allows the cricket to translate wind motion to neural spike patterns. A similar mechanism is used in mammalian hearing, so findings will have far-reaching implications.

Other biology-related projects include developing models of hantavirus infection in deer mice in order to design strategies that will prevent the infection from jumping to humans; analyzing cellular processes; modeling the regulatory gene circuit that controls nitrogen intake in yeast cells; and studying genetic algorithms.

Faculty in mathematics education are expanding the way that teachers teach and students learn mathematics. Faculty have been at the leading edge of mathematics education reform with federally funded projects such as the Center for Learning and Teaching in the West (CLTW), the Six Through Eight Mathematics Curriculum Revision Project, Creating Opportunities in Mathematics for Exemplary Teaching (COMET), and GK-12: Collaborative Learning in the Greater Yellowstone Ecosystem. These outreach efforts provide training for teachers at small and large schools throughout the region and have led to the publication of many materials, such as a textbook for K-8 teachers entitled Learning and Teaching K-8 Mathematics, and a series of four books for high school teachers.
MICROBIOLOGY

Microbiology received a $4 million award from the National Institutes of Health in September 2005 to renovate the Cooley Microbiological Laboratories. This grant represents the first NIH major facilities grant ever received at MSU and will provide state-of-the-art facilities for cutting-edge faculty and student research.

Key upgrades include a new elevator to meet federal and local code requirements; partial renovation of the basement to allow installation of utilities to the building, including cooling requirements for a shared genomics facility and bioinformatics research and training center; a 300-square-foot bio-safety level 3 laboratory to be used by research programs from all floors of the Cooley Laboratories, from other MSU departments, and as a resource for the State of Montana at times of disease outbreak emergencies; and faculty and student offices, equipment rooms, a tissue culture room, microscope room, walk-in cold rooms, electrical closets and chemical dispensing rooms. Design and construction are expected to begin in 2006.

Five microbiology undergraduate students received prestigious awards for this academic year. Gwen Peterman, from Helena, Montana, received the American Society of Clinical Laboratory Science Montana Student Member of the Year award; Jessika Hinz, from Miles City, Montana, won an INBRE scholarship; Brian Meyer, from Whitefish, Montana, and Kerry Williamson, from Belgrade, Montana, both received Undergraduate Scholars Program scholarships; and Tai Takenaka, from Carter, Montana, was awarded an Alumni/Chamber of Commerce Award of Excellence.

MODERN LANGUAGES AND LITERATURES

The Board of Regents recently approved a new major in Japan Studies, and this spring the department will have its first graduate, Bonnie Robertson, of Livingston, Montana. Japan Studies majors learn Japanese language, literature, and history, as well as general Asian history and culture. They are also required to do a “capstone” research project. Professor Marilyn Bolles Guggenheim, who received her doctorate in Japanese Language and Literature from Berkeley in 2001, directs the program. Guggenheim’s research focuses on the role of Japanese writers and intellectuals in imagining a national literature following Japan’s defeat in World War II. She is also working on a book about the relationship between politics and literature as seen in the lifelong friendship between Enchi and Hirabayashi, two Japanese women writers.

Coordinated by professor Bridget Kevane, 16 MSU Spanish students currently spend weekly sessions teaching the romance language to Bozeman elementary school children. “The purpose is twofold,” says Kevane. “First, they help the community by keeping alive foreign language in the public schools, and second, they receive invaluable experience on what it is like to teach a foreign language. From what students have told me, it is one of the best, if not the best, experiences they have had at MSU because it combines their major with a hands-on experience.” It’s also great for the kids, according to Morning Star School principal Nonnie Hughes, who notes that research on the developing brain suggests that the earlier children are introduced to a foreign language the better.
In early 2005, the Montana Board of Regents and the Montana State Legislature approved the creation and construction of a Native American Student Center on the Montana State University campus. A site for the center, located just off the Centennial Mall on the eastern edge of campus, was chosen in June 2005. The Center will fulfill a long-recognized need on campus for a space where American Indian students can gather for learning, support, and cultural interaction. It will enhance the recruitment, retention, and graduation of American Indian students. In addition, the Center will serve the entire university community, providing opportunities for cross-cultural dialogue, learning, and sharing.

