COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

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Cropping systems management class collaborates with Big Horn Basin producer. SEE STORY PAGE 14

UNIVERSITY OF WYOMING



Dean Frank Galey

44 I am not afraid of storms for I am learning how to sail my ship. ??

"Amy" in the novel Little Women by Louisa May Alcott

Dear Friends and Colleagues,

After a national search, the college is pleased to welcome Professor **Michael Day** as the new department head of animal science. Day started July 31.

He has a well-rounded academic background. Day earned his bachelor's in animal husbandry from the University of Missouri, Columbia, in 1980. He subsequently earned his master's and Ph.D. degrees in reproductive endocrinology in the Department of Animal Sciences at the University of Nebraska-Lincoln and joined the faculty at The Ohio State University in the Department of Animal Sciences in 1985.

Day specializes in cattle reproduction. His expertise has been used on review panels for the USDA and presentations to both national and international cattle industry groups. At OSU, he regularly taught courses in beef cattle production and management and covered introductory animal science courses, the capstone course in animal science, and upper-level/graduate student seminars in physiology and reproduction. His teaching skills have been recognized with teaching awards from his college; Gamma Sigma Delta, the national agricultural honorary society; and Epsilon Sigma Phi, the national extension educator's organization.

In the area of outreach, Day has been active nationally and internationally, having served as a presenter and resource person for cattle reproduction. Nationally, he shares his knowledge with industry groups, particularly those involved with animal reproduction. I know he is looking forward to working with cattle producers in Wyoming and across the Rocky Mountain West.

Welcome to Wyoming native **Caleb Boardman**, who started in May as the livestock judging coach. Boardman recently received his master's degree in animal science from Texas A&M University. Boardman is looking forward to meeting you, and we are looking forward to his implementing a program that has been dormant the past few years.

Our Department of Veterinary Sciences is the new home for Assistant Professor Juan Muñoz, who began work as one of our veterinary diagnostic pathologists this spring. He recently completed his Ph.D. in infectious diseases at Washington State University and his DVM from the College of Veterinary Medicine at the National Autonomous University of Mexico. In addition to his work as a diagnostician and pathologist at the Wyoming State Veterinary Laboratory, he will teach undergraduate courses and consult with clinicians and animal owners throughout Wyoming. Munoz-Gutierrez says he is "passionate about client satisfaction" and is looking forward to working with veterinarians and producers in the region.

Our Sheridan Research and Extension Center also has a new director - Associate Professor Brian Mealor, a well-known figure to many rangeland management and noxious plant control groups throughout Wyoming. Mealor joined the plant sciences department in 2009 after receiving his master's degree and Ph.D. from the University of Wyoming. He has been an innovative leader in noxious plant control and has a solid background in outreach and working with stakeholders. His solid scientific background, coupled with his extensive UW Extension background and exceptional communication skills, will help the Sheridan Research and Extension Center meet our goals to work closely with producers on research areas of concern to the industry. Mealor will also maintain his appointment in the Department of Plant Sciences and continue his research work in rangeland management.

Please help the college welcome our new faculty members and directors. Each of these individuals has a key role in the college's landgrant mission of extending scientifically based information to our constituents.

Junk

Dean Frank Galey College of Agriculture and Natural Resources

FIRST CUTTING

EXTENSION EDUCATOR BEGINS AS WEATHER VARIABILITY AND AGRICULTURAL RESILIENCY SPECIALIST

A University of Wyoming Extension educator who had been based in Sublette County started in April as the weather variability and agricultural resiliency specialist.

Windy Kelley works with the USDA Northern Plains Regional Climate Hub to coordinate extension programs in weather and agricultural resiliency across the sixstate region served by the Northern Plains Climate Hub (Montana, Wyoming, Colorado, Nebraska, North Dakota, and South Dakota). She is now based on the Laramie campus.

The position is a partnership with the Climate Hub, the Agricultural Research Service, and UW Extension. Kelley had been with UW Extension in Pinedale since 2010.



Windy Kelley



MEALOR SHERIDAN RESEARCH AND EXTENSION CENTER DIRECTOR

A plant scientist experienced in teaching, research, and extension began in May as director of the Sheridan Research and Extension Center.

Brian Mealor is an assistant professor in the Department of Plant Sciences and was the extension weed specialist.

"Brian's professional experiences will serve him well in this position," says Bret Hess, associate dean of research and director of the Wyoming Agricultural Experiment Station. The AES in the college directs four research and extension centers in the state.

"He has proven to be innovative, has strong organizational skills, and possesses exceptional communication skills coupled with an ability to work with a broad range of constituencies," notes Hess.

