

Ag Appreciation Weekend snapshots



Clockwise from upper left: having a photo taken with Cowboy Joe during halftime of the UW-UNLV football game Saturday are, from left, Chuck Brown, UW Board of Trustees president, Cowboy Joe handler Kaycee Eisele, College of Agriculture Dean Frank Galey, handler Tessia Steingrebe, alumni award recipient Keith Geis, handler Bethany Jenkins, Mike Fletcher representing Y-TEX Corp., research partner of year, legacy recipient Leroy Maki, Joe Kellerby and Jerry Payne of Y-TEX Corp., and alumni award recipient Steve Tharp;

next, Y-TEX Corp. co-owner Payne (left), Kellerby, vice president-specialty products, and Fletcher, director-parasiticide development with the Cody company; retired Professor Maki shakes hands with Brown; Geis of Wheatland with Tharp of Worland waves; Tharp steps out and salutes the stadium; and Anna Dailey of Bayard, Neb., serves at the Ag Day Barbecue. More than 700 people were served in 90 minutes. On Friday night, a record crowd of more than 230 attended the Dean's Ag Appreciation Dinner.

Jerry Schuman receives UW alumni service award

By Steven L. Miller

Senior Editor, Office of Ag
Communications and Technology

University of Wyoming College of Agriculture graduate Jerry Schuman has been presented the Medallion Service Award from the UW Alumni Association.

“I was totally flabbergasted when I got a registered letter,” said Schuman, who lives in Cheyenne. “I couldn’t figure out why I was getting a registered letter from the Alumni Association. It’s a huge honor, and I’m a little surprised I received the award. Not that I don’t do some things for the university, but there are a lot of people out there who do lots of things. I am very honored.”

An open house honoring Schuman is 3-4:30 p.m. Friday, Oct. 9, in room 137 in the College of Agriculture.

Schuman received a bachelor’s degree in soil science in 1966 from the College of Agriculture and also received an Outstanding Alumni award from the college in 2000.

George Vance, Distinguished Professor of Energy and the Environment at UW, nominated Schuman for the award.

“Dr. Schuman’s research has emphasized land reclamation and carbon sequestration as it relates to global climate change,” notes Vance. “His career has dealt with numerous issues relating to environmental research and has greatly enhanced our understanding and ability to successfully reclaim mined lands and abandoned bentonite mine spoils in Wyoming and the world.”

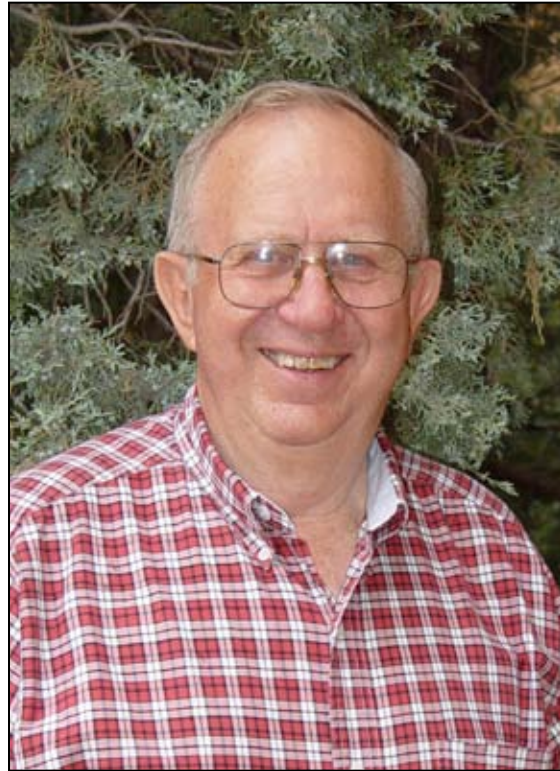
Schuman was born in Sheridan and attended school in nearby Clearmont for 12 years. “There were five of us who graduated together, and we all went on to college,” Schuman told the *AlumNews* publication.

Schuman received his master’s in soil science from the University of Nevada-Reno and his Ph.D. from the University of Nebraska.

He returned to Wyoming with the U.S. Department of Agriculture’s Agricultural Research Service (ARS) in 1975 and led a research program in mined land reclamation and soil and water conservation. Schuman was research leader and director of the High Plains Grasslands Research Station/Rangeland Resources Research Unit near Cheyenne from 1976-1998. He worked for ARS until he retired in 2005.

Schuman continues as an adjunct professor in the Department of Renewable Resources in the College of Agriculture. He has mentored approximately 35 graduate students and written more than 175 scientific publications and has had numerous leadership positions.

“Dr. Schuman’s research and service contributions to Wyoming, the region and national/international efforts



Jerry Schuman

are truly impressive,” noted Vance. “He has continually provided high quality, practical research for the land managers that addresses contemporary issues, while concurrently advancing the state of knowledge in soil carbon and nitrogen recycling.”

Presentations

Pelican, Suzy, and Mary Kay Wardlaw. “Full of Ourselves: A Wellness Program to Advance Girl Power, Health, and Leadership” presented as part of the post-conference workshop Positive Programs for Preventing Obesity and Related Problems in Children, Tweens, and Teens, at the Society for Nutrition Education annual conference, July 2009, New Orleans, La.

Wardlaw, Mary Kay, presented poster “Understanding long-term effects of nutrition education on low-income adults in Wyoming” at the Society for Nutrition Education annual conference, July 2009, New Orleans, La.