According to department head Walter Fleming, “The Student Center sends a message that Native students belong on campus and are a part of the university community. It represents a permanent and visible presence of Native people and culture at Montana State University.” In August 2005, over 50 American Indian students will enter Montana State University, estimated to be the largest Native freshman class in MSU history. Since 1992, MSU’s Native student enrollment has increased nearly fifty percent, from 186 to 261. While MSU has an active Native student body, including an American Indian Council as well as other Native student organizations, currently no adequate space exists to meet the needs of these students.

As currently envisioned, the center will feature classroom space, meeting rooms, study areas, exhibit areas, a computer lab, and a “Great Room” modeled on the council lodge of the Plains Indian tribes. Outside, a sculpture garden designed by nationally-recognized sculptor and MSU alum Jim Dolan will feature works by Native American artists.

Physics professor Bennett Link’s cutting-edge research on neutron stars and neutrinos may reveal new clues about the universe. In a paper recently published in Physical Review Letters, Link suggests that hot neutron stars could be a source for neutrinos, tiny particles that normally elude detection.

Neutron stars, which can have surface temperatures of more than one million degrees (compared to 6,000 degrees for the sun), act like super generators, creating an enormous voltage that strips charges from the surface. Particles then fly off the star and produce detectable radiation, usually as radio beams. Link has shown that high-energy neutrinos might also be produced with detectable intensities. The neutrinos would be roughly coincident with the radio beam, so that if the star is detected as a radio pulsar, the neutrino beam will sweep the earth. These emissions from young neutron stars will provide a valuable gauge of the flow of energy from a neutron star.

Two physics professors are trying out new technology in their classrooms. Larry Kirkpatrick and Greg Francis began using individual remote keypads, which they call “clickers,” last fall to make sure their students understand the material being presented. During class professors ask multiple-choice questions that show up on a screen in front of the room. The students typically have several minutes to respond. When the time is up, a graph appears on the screen to show the percentage of students who gave each possible answer. If necessary, the instructor reviews the material or asks students to discuss the problem before presenting the question a second time. The use of the clickers has increased attendance and class participation.
POLITICAL SCIENCE

Faculty members Franke Wilmer and Linda Young accompanied three undergraduate researchers to the World Social Forum in Porto Alegre, Brazil, last January. The Forum attracted over 150,000 people from all over the world and was intended to allow participants to examine and influence the policies of institutions such as the World Trade Organization, the International Monetary Fund, and the World Bank. The students—Dan Huebner, Markie Hoffman and Stacey Parenteau—investigated their respective research questions through interviewing participants and attending lectures. Each student received research grants from EPSCoR and the College of Letters and Science to attend the meeting.

Three new faculty members joined the Department of Political Science this year. Eric Austin is the new Masters of Public Administration director. Eric received his doctorate from the Center for Public Administration and Policy at Virginia Polytechnic University. His research interests include collaborative governance and the role of public agencies in fostering the emergence of civil society. Elizabeth Shanahan’s research seeks to model environmental policy using language that reflects the core belief systems of competing interest groups. She completed her doctorate in Political Science at Idaho State University. Linda Young received her doctorate from UC-Davis and works on issues of international trade policy, WTO export competition issues, and global agricultural policy and climate change.

PSYCHOLOGY

Behavioral neuroscience, which combines the disciplines of psychology and biology, focuses on the biological basis of human behavior. In Professor Mike Babcock’s psychology laboratory, for instance, research is being conducted on the causes of stroke by looking at the brain’s center of memory, the hippocampus. The human hippocampus is particularly sensitive to blockage of the blood supply to the brain, as happens during a stroke. In his lab, Babcock produces protein changes in the hippocampi of rodents, and then observes the biochemical and behavioral results to see how they simulate the effects of stroke. Ultimately, Babcock and his colleagues hope to better understand how brain cells are damaged by stroke and how to prevent that damage. Babcock has several student researchers working with him on this and other projects. Last year, two students in his laboratory won national research awards at the Society for the Advancement of Chicanos and Native Americans in Science conference.