Mealor received his Ph.D. and master's degree in rangeland ecology and watershed management from the University of Wyoming. He joined the plant sciences department in 2009.

Hess says Mealor will retain a research appointment and be an active member of the plant sciences department.

The Sheridan R&E Center is housed in the Watt Agriculture Center at Sheridan College with trials on the grounds and about 400 acres of the Adams Ranch south of the college. The ranch is owned by Whitney Benefits. The center also maintains 250 acres of dryland crops and irrigated vegetables and fruit trees at its former headquarters near Wyarno.

Three receive Promoting Intellectual Engagement Awards

Associate Professors Ed Bradley and Todd Cornish and lecturer John Willford in the College of Agriculture and Natural Resources are recipients of the Promoting Intellectual Engagement Award.

The award, by LeaRN, Ellbogen CTL, Residence Life and Dining Services, and Center for Advising and Career Services, honors instructors who inspire excitement, inquiry, and autonomy in firstyear courses.

Bradley is in the Department of Agricultural and Applied Economics, Cornish in the Department of Veterinary Sciences, and Willford in the Department of Molecular Biology.

Recipients of the PIE Award are nominated online by sophomore students and then selected by a committee based on thoughtfulness and volume of student nominations.



Ed Bradley



Todd Cornish



John Willford

QUALITY WORK, SERVICE TO

Three members of the College of Agriculture and Natural Resources received honors during the annual Staff Recognition Day Program in April on the Laramie campus.

Tracy Navarro, senior office assistant in the Laramie County office of University of Wyoming Extension, and Daniel Smith, farm manager at the Sheridan Research and Extension Center, received Off-campus Awards, and Trish Hysong, senior office assistant in the Department of Family and Consumer Sciences and a member of Staff Senate, received a Staff Incentive Award.

Dozens of employees were honored for their years of service and contributions to UW. Sponsored by the UW Staff Senate with support from the UW Office of the President, Staff Recognition Day encourages and acknowledges the work of all UW staff members.

Tracy Navarro

Navarro was noted for her exceptional customer service skills and volunteering for additional responsibilities when the office is short-staffed.

"When our other administrative assistant position has been open during our busiest times of the year, Tracy stepped up and helped out without being asked," says UW Extension educator Tansey Sussex, who nominated Navarro. "Her work is very detail-oriented, and she always completes tasks prior to the deadline."

Her graphic design skills have elevated the flyers and brochures from the office. She's helped train two new staff members and has never complained about the additional work, says Sussex.

"I know that any time I ask her to complete a project, it will be done with great care, professionalism, and before the deadline," she says.



PUBLIC AND CO-WORKERS BRING HONORS TO THREE IN COLLEGE



Staff Senate president Rachel Stevens, right, presents an Off-Campus Award to Tracy Navarro, senior office assistant in the Laramie County office of the University of Wyoming Extension.

Daniel Smith

"Smith always exceeds expectations and carries out duties with dedication and efficiency," says nominator Assistant Professor Sadanand Dhekney.

Smith frequently works late hours during the growing season and has a great attitude toward customers and co-workers.

"His good interaction with seasonal employees has resulted in people wishing to come back and work for the facility for several seasons," says Dhekney, who is a faculty member in the Department of Plant Sciences and stationed at the Sheridan R&E Center.

Smith has a very positive attitude toward companies who contract research, and "also has a great rapport with farmers and ranchers



Daniel Smith receives his Off-Campus Award from Staff Senate president Rachel Stevens.

in the community and will go out of his way to provide required information," he says.

His assistance to and guidance of graduate students was also noted. "A number of graduate students have graduated on time due to his timely assistance," says Dhekney. "This is very valuable considering the fact Wyoming has such a short growing season, and a graduate student losing a season can mean losing a whole year of work."

Trish Hysong

Hysong was credited with her problemsolving abilities as the "go-to" person who assists anyone she can. Her nominators were Melissa Bardsley, UW Extension nutrition and food safety specialist, Mona Gupton, senior office associate, and Professor Virginia Vincenti, all in the Department of Family and Consumer Sciences.



Trish Hysong, left, receives the Staff Incentive Award from Staff Senate president Rachel Stevens.

"Her management of the classroom technology in our department is especially worthy of comment," notes one nominator. "She continually takes the initiative when problems arise and searches for answers and strives for win-win solutions."

Her nature is calm, gentle, and persuasive, which aids in her success of collecting Dining with Diabetes program data from educators, which she then enters into a database. She is described as the "ultimate glue" between the Wyoming Food Safety Coalition support person and the University of Wyoming.