Dr. Bishop's visit to UW a resounding success

By Robert Waggener

Editor, Office of Ag Communications and Technology

Despite an unfortunate travel delay, Nobel laureate Dr. J. Michael Bishop's visit to the University of Wyoming was a resounding success, says Department of Molecular Biology Professor Don Jarvis, who hosted Bishop's trip to Laramie.

An opening reception and dinner for Bishop was planned at the home of UW President Tom and Jacquie Buchanan on Sept. 24, but the event was cancelled because Bishop's flight out of San Francisco was delayed by approximately four hours because of mechanical problems.

That was the only hitch to an otherwise perfect visit by Bishop to Laramie, the UW campus and College of Agriculture.

More than 250 people packed into the College of Agriculture auditorium to hear Bishop's talk about the molecular biology of cancer and the surprising discovery that normal genes can cause cancer under certain circumstances, which was the subject of his Nobel Prize in 1989.

UW students, staff members, faculty members and administrators, along with members of the Laramie medical community and general public, attended.

Bishop, known for his humor and down-to-earth nature, opened his talk by showing a picture taken of him in 1955 with a Kodak box camera. He was in Wyoming that summer for a job at Yellowstone National Park, and during his journey across the state he stopped at a sheep camp north of Casper.

The picture shows him sitting on the horse of a sheepherder.

"After I climbed onto the saddle, I thought for a moment I had discovered the real Wyoming and my true inner self," Bishop told the crowd. His lecture on Sept. 25 touched on the fundamental basis of cancer, described emerging approaches for the discovery of genetic mechanisms underlying cancer and revealed how cancers can be attacked in the clinic.

He also presented data from human clinical trials demonstrating highly successful treatments for certain types of human cancers.

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Dr. J. Michael Bishop

Dr. Bishop's advice to students: get to know your politicians

By Robert Waggener

Editor, Office of Ag Communications and Technology

Graduate students in the University of Wyoming's Molecular and Cellular Life Sciences program weren't surprised when Nobel laureate Dr. J. Michael Bishop told them to work hard on their research projects and always think about practical applications for their studies.

But they were surprised with his final piece of advice: get to know your congressional delegates and their staff members because they are the key to ensuring important research projects get funded.

"Scientists are generally not politically active, and that has to change," Bishop told the 24 students during an informal lunch meeting Sept. 25 in the Animal Science/Molecular Biology building.

Bishop said communicating with the general public and politicians who make funding decisions for science is critically important.

"Most politicians love to hear from people like you," said Bishop, who noted politicians aren't used to hearing from the scientific community, especially students.

Following the luncheon, Nandini Chitoor, a MCLS Ph.D. student from India, said she never thought about getting politically involved.

"It's an interesting approach to the funding problem," Chitoor said of today's economy.

She added, "Dr. Bishop is very down to earth, and he was very patient listening to all of us."

Bishop's down-to-earth nature and humor immediately came out. "My ham and cheese sandwich is missing a piece of bread," he said as the lunch meeting started.

Instead of focusing on himself and his research, Bishop asked each student to tell a little about themselves and their research. He was impressed with the cultural diversity and the variety of projects.

The 24 students are studying everything from tiny nematodes and antibiotics to chronic wasting disease and spider silk. They come from states across the country and from China, Holland, India, Russia, Serbia and Turkey.

He asked one of the students from India if he had read *The White Tiger* by Indian author Aravind Adiga. The book studies the contrast be-

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Dr. Bishop's visit to UW a resounding success *(continued from page 3)*

The lecture was followed by a reception that included a mixture of undergraduate, graduate and medical students, as well as faculty and staff members, with informal discussions.

Earlier in the day, Bishop met with 24 graduate students in the Molecular and Cellular Life Sciences program (see separate story).

He also engaged in individual research discussions in one-on-one meetings with about half of the Department of Molecular Biology faculty members.

Those meeting with Bishop and their discussion topics were Associate Professor Anne Sylvester, maize development genetics; Associate Professor David Fay, nematode *Caenorhabditis elegans* development/tumor suppressor genes; Associate Professor Mark Gomelsky, oxygen-sensing mechanisms in the bacterium *Rhodobacter*; Assistant Professor David Liberles, bioinformatics, evolution and protein structure/function; Professor Peter Thorsness, yeast mitochondrial genetics/molecular biology; Assistant Professor Dan Wall, myxococcus gliding/signaling and antibiotic discovery; Jarvis, glycobiology of the baculovirus/insect cell system; and Professor Randy Lewis, spider silks, protein structure and function.

"This kind of interaction is critical both for our faculty members and the university," Jarvis said. "It gives people from the outside of our university an inside view of the research going on in our department, which is important for such things as publications and grant applications. It also gives faculty members a chance to learn from other scientists, which is important for our own education and research."

Jarvis thanked Anne Leonard, college relations officer, for her assistance in coordinating the activities, and he also thanked College of Agriculture Dean Frank Galey and Vice President Myron Allen and Associate Vice President Rollin Abernethy, both of the Office of Academic Affairs, for providing financial support, in addition to support provided by the Department of Molecular Biology.

Bishop, who is at the University of California, San Francisco, and his long-time collaborator, Dr. Harold Varmus, were awarded the Nobel Prize in Physiology or Medicine for their discovery of the cellular origin of retroviral oncogenes.