Every day we encounter messages designed to influence our attitudes toward issues, people, and products. Professor Ian Handley, who joined the psychology faculty in 2005, runs the Persuasion and Affect Lab, which investigates message factors that influence our attitudes, as well as the way attitudes and expectations influence our experiences with products. His research has revealed that people enjoy a product more if they were initially led to believe the product would make them feel negatively as opposed to positively. Handley’s lab, comprised of graduate and undergraduate researchers, will soon investigate whether this finding has societal implications for jury-decision making and health behavior. For example, it may be that jurors notice more positive attributes of a defendant when initially led to believe the defendant is unlikable rather than likable.
Anthropologist Jack Fisher spent five weeks in July and August 2005 at the University of Cape Town (UCT), South Africa, carrying out nearby archaeological investigations. Collaborating with John Parkington of UCT, he analyzed archaeological materials from the Dunefield Midden (DFM) archaeological site, located on the southwest coast of South Africa. This site was occupied briefly several times by hunting-and-gathering peoples about 600-700 years ago. Fisher studies the animal bones and artifacts recovered during excavations at DFM to reconstruct how ancient peoples lived, specifically their hunting and butchery practices, and to attempt to determine the seasons of year that the site was occupied. He also studies the spatial distributions of hearths and other fire-related “features” to reconstruct the spatial organization of site activities.

Professor Beth Quinn’s work on how organizations translate law into policy is gaining national recognition. Specifically, she is looking at the implementation of equal employment opportunity (EEO) law and other civil rights laws by human resources personnel within organizations. A National Science Foundation-funded project of Quinn’s looks at the role these human resource professionals play as legal decision makers and at their ability to affect social change. She presented some of her initial research at the meeting of the Law and Society Association in Las Vegas in June 2005. Quinn teaches primarily in the Justice Studies option, with courses such as Law and Inequality, Law and Society, and Criminology.
FORMER SECRETARY OF THE INTERIOR PROMOTES STEGNER CHAIR

Speaking against the backdrop of Grand Teton National Park, former Secretary of the Interior Stewart Udall spoke of his friendship with writer Wallace Stegner. He described Stegner as a great teacher, writer, and thinker. At the end of his talk, Udall received a spontaneous standing ovation from the audience.

The event, a luncheon sponsored by the College of Letters and Science, was in support of the Wallace Stegner Endowed Chair in Western Studies. Approximately 45 Jackson Hole residents gathered at the Amangani Resort to meet and hear Stewart Udall, and to learn more about the chair that Stegner himself envisioned.

Udall was appointed in 1960 by President Kennedy to serve as Secretary of the Interior, a position he held for nine years. During his Cabinet career Udall helped establish the Wilderness Bill; develop the Wild and Scenic Rivers Act; expand the National Park System; and create the Land and Water Conservation Fund. He continues to contribute to the nation’s affairs as an author, historian, scholar, lecturer, environmental activist, lawyer, naturalist, and citizen of the outdoors.

Udall championed Stegner as one of the three environmental giants of the second half of the 20th century, and spoke about the importance of community and philanthropy.

Wallace Stegner (1909-1993), a nationally important figure in American letters and winner of both the Pulitzer Prize and the National Book Award, served as special assistant to Secretary of the Interior Udall in 1961, working on matters pertaining to wilderness and national parks. He encouraged Udall to write the book The Quiet Crisis, which was published in 1963 and remains a benchmark of environmental philosophy.

Shortly before his death in 1993, Stegner wrote, “The West is waking up to itself. A chair in Western American Studies at Montana State University is a splendid way to inform the West about itself.” The Wallace Stegner Endowed Chair furthers understanding of the American West and addresses concerns facing the region. The chair is dedicated to teaching and research in history, literature, and philosophy with a focus on important Western issues.

For more information about the Wallace Stegner Endowed Chair, contact Dean Sara Jayne Steen, (406) 994-4288.
TWO NEW ENDOWED PROFESSORSHIPS

The College of Letters and Science announced two new endowed professorships this fall.

Michael Franklin is the first Ferguson Professor of Microbiology, and Mary Murphy has been named the second Michael P. Malone Professor of History.

Dean Sara Jayne Steen said, “It is a pleasure to recognize outstanding faculty members who have contributed so much to the University through their research, teaching, and professional achievements.”

An endowed professorship is one of the highest honors a faculty member can receive, and one of the most important gifts a donor can make to the college.

Franklin, associate professor in the Department of Microbiology, received his doctorate from the University of Tennessee, Knoxville, in 1991, and joined the faculty at MSU in 1996. He has established an active research laboratory studying the molecular genetics of the medically and environmentally significant microbe *Pseudomonas aeruginosa*, a bacterium that causes lung infections in patients with cystic fibrosis. As a faculty researcher at the Center for Biofilm Engineering, he works with multidisciplinary research teams to find solutions for industrially relevant problems. His most recent work focuses on the novel response of neutrophils to biofilms and may result in new approaches to treating biofilm-related disease.