Noted another nominator, "Educators contact me many times during the year to compliment her on her assistance and thankful she is there to assist them with their questions and program needs."

FIRST CUTTING



Scott Miller received the Outstanding Research Award from the Wyoming Agricultural Experiment Station. Miller is a professor in the Department of Ecosystem Science and Management.



Molecular biology Assistant Professor Dan Levy received the outstanding researcher award.

Miller, Levy win Agricultural Experiment Station's outstanding research honors

Professor Scott Miller and Assistant Professor Dan Levy won outstanding research and early career research awards from the Wyoming Agricultural Experiment Station.

UW President Dick McGinity presented the honors at the AES awards banquet in February along with Bret Hess, associate dean for research in the College of Agriculture and Natural Resources and director of AES, and Frank Galey, dean of the college.

Miller is in the Department of Ecosystem Science and Management and Levy in the Department of Molecular Biology. Miller received \$1,000 and Levy received \$500.

Miller, who is head of the department, joined UW in 2002 as an assistant professor in the then-Department of Renewable Resources. His research focus is spatial hydrology, and his lab focuses on the use of innovative field and modeling techniques to better understand the fate and transport of water and how humans change hydrologic response. He has worked around the world on topics ranging from deforestation to risk assessment but more recently has focused his research energy on Wyoming-related issues.

Levy joined UW in 2011 after working as a postdoctoral fellow in molecular and cell biology at the University of California, Berkeley. His lab's goal is to reveal nuclear size control mechanisms to understand how nuclear size affects cell and nuclear function and subnuclear organization. His previous research and training as a mechanistic biochemist, investigating size control of intracellular structures and developing *in vitro* reconstitution systems, positioned him to solve problems relating to nuclear size regulation.

Also nominated for the early career research award were Melanie Murphy, assistant professor in the Department of Ecosystem Science and Management; and Andrew Kniss, associate professor, and Brian Mealor, assistant professor, both in the Department of Plant Sciences.

AG ECONOMIST AUTHORS WIN TOP STORY

Recipients of the award for top story in the research magazine *Reflections* were presented. Authors of the article "Predator compensation policies in the U.S. and France" won the honor. Authors are Associate Professor Benjamin Rashford, senior research scientist Thomas Foulke, Professor David Taylor, and Jordan Steele, former graduate student, in the Department of Agricultural and Applied Economics.

The authors received \$1,000 with another \$1,000 going to their department to support research activities.

AES also honored the top graduate student story. Anna Scofield received the award for "Managing the spatial pattern of residential development could reduce the cost of fighting wildfires." Scofield received \$750.



Research scientist Tom Foulke and Associate Professor Roger Coupal, left and right, hold honorary dollars for having the top story in the 2015 research magazine Reflections. Left, Bret Hess, associate dean for research, Dorothy Yates, associate vice president for research at UW, and Glen Whipple, director of UW Extension, present the award.



University of Wyoming president Dick McGinity presents the champion banner to Taylor Rives of Johnson County in the Champion of Champions Market Lamb Challenge at the Wyoming State Fair and Rodeo.

DRAWN TO DOUGLAS

Extension educators, administrators, and professors representing the College of Agriculture and Natural Resources converged in Douglas for the 103rd Wyoming State Fair and Rodeo. Extension and 4-H had exhibits and demonstrations in three tents on the fairgrounds, and the College of Agriculture and Natural Resources had its booth in the Peabody Energy Building. To see all the photographs from the state fair, go to smugmug.com, search uwextension, then select "People." Click on the uwextension site.

Agricultural student among 2015 Tobin Memorial Award nominees

Mathias McCormick of Laramie, a physiology and molecular biology major with a minor in neuroscience and an Honors Program student, was among seven finalists for the 2015 Tobin Memorial Award as the University of Wyoming's outstanding graduating man.



Fellow molecular biology student **Joshua Messer** received the Tobin award (see

Mathias McCormick

related story page 8). The annual Tobin award is based on academic excellence and achievement, service to the university, participation and leadership in the community and campus activities, and citizenship qualities.

To be considered for the Spitaleri and Tobin awards, students were judged on academic excellence and achievement; contributions and service to UW; participation and leadership in co-curricular activities; and demonstrated character and citizenship.

"When I began my studies at the University of Wyoming in 2010, I was undeclared and unsure of how my path at the university would unfold," McCormick says. "It is clear to me my acceptance to the University of Washington School of Medicine would not have been possible without the unique support network of students and faculty alike, as well as how each experience on this campus, in the Laramie community and abroad shaped my perspective on the world."

Nominators wrote letters of support for each of the students nominated for the award.