Proto-oncogenes are members of a large family of genes whose products control normal cell growth and division. Bishop and Varmus found that alterations in one or more of these so-called proto-oncogenes can give rise to oncogenes, whose products can transform normal cells and lead to the development of cancer.

More information is at http://nobelprize.org/nobel_prizes/medicine/laureates/1989/.



Nobel laureate Dr. J. Michael Bishop shares a lighter moment with graduate students in the Molecular and Cellular Life Sciences program during an informal lunch meeting. Among the students attending were, from left, Stormy Knight of Laramie, Evan Abbaszadeh of Gillette and Daniel Hill of Casper. Knight and Abbaszadeh are working on master's degrees in molecular biology while Hill is working on a Ph.D. in molecular biology.

Dr. Bishop's advice to students: get to know your politicians *(continued from page 3)*

tween the main character, who comes from rural poverty, and India's rise as a modern global economy.

"If you haven't read it, you should. It's an incredible book, brilliantly written," Bishop said.

Bishop offered career advice and said good writing and verbal communication skills are important to becoming a more effective scientist, something he argues in his autobiography, *How to Win the Nobel Prize – An Unexpected Life in Science*.

"I enjoy writing and abhor the dreadful prose that afflicts much of the contemporary scientific literature," he wrote in the book.

Bishop's questions to the students were quite varied, from serious to humorous. "Does your research have practical applications?" "Do you have a patent yet?" "What do you think of Wyoming? Have you been on a horse yet?"

He asked one student if anything in particular attracted him to Wyoming. The student responded, "Research."

Bishop then said, "So you didn't come here for the weather?"

When the conversation turned his way, Ph.D. student Levi Lowder of Durango, Colo., opened, "I actually came to the school in part because of the weather. I was also very impressed with the MCLS program."

Students in the program, which started in 2007, participate in four rotations with different academic departments on campus during a school year before choosing a laboratory to perform their thesis work.

Bishop said he was impressed UW MCLS students generally get to work on their first choice for their dissertation research project, something that isn't common at many universities.

—Video posted: see page 6—

Randy Lewis team helps uncover 'sticky' spider mystery

By Robert Waggener

Editor, Office of Ag Communications and Technology

With Halloween looming, Department of Molecular Biology Professor Randy Lewis couldn't have timed the release of his team's latest spider research any better.

Before reading on, think back to that time you accidentally walked through a spider web. Remember that experience? Remember flailing around, trying to rid yourself of those sticky silk threads? The more you thrashed, the worse it got?

Research by the Lewis team found that adhesive proteins in web glue are the culprit, that a spider's ability to capture prey in its web depends as much on the glue that coats silk fibers as the strength and elasticity of the fibers themselves.

The American Chemical Society (ACS) reports the research helps unlock the long-standing mystery about the secret of spider web glue, and the findings are an advance toward a new generation of bio-based adhesives and glues that could work better in some applications, including medical, than petroleum-based glues available today.

The Lewis team identified two adhesive glycoproteins (proteins with attached sugar residues) in the glue of three species of spiders.

Cloning may enable large-scale production of the glycoproteins, which could ultimately lead to the development of new bio-based, or "green," glue for a variety of purposes.

"There are suggestions the glue could be stronger than traditional two-part epoxy," Lewis said. "Because the glue is 'green' and involves no chemicals, there's the possibility it could be tolerated in the body and used for medical applications."



Professor Randy Lewis and a golden orb weaver spider.

He added the glue may have more flexibility than epoxy, which could add to its importance in medical and other applications.

The team has submitted an application for a patent that focuses on using the glycoproteins to develop new glue, and its research was published in the Sept. 4 online edition of the ACS journal *Biomacromolecules* (<http://pubs.acs.org/doi/abs/10.1021/bm900681w>).

Lead author is Omer Choresh, a former post-doctoral researcher in the Lewis lab who spent four years on this project. He completed the studies with Lewis and student Battuya Bayarmagnai in July 2008 and then went to work summarizing the findings. Please see sidebar to learn more about how they carried out the work.

Lewis said much research has been performed on spider web silk, including extensive studies in his lab, but scientists know little about web glue. He said they want to drastically expand this limited knowl-

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Spider glue research fascinating but also frustrating

By Robert Waggener

Editor, Office of Ag Communications and Technology

Catching enough spiders, though time consuming, was the easy part.

The rest of the research was a whole different story, something that was fascinating but incredibly frustrating at the same time, according to Department of Molecular Biology Professor Randy Lewis.

The project focused on the aqueous glue that coats the silk threads of spider webs, specifically the molecular structure and the function or adhesive proteins in the glue.

Omer Choresh, a former post-doctoral researcher in the Lewis lab, spent four years exclusively on this project before returning to his native country of Israel last year. Since then, he began work as an educator for the Israeli government and also took the lead role in writing a paper on the team's findings.

Assisting was Battuya Bayarmagnai, who earned a bachelor's degree in molecular biology from the University of Wyoming in 2008 and is now a graduate student at the University of Chicago.

The three scientists obtained adult golden orb weaving spiders from a company in Florida. This species, *Nephila clavipes*, is known for spinning intricate webs.

They took to the field to catch banded garden spiders (*Argiope trifasciata*) on ranches near Wheatland and cat-faced spiders (*Araneus gemmoides*) in the Laramie area.