Murphy, professor in the Department of History and Philosophy, received the Montana Book Award for her most recent book, *Hope in Hard Times: New Deal Photographs of Montana, 1936-1942*, published in 2003. The book, drawing on more than 140 Farm Security Administration photographs, looks at Montana during the Great Depression. Murphy is also the author of *Mining Cultures: Men, Women, and Leisure in Butte, 1914-41* (1997), and co-editor of *Montana Legacy: Essays on History, People, and Place* (2002), as well as dozens of book chapters and articles. She has lectured across the country on western mining history, women in the West, and the history of the Great Depression, and has served as a historical advisor on a number of films and museum exhibits.

THE DEAN’S CIRCLE

We are grateful to all of our alumni and friends who have supported the programs, faculty, and students in the College of Letters and Science with lifetime gifts that total $10,000 or more as of June 30, 2005.

- Abbitt Labs
- Glenn and Lee Allinger
- American Indian Education Foundation
- ASARCO Incorporated
- John and Marilyn Asbridge
- Beverly F. Bacon
- Bell Jones Quinlisk & Palmer
- Estate of James Belsey
- Big Sky Western Bank
- Lila M. Bishop
- William and Corrine Bryant
- David and Marjorie Burgen
- Harlan and Terri Byker
- Cinnabar Foundation
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- Patrick and Vicki Davison
- Judson and Elisabeth Dayton
- Elsa R. Donohoue
- Dow Chemical Company Foundation
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- John and Patricia Drumheller
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Bachelor of Science in Biological Sciences
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• Ecology and Evolution
• Fish and Wildlife Management
• Organismal Biology

Bachelor of Science in Cell Biology and Neuroscience
• Biomedical Sciences (includes Premedicine, Predentistry, Preoptometry)
• Cell Biology & Neuroscience

Bachelor of Science in Chemistry
• Biochemistry Option
• Chemistry / Chemistry Teaching

Bachelor of Science in Earth Sciences
• Geography
• Geohydrology
• Geology
• Paleontology
• Snow Science

Bachelor of Science in Economics

Bachelor of Arts in English
• English Teaching
• Literature

Bachelor of Arts in History
• History / History Teaching
• History and Religion
• Science, Environment, Technology, and Society

Bachelor of Science in Mathematics
• Applied Mathematics
• Mathematics / Mathematics Teaching Option
• Statistics

Bachelor of Science in Microbiology
• Environmental Health
• Medical Laboratory Science
• Biotecnology
• Microbiology

Bachelor of Arts in Modern Languages and Literatures
• Commerce
• French/French Teaching
• German/German Teaching
• Japan Studies
• Spanish /Spanish Teaching

Bachelor of Arts in Philosophy
• Philosophy
• Philosophy and Religion

Bachelor of Science in Physics
• Physics/ Physics Teaching
• Interdisciplinary Option

Bachelor of Arts in Political Science
• International Relations

Bachelor of Science in Psychology
• Applied Psychology
• Psychological Science

Bachelor of Science in Sociology
• Justice Studies
• Sociology

UNDERGRADUATE MINORS

(in addition to most majors)

English: Writing
G.I.S. Earth Sciences
Japanese Language
Museum Studies
Native American Studies
Public Administration
Religious Studies
Water Resources
Women’s Studies

GRADUATE DEGREES

Master of Science in Applied Economics
Master of Arts in English
Master of Arts in History
Master of Arts in Native American Studies
Master of Public Administration (M.P.A.)
Master of Science in Applied Psychology
Master of Science in Biochemistry
Master of Science in Biological Sciences
Master of Science in Chemistry
Master of Science in Earth Sciences
Master of Science in Ecological and Environmental Statistics
Master of Science in Fish and Wildlife Management
Master of Science in Mathematics
Master of Science in Microbiology
Master of Science in Neuroscience
Master of Science in Physics
Master of Science in Statistics
Doctor of Philosophy in Biochemistry
Doctor of Philosophy in Biological Sciences
Doctor of Philosophy in Chemistry
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The proposed site of the new Native American Student Center, south of Hannon Hall (pictured) and east of MSU’s Centennial Mall. For more information, see page 24. (Photo by Erin Raley, MSU News)