"Mathias is a rare student. He has been one of the most thorough, energized, dedicated, and intelligent academic achievers I have taught in the last seven years in the UW Honors Program. To say that he is an outstanding graduate is an understatement. He is so much more," wrote one nominator. "Mathias is an excellent critical thinker, a refined and mature writer, a very creative thinker, an insightful participant in class discussions, and an extremely compassionate and confident young man."

MOLECULAR BIOLOGY STUDENT SELECTED UW'S OUTSTANDING GRADUATING MAN

Excellence as a University of Wyoming honors student in molecular biology and chemistry, service as a student senator and in other leadership roles, and work as a mentor to other students resulted in the selection of **Joshua Messer** for the 2015 Tobin Memorial Award as UW's outstanding graduating man.

The annual award is based on academic excellence and achievement, service to the university, participation and leadership in the community and campus activities, and citizenship qualities. Messer, son of Jim and Shelley Messer of Cheyenne, is a double major in molecular biology and chemistry with a minor in the Honors Program.

"With sparkling intelligence, charming wit and a creative, curious mind that simply never stops, Josh is a student who inspires and galvanizes all those who are fortunate

"Josh is a student who inspires and galvanizes all those who are fortunate to cross his path."

Rachel Watson Microbiology and biochemistry instructor to cross his path," says **Rachel Watson**, instructor of microbiology and biochemistry in the Department of Molecular Biology. "I could not name another student who earns a GPA equivalent to Josh's while changing the lives of students campuswide through his leadership. He eloquently balances the most rigorous academic pursuits with campus involvement that is unprecedented."

Messer has served four terms as a student senator representing the College of Agriculture and Natural Resources, including chairing a number of Associated Students of UW (ASUW) committees. He also is president of the Mortar Board senior honor society and a student ambassador for his college.

"Josh is one of our best students," says Anne Leonard, director of college relations for the College of Agriculture and Natural Resources. "He is an excellent scholar, a leader, and someone who UW can point to with pride."

Messer has worked for four semesters as a teaching assistant in microbiology. He's also a research assistant in the Department of Chemistry.

"Because he is so approachable, students feel comfortable asking him for help – and they get it," Leonard says. "His helpful attitude is certainly one of his strengths. He wants others to succeed and is willing to help them achieve success."

During summer 2013, Messer served as an intern for U.S. Sen. John Barrasso,



Joshua Messer

R-Wyo., in the nation's capital. During summer 2014, he joined a team of researchers at the Fred Hutchinson Cancer Research Center in Seattle, where he investigated the link between the human papillomavirus and cancer.

"I won't be on this campus or this world forever, and so I delight in seeing others called to action by something I've done," Messer says. "It brings me great comfort to know that where I leave off, someone new will take up the mantle of leadership."



HARRIS AMONG 2015 SPITALERI AWARD NOMINEES

McKensie Harris, an animal and veterinary sciences major from Laramie, was among five finalists for the Rosemarie Martha Spitaleri Award as the University of Wyoming's outstanding graduating woman.

Callie Berman, of Boulder, Colorado, was this year's Rosemarie Martha Spitaleri Award recipient.

The Spitaleri award, established in 1964, recognizes students for exhibiting the finest leadership, academic integrity, and citizenship qualities.

To be considered for the Spitaleri and Tobin awards, students were judged on academic excellence and achievement; contributions and service to UW; participation and leadership in co-curricular activities; and demonstrated character and citizenship.

"I have been successful academically, but that is only half of what has shaped me into the person and student that I am," Harris says. "My depth of involvement in both campus and communitywide extracurricular activities has allowed me to home in on my natural leadership abilities." She adds, "In the end, I have learned that to simply go to class does not do justice for any student. The most successful students embody the mingling of scholarship and leadership to contribute to the University of Wyoming."

Nominators wrote letters of support for each of the students.

"McKensie was a student who was on the top of every list of anyone with recruitment responsibilities. All of her extracurricular involvement takes time away from studies and often classes, making her academic achievements all the more amazing," one person wrote. "Although it is difficult to know how she finds the time to do it, McKensie also has made time to give back to the programs that previously had enhanced her educational experiences and leadership development."

Another said, "What really sets Ms. Harris apart from her fellow students, in my opinion, is her aspiration for excellence. 'Settling' is not in her nature, regardless of activity. In all of my interactions with



McKensie Harris

undergraduate students at two universities, I've never met a student that goes that extra mile like Ms. Harris does. I am not trying to downplay her innate intelligence, but it is completely refreshing to see a student with an unquenchable inquisitiveness."

COLLEGE PUBLICATIONS RECEIVE NATIONAL HONORS

Three publications from the College of Agriculture and Natural Resources published in 2014 received honors from the Association for Communication Excellence Critique and Awards program.