"We searched river bottoms for *Argiope trifasciata*. If the wind was blowing hard, which it normally does in the Wheatland area, we had a very difficult time finding them. Once

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Randy Lewis team helps uncover 'sticky' spider mystery *(continued from page 5)*

edge because of the potential for incredibly strong yet elastic biological glue.

Lewis said the two glycoproteins discovered by his team are, very surprisingly, produced from opposite strands of the same DNA sequence.

"The fact part of the two proteins use the same DNA sequence is incredibly unique," Lewis said. "This has never been observed before, and it provides the opportunity for mistakes to be made when organisms reproduce. The key question is: how do spiders avoid this problem? We don't have the answer yet."

Close similarities of the proteins between species suggest they are highly important in the functioning of glue necessary to retain prey in a web, and thus equally important for the survival of the three species of spiders studied.

The team nicknamed the glycoproteins "silk" and "snot" because the repetitive portions of their sequences are similar to those of silk and mucin (glycoproteins found in mucous secretions).

The Lewis team received grant funding from the National Institutes of Health and the Air Force Office of Scientific Research for this study and other research relating to spider silk.

"They are interested in the whole silk project," Lewis said. "They see opportunities for various things that can be applied to military defense and health, including protective body clothing, parachute cords and parachutes, artificial ligaments and tendons and other medical applications."

What's next concerning the spider glue research?

"We will try to get grant funding to actually reproduce enough proteins to study the properties of the glue," Lewis said.

Video of Dr. Bishop's talk posted on molecular biology Web site

A video of the talk by Nobel laureate Dr. J. Michael Bishop is available for viewing on the Department of Molecular Biology Web page. The video is posted at www.uwyo.edu/UWMOLECBIO/Videos.asp.

A standing-room-only crowd was on hand for Bishop's Sept. 25 presentation in the College of Agriculture Auditorium.

Western Wyoming Community College in Rock Springs asked if a video could be posted so its students could watch Bishop's talk, said Associate Professor Mark Stayton, chair of the Department of Molecular Biology.

"I would encourage interested students, faculty members, medical professionals and others to watch the video, particularly if they weren't able to attend the seminar," Stayton said. "Dr. Bishop's talk provides a look at state-of-the-art models for cancer treatment."

Spider glue research fascinating but also frustrating *(continued from page 5)*

they get out of their webs, they are incredibly difficult to find."

Back at the lab, spiders – more than 100 over the course of the project – were put individually in cages so they could do what they do best – spin webs to catch prey. A couple times a week Choresh collected webs using sterile glass rods. The webs were ground by mortar and pestle and then incubated in a special protease inhibitor cocktail to preserve the structure of the proteins.

Numerous steps were then taken to finally isolate the proteins, including centrifuging and recentrifuging to obtain liquids, extracting proteins from these



Omer Choresh

liquids by using a special protein dissolving solution, boiling the samples and recentrifuging.

Once purified glycoproteins were obtained, many more steps were taken before a sequence analysis of the proteins could actually take place.

"Then we were finally able to identify specific protein sequences, and we used that information to clone the genes," Lewis said.

"Omer did this for more than 100 webs, and it was an incredibly time-consuming process. In fact, the whole process was very frustrating because we were only able to get very small amounts of materials. It was tedious to get enough material to work with."

Another aspect of the research involved dissecting a number of spiders to obtain glands used to produce glue. This allowed them to perform additional DNA analysis.

The project initially focused on the golden orb weaving spiders. Once Choresh perfected the research methods and completed the DNA analysis, Bayarmagnai performed similar work with the other two species.

"We wanted to know whether there was evolutionary consistency within the genes of the three species," Lewis said. "It is thought tens of millions of years separate the golden orb weaving spiders from the other two species, but we found the proteins changed very little during the course of evolution. This is important because the protein properties they use to survive are very similar."

Cole Ehmke honored at national ESP meeting; Ehmke, Kimberly Chapman, Mary Martin teach courses

By Robert Waggener

Editor, Office of Ag Communications and Technology

Cole Ehmke, a University of Wyoming Cooperative Extension Service (UW CES) specialist in agricultural entrepreneurship and personal finance, was honored with the Early Career award for the Western Region of Epsilon Sigma Phi (ESP).

Ehmke was recognized at the national ESP meeting Sept. 13-16 in Fargo, N.D. ESP is an organization of extension professionals dedicated to developing the extension profession and professional.

The Early Career award is presented annually to recognize an extension professional with less than 10 years of service who has shown noteworthy enthusiasm, performance and accomplishment in his or her job.

Among his duties, Ehmke teaches personal finance and agricultural entrepreneurship classes to residents across Wyoming, and he helps UW CES educators develop programming in these areas. He is based in the Department of Agricultural and Applied Economics.

"I can't think of anyone more deserving of this award," said Associate Professor Roger Coupal, head of the department. "Cole works well with people in the department and extension and across campus and the state. He's a great team player and has done some very innovative programs since he's been here."

Ehmke joined UW CES in 2005. He was one of four extension employees nationally to receive regional ESP Early Career awards. See www.espnational.org/newsletters/no11709.pdf and www.uwyo.edu/uwexpstn/Agademics/Aug09.pdf.

During the conference, Ehmke and Kimberly Chapman, a UW CES community development educator in



University of Wyoming Cooperative Extension Service finance specialist Cole Ehmke receives a regional Early Career award from Ellen Burton, Epsilon Sigma Phi (ESP) national president from Illinois. In the background is ESP's national past president, Duane Johnson from Oregon.



Kimberly Chapman



Mary Martin

Uinta County, co-taught a class titled "Passing It On: Leaving a Lasting Legacy." It focused on intergenerational transfer and end-of-life issues.

Mary Martin, a community development educator in Teton County, taught "Building Better Boards: A Workshop for Elected and Appointed Boards." The course helps people who serve on city and county boards learn about meeting management, organizational oversight, board expectations and laws relating to public meetings, among other topics.

Engage, Enlighten and Enjoy was the theme of this year's gathering. The 2010 national ESP conference is Oct. 10-15 in Jackson Hole.

Calendar

Oct. 5-6: 4-H and youth development state initiative team meeting, Casper

Oct. 12-15: Extension Professional Improvement Conference (EPIC), Laramie

Oct. 16: 2009 Brand of Excellence Scholarship Banquet, at UW in the Crane-Hill Banquet Room, 5:30 p.m. reception, 6:30 p.m. dinner. Tickets may be purchased for \$28 in Ag C 160 or call (307) 766-4135. Please RSVP by Monday, Oct. 5.

Oct. 23: Global Perspectives Grant Program applications due by 5 p.m. electronically to the Agricultural Experiment Station office via department heads/chair/directors

Oct. 25-29: National Association of Extension 4-H Agents annual meeting, Rochester, N.Y.

For a statewide calendar, please access the ag college Web site at www.uwyo.edu/UWAG/

Bixby receives Frances Freese award during ESCAPE

Dee Bixby in the Office of Communications and Technology received the Frances Freese Secretary of the Year award during the Extension Secretaries Conference – A Professional Event in Riverton Sept. 24.

Bixby is the senior office assistant in the College of Agriculture's Resource Center.

Freese worked at the Wind River Indian Reservation extension office then moved into the Fremont County office where she worked for 25 years. Former extension director Jim DeBree and former administration office secretary Jo McGuire were instrumental in starting the award.

"I was taken off guard," said Bixby, who joined the University of Wyoming Cooperative Extension Service Dec. 26, 1978. "I was so pleased to get it. You don't know how special it is for me."

Freese was in attendance and joined Bixby for award photos.

Nomination statements describe Bixby's knowledge and work ethic.

"She takes personal pride in providing prompt and courteous service to not only county personnel but to clients throughout the U.S. as well," wrote one nominator.

"Her institutional knowledge ... and the history involved ... are staggering."

"She is always very pleasant and makes us feel important."

"It is sometimes hard out here in the counties to have a connection with campus, but she always makes us feel we are part of UW."

"County personnel and volunteers can count on her to meet their requests not only efficiently but with a cheerful attitude that is appreciated by all."

Bixby received a plaque and \$50, and another plaque will be placed in the College of Agriculture hall across from the extension office. The traveling Francis Freese trophy will be placed in her office.

"Thanks for the support," said Bixby. "It's a great honor."



Frances Freese, right, who the award is named after, joined Dee Bixby for photographs.

Department of Animal Science Seminars

Fridays, 12:10-1 p.m., Animal Science/Molecular Biology building, room 103 – Lunch served for \$4 beginning at 11:50 a.m. by the Animal Science Graduate Student Association

Oct. 2: "Global Perspectives: Brazil and South Africa," Professor Bret Hess and Assistant Professor Kristi Cammack, UW Department of Animal Science

Oct. 9: Topic TBA. Assistant Professor Judson Vasconcelos, feedlot nutrition/management specialist, University of Nebraska Panhandle Research and Extension Center, Scottsbluff, Neb.

Oct. 16: TBA

Oct. 23: Topic TBA. Assistant Professor Allen Bridges, reproductive physiology, Department of Animal Sciences, Purdue University

Oct. 30: TBA

Changing Faces, Changing Places

(effective date in parentheses)

Frye, Eleanor: Family and consumer sciences, assistant lecturer (8/19)

Hansen, Kristiana: Agricultural and applied economics, assistant professor (8/18)

Kern, Jessica: Animal science, research scientist assistant (8/17)

McLean, Amy: Animal science, assistant lecturer (8/18)

Norton, Urszula: Plant sciences, assistant professor (8/19)

Tanner, Linda: Family and consumer sciences, assistant lecturer (8/20)

UW extension adds equine specialist

By Steven L. Miller

Senior Editor, Office of Ag Academic Communications and Technology

No one may have had earlier hands-on equine experiences than the new University of Wyoming Cooperative Extension Service equine specialist.

There's a photograph of Amy McLean's father holding his infant daughter, who is reaching out and petting the family's pet, P.J. – a guard donkey for their place. There was probably some imprinting going on – data shows equines imprint at an early age – but this imprinting was the other way around.

Her equine voyage continued. "My first horse was a mule," said McLean, who is soon to receive her doctorate in equine nutrition.

Horses, mules, donkeys – all are under equine. Based in the Department of Animal Science, McLean will teach and disseminate equine information to state residents via the extension service.

She saw the position first advertised last October while at Michigan State University (MSU) working on her doctorate. "I thought it was the perfect job – teaching and extension," she said. "I enjoy research, but I enjoy teaching more."

She noted many new-to-horse ownership folks suddenly have a horse, mule or donkey but no background knowledge about how to properly care for it.



Amy McLean

"I know there is a big need," said McLean. "There is such an increase in horse owners in their middle age – the kids are off to college, or the people are retired and want to fulfill a dream of owning a horse. The problem is, this is the group that needs the most education. Most want to improve their knowledge, but how?"

McLean will be able to do that as an extension specialist. There are also other sources she noted. She points to the online My Horse University, which launched its first online course in 2006 and offers horse enthusiasts science-based research in all of its courses. See www.myhorseuniversity.com. Its information

and courses are available to anyone, and McLean has recommended it to UW extension educators as a source of equine information for Wyoming equine owners.

McLean is wrapping up her doctorate research at MSU while at UW. It studies how training and harnesses can affect the health and longevity of donkeys in Mali in West Africa.

"The donkey is the tractor, truck, garbage hauler, taxi and ambulatory service – you put a sick person on a cart," she said. "Donkeys are a very essential part of very, very poor people."

An article about her Mali work is at <http://news.msu.edu/story/6436/>.

McLean can be reached at (307) 766-4373 or amclean1@uwyo.edu.

Search extended to fill Sheridan Research and Extension Center director position

The Wyoming Agricultural Experiment Station (AES) will extend a search to fill the position of director of the Sheridan Research and Extension Center as rapidly as possible.

Steven Keeley of Kansas State University was to begin at the center Sept. 28 but was unable to fulfill his obligation because of unforeseen circumstances, said Stephen D. Miller, associate dean and director of AES. This has delayed AES and Department of Plant Sciences planned activities at the center.

Department of Molecular Biology Seminars

Fridays, 2:10-3 p.m., Animal Science/Molecular Biology building, room 103 –

Oct. 2: "How are CD4+ T Cells Activated?" Associate Professor Terri Laufer, University of Pennsylvania

Oct. 9: "Functional Genomic Yeast Screens: Novel Approaches to Studying Host-pathogen Interactions," Assistant Professor Cammie Lesser, The Harvard Clinical and Translational Science Center, Massachusetts General Hospital

Oct. 16: "Developmental Control of Cell Death and Lysis during *S. aureus* Biofilm Formation," Ken Bayles, Distinguished Scientist, University of Nebraska Medical Center

Oct. 23: "A Bifunctional Flagellar Clutch Disables Motility in the *Bacillus subtilis* Biofilm," Assistant Professor Daniel Kearns, Department of Biology, Indiana University

Oct. 30: "Revealing Developmental Networks Using *C. elegans* Functional Genomics," Mako Saito, assistant professor of genetics, Saito Lab, Dartmouth Medical School

Sonya Meyer presents keynote address at Southeast Asia silk conference

Associate Professor Sonya Meyer presented the keynote address in early August at a conference in Bangkok, Thailand, that focused on sericulture in Southeast Asia. Sericulture is the raising of silk worms for the production of raw silk.

Meyer, in the Department of Family and Consumer Sciences, presented “Thai Silk: Fashion Design and Marketing” at the Association of Southeast Asian Nations’ Collaboration on Sericulture Research and Development Conference.

In addition, Meyer chaired the Queen Sirikit Institute of Sericulture Peacock Certification Standard Design Competition. The competition, open to all faculty members of the International Textile and Apparel Association (ITAA), introduced newly adopted standards for Thai silk fabric. Meyer chairs the international committee of the ITAA.

“Queen Sirikit granted permission for the Peacock logo to be used for certified Thai silk,” said Meyer. Meyer noted there is silk marketed as Thai silk but is not authentic Thai silk.

The competition challenge was to design women’s daytime career wear. “The Western perception is silk is a luxury fabric,” she said. “Silk is a fabric that can be worn every day.”

A princess of Thailand presented the first- and second-place awards during a silk fair in conjunction with the conference. Meyer was among those presenting flowers to the princess. Lisa Hayes, an associate professor of fashion design at Drexel University in Philadelphia, received the first-place trophy. Eulanda Sanders, an associate professor in the Department of Design and Merchandising at Colorado State University, placed second.

Meyer met the director of the Sericulture Institute last year following a trip to Bhutan. The meeting proved a springboard for her being invited to present the keynote address. A story about Meyer’s trip to Bhutan is in the 2009 *Reflections* magazine. The publication is available from the Wyoming Agricultural Experiment Station and is also online at www.uwyo.edu/Agexpstn/Reflections/magazine.htm.



At the opening of the Thai Silk Fair in conjunction with the conference are, from left, Pornpinee Boonbundal, Queen Sirikit Institute of Sericulture; Sonya Meyer, University of Wyoming; Lisa Hayes, Drexel University; Eulanda Sanders, Colorado State University; and Foengfurad Mungtavesinsuk, Kasetsart University, Thailand.

Proposals Submitted

Barnard, Holly: \$10,000 to National Science Foundation (NSF) for “Partitioning Transpiration from Evaporation in a Subalpine Catchment: A Role for Stable Isotope Techniques.”

Du, Min: \$45,591 to National Institutes of Health for “Administrative Supplements to ‘R03.’”

Thompson, Jennifer: \$65,400 to Wyoming Department of Environmental Quality for “Rural Living in Wyoming: Small Acreage Water Quality Demonstration Project.”

Schuman, Gerald, George Vance, Laurel Vicklund and Matt Mortenson: \$11,896 to Belle Ayr Mine, southeast of Gillette, for “Long-term Evaluation of the Effect of Sagebrush Seeding Rate and Grass Competition (Grass Seeding Rate) on Wyoming Big Sagebrush Density and Canopy Volume.”

Tanaka, John: \$275,000 to Bureau of Land Management for “Sustainable Rangelands Roundtable.”

Taylor, David, Thomas Foulke and Roger Coupal: \$45,000 to Booz Allen Hamilton, a strategy and technology consulting firm based in McLean, Va., for “Socio-economic Analysis of Four-county Region for Bureau of Land Management Big Horn Basin Resource Management Plan.”

Publications:

Keske, Catherine, Dana Hoag and **Chris Bastian.** “Can the Market for Conservation Easements Evolve from Emerging to Efficient?” *Western Economics Forum* 8, 1 (2009): 7-17.

Ag students invited to Collegiate Discussion Meet

Undergraduate students majoring in agriculture are invited to participate in the sixth annual Young Farmer & Rancher (YF&R) Collegiate Discussion Meet sponsored by the Wyoming Farm Bureau Federation (WyFB).

The meet is 4 p.m. Thursday, Oct. 8, in room 41 in the College of Agriculture. Participants are expected from the College of Agriculture and community colleges in Wyoming. Spectators are welcome.

The winner will receive \$300 cash and travel reimbursement to compete for college scholarships in the American Farm Bureau Federation's YF&R Collegiate Discussion Meet Feb. 20-22 in Tulsa, Okla.

The runner-up will receive \$150 cash, while third- and fourth-place finalists will receive a \$25 beef gift certificate.

"This competition affords an opportunity for college students to apply what they are learning to current agriculture issues," said Chalsey Kortez, YF&R state chair.

"It is great preparation for anyone majoring in agriculture. Whether you are going into an ag business or back to the ranch, becoming involved with issues that affect the agriculture industry and developing as a spokesperson for the



Chalsey Kortez

industry is an essential tool for your resume," added Kortez, who runs a cow-calf operation in southeastern Wyoming near Hanna with her parents.

The meet is designed to simulate a committee meeting where discussion and active participation are expected from each committee member. Contestants will discuss four topics: how agriculture producers can reach out to the public to gain support on issues,

how do we continue to improve the public's perception of the safe food supply in the U.S, how to encourage young people to get in agriculture and stay there and how to have an influence in the changing political environment.

Contestants will also give opening and closing statements. They will be judged on their knowledge and their ability to participate in a committee meeting, listen to others and air all points of view.

All contestants will participate in a preliminary round with the top four advancing to the finals.

Students should contact Kerin Clark, WyFB's media and member relations director, as soon as possible to register. She can be reached at kclark@wyfb.org or (307) 532-2002.

Students interested in sheep industry encouraged to apply for internship

By Robert Waggener

Editor, Office of Ag Communications and Technology

Undergraduate students interested in the sheep industry are encouraged to apply for a paid internship that will last through the school year.

"We are looking for students with a genuine interest in the sheep industry regardless of experience," said Department of Animal Science Assistant Professor Brenda Alexander, who is coordinating the program. "The internship will give students hands-on animal handling experience and knowledge about research, sheep production and ram behavior."

Alexander said up to three students will be hired, and the internships are ideal for those interested in becoming involved in such professions as producer, veterinarian, extension educator, agricultural teacher or researcher.

Interns will work on average 10 hours per week and will be paid \$8 per hour. Funding is from a U.S. Department of Agriculture grant.

Alexander said the primary responsibility will be work associated with the Wyoming Ram Test, including ram consignment, weighing, behavior testing, shearing and interaction with sheep producers. Interns will be expected to make oral presentations to producers at field days and/or the annual meeting of the Wyoming Wool Growers Association.

In addition to animal science, the Department of Agricultural and Applied Economics is involved with the internship program. An economic analysis of ram performance on the farm is part of the research. Involved from agricultural and applied economics are Assistant Professor Ben Rashford and John Hewlett, farm and ranch management specialist with the University of Wyoming Cooperative Extension Service.



Assistant Professor Brenda Alexander

Students should contact Alexander as soon as possible. She will also field questions from those who might want to intern during the 2010-11 school year. She can be reached at (307) 766-6278 or balex@uwyo.edu.

Information about the Wyoming Ram Test is at www.uwyo.edu/Wool-Lab/Ram_Tests.asp.

Commercial pesticide applicator short course Dec. 15-18 at UW

An initial commercial pesticide applicator short course is Tuesday, Dec. 15, through Friday, Dec. 18, in room 1030 in the College of Agriculture.

“Many people who would like to apply pesticides do not have an opportunity to obtain basic training in the safe and proper use of pesticides prior to taking an exam for certification,” said Mark Ferrell, state pesticide coordinator in the Department of Plant Sciences. “A short course on pesticide safety and application was developed at UW to provide individuals with an opportunity for training in the safe and proper use of pesticides in the areas of weeds, plant disease, insect and small animal control.”

There are numerous subjects. Go to www.uwyo.edu/plants/wyopest/wyoprogram.htm to download the registration form and to see the tentative agenda. There is a \$110 regis-

tration fee and a \$30 manual fee. Enrollment is limited to 70 students.

To register, mail the payment and registration form to Pesticide Applicator Certification, C/O Arlene Mascareñas, Department of Plant Sciences, Dept. 3354, 1000 E. University Ave., Laramie, WY 82071. Make checks payable to Pesticide Certification.

The course involves instructors from the College of Agriculture, Wyoming Department of Agriculture, Wyoming State Forestry Division and U.S. Environmental Protection Agency.

“It is a great opportunity for people to receive a basic education in the safe and proper use of pesticides in a three-day course who don’t have the time or the resources to attend semester-long courses at UW,” said Ferrell.

Former molecular biology chair volunteers at science camp

By Robert Waggener

Editor, Office of Ag Communications and Technology

Jerry Johnson, a long-time faculty member and former chair of the Department of Molecular Biology, is spending part of his retirement as a volunteer teacher at a science camp in Steamboat Springs, Colo., where he lives with his wife, Rebecca Lewis.

Johnson was pictured in the *Steamboat Pilot & Today* newspaper in September teaching middle school students at the annual Yampa Valley Science School. Johnson told the newspaper he enjoys volunteering for the camp and working with young people in the community.

Johnson joined the Department of Molecular Biology in 1980 and retired as a professor in 2006. He taught microbiology, molecular biology and biochemistry, and he served as department chair for nearly 10 years.

“Although I’m sure Jerry is doing a lot of traveling and fishing these days, he also can’t stop teaching,” said Associate Professor Mark Stayton, chair of the Department of Molecular Biology. “One of his summer activities has been developing and teaching a section on microbiology at the science school.”

Three groups of sixth-graders from Routt County schools have spent a week at the school since 2001. This year’s camp attracted 250 participants.



Former Department of Molecular Biology professor and chair Jerry Johnson, who retired in 2006, teaches microbiology to sixth graders at a science camp in Steamboat Springs, Colo. Johnson is a volunteer at the camp. (Photo courtesy John F. Russell/Steamboat Pilot & Today)

Applying for a grant? Consider this

Anyone connected with research on a project or grant should attend these Office of Research and Economic Development workshops in October:

Human subjects review – Monday, Oct. 5, noon to 1 p.m., Old Main 321. Bring lunch.

Research conducted by faculty members and students that involves the use of human subjects in any way must be reviewed and approved by the Institutional Review Board (IRB) prior to the initiation of a research project.

- New policy: Faculty and student investigators will be required to complete the human subjects research training module before approval will be granted. Go to <http://uwacadweb.uwyo.edu/Research/> under Human

Subjects for the on-line CITI Human Subjects Training.

(Continued on page 13)

Applying for a grant?

Consider this *(continued from page 12)*

Animal care – Wednesday, Oct. 28, noon to 1 p.m., Old Main 321. Bring lunch.

Research conducted by faculty members and students that involves the use of animals in any way must be reviewed and approved by the Institutional Animal Care and Use Committee (IACUC) prior to the initiation of the research project.

- **New policy:** Faculty and student investigators will be required to complete the animal research training module before approval will be granted. Go to <http://uwacadweb.uwyo.edu/Research/> under Animal Care for the on-line CITI Animal Care Training.

National Science Foundation-Funded Proposals

The National Science Foundation (NSF) has announced that, effective Jan. 4, it will require all NSF proposals include a plan for ensuring undergraduates, graduate students and post-docs working on the project will receive training in the responsible conduct of research.

The Office of Research and Economic Development will have a workshop to develop UW's plan for ensuring that NSF-funded researchers comply with this new regulation. The meeting is 2-4 p.m. Thursday, Nov. 12, in Engineering Room 3070.

Conference fostered engagement from participants, says organizer

More than 324 registered for the 2009 Consumer Issues Conference at the University of Wyoming Sept. 24-25. The theme was "Food Safety, Security and Sources: A Recipe for Tough Times."

"This conference really resonated with people – we drew people from across the country and region," said Cole Ehmke, UW Cooperative Extension Service financial management specialist, who helped organize the conference.

"We're excited about the number of legislators and professionals who participated and especially excited about the many college students who attended," he said. "Our aims are to promote discussion and education and to connect people. Engaging with our youths and decision makers is how we can improve our state."



Julie Balzan of Wheatland speaks with Devin Koontz, public affairs specialist with the Food and Drug Administration, during the Consumer Issues Conference.

Monies Awarded

Cornish, Todd, and David Edmunds: \$30,000 from National Park Service for "Manager's Short Course on Wildlife Diseases."

Kniss, Andrew: \$10,000 from various sponsors for "Biology, Ecology and Management of Weeds in Agronomic Crops."

Mesbah, Abdel: \$24,950 from various sponsors for "Crop Weed Research."

Montgomery, Donald, and Kenneth Mills: \$50,000 from U.S. Department of Agriculture (USDA) Cooperative State Research, Education, and Extension Service for "National Animal Health Laboratory Network Testing – University of Wyoming, Wyoming State Veterinary Laboratory."

O'Toole, Donal: \$20,000 from USDA Agricultural Research Service for "Pathogenesis and Immunological Control of Sheep-associated Malignant Catarrhal Fever in American Bison."

Paige, Ginger: \$4,000 from Meeteetse Conservation District for "Greybull River Streambed Processes."

Sylvester, Anne: \$403,132 from Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., for "Characterizing Sub-Cellular Compartments in Maize Using Fluorescent Protein Tagged Lines."

Thompson, Jennifer: \$5,750 from various sponsors for "Wyoming Barnyards and Backyards: An Educational Newsletter for Wyoming's Small Acre Enthusiast."

Ward, Naomi, and Robert Mayes: \$163,127 from NSF for "Transcription and Translation in a Uniquely Compartmentalized Bacterial Cell."