The awards were presented during the association's international conference in Charleston, South Carolina, in June.

- **CONNECT**, which features UW Extension educators and their engagement with Wyoming residents, received the Gold Award in One- to Full-color Popular Publications.
- *Reflections*, which showcases research in the college, received two silver awards: one in Technical

Publications and the interactive version in the Electronic Publications category.

• *Ag News*, the newsletter for the college, tied for a Bronze Award in Newsletters.

The publications are produced through extension's Office of Communications and Technology.

ACE is an international association of communicators, educators, and information technologists. The organization offers professional development and networking for individuals who extend knowledge about agriculture, natural resources, and life and human sciences.





GAMMA SIGMA DELTA HONORS OUTSTANDING AGRICULTURE STUDENTS

Outstanding students affiliated with the College of Agriculture and Natural Resources were recognized by the Wyoming chapter of Gamma Sigma Delta during its May awards program in Laramie.

Gamma Sigma Delta is the international honor society of agriculture.

Receiving outstanding student awards were:

Outstanding Freshman – Melanie Whitmore, Bear River, animal and veterinary sciences

Outstanding Sophomore – Tevyn Baldwin, Mitchell, Nebraska, agricultural business/ rangeland ecology and watershed management; Cole Foreman, San Jose, California, agricultural business/animal and veterinary sciences; Rachel Purdy, Pine Bluffs, agricultural business

Outstanding Junior – Jonathan Miller, Laramie, animal and veterinary sciences; Hannah Shoults, Van Tassell, animal and veterinary sciences

Outstanding Senior – Daniel Adamson, Laramie, agroecology; McKensie Harris, Laramie, animal and veterinary sciences; Marley Mardock, Estes Park, Colorado, animal and veterinary sciences; Courtney Nordhus, Commerce City, Colorado, family and consumer sciences

Outstanding Masters student – Hannah Cunningham, Meeker, Colorado, animal and veterinary sciences; Samantha Day, Lorton, Virginia, soil science

Outstanding Doctoral student – Helmuth Aguirre, Bogota, Colombia, entomology

Departments within the college also presented honors. They include:

Agricultural and applied economics (AGEC)

Western Agricultural Economics Association Outstanding Senior – Hannah Gorman, Gillette

Outstanding Agricultural Business Senior – Charity Burkey, Gering, Nebraska

AGEC Exceptional Achievement Award – Austin Traphagan, Yuma, Colorado

Agricultural Communications

Honor Book – Shane Bell, Laramie

Animal Science

Honor Book - McKensie Harris

Ecosystem Science and Management

Outstanding student, entomology – Delina Dority, Casper

Outstanding student, soil – Donald "Alex" Foulk, Greentown, Pennsylvania

Outstanding student, rangeland ecology and watershed management – Philip Klebba, Sheridan

Outstanding Graduate Student – Justin Clapp, Kinnear

Family and Consumer Sciences

Honor Book – Courtney Nordhus; Michaela Tratos, Laramie

Microbiology

Honor Book – Zachary Siler, Jackson

Molecular Biology

Honor Book – Claire Korpela, Sheridan; Mathias McCormick, Laramie

Irene Rosenfeld Scientific Achievement Award – Amanda Johnson, Wright; William Trebelcock, Cheyenne

Plant Sciences

Honor Book – Preston Talbert, Wray, Colorado; Shannon Toomey, Montclair, New Hampshire

Outstanding Graduate Student – Dhruba Dhakal, Gorkha, Nepal; Cara Noseworthy, Medford, New Jersey

Veterinary Sciences

Honor Book - Michala Lindley, Laramie

The Wyoming Gamma Sigma Delta chapter received the New Chapter Activity Award from Gamma Sigma Delta International. Mike Brugger from The Ohio State University presented the honor.



Gamma Sigma Delta president Kelly Wiseman and outstanding freshman award recipient Melanie Whitmore



Agricultural communications Honor Book recipient Shane Bell with Donna Brown, associate dean and program representative



Agricultural and applied economics award recipients, from left, Hannah Gorman, Charity Burkey, and Austin Traphagan with department representative Dannele Peck



The Wyoming chapter of Gamma Sigma Delta received the New Chapter Activity Award from Gamma Sigma Delta International for the chapter's efforts in 2014. From left, Anowar Islam, secretarytreasurer; Connie Kercher, historian; 2015 president Kelly Wiseman; Mike Brugger, secretary, Gamma Sigma Delta International; 2014 president Cole Ehmke; incoming treasurer Bnant Schumaker; Dannele Peck, vice president.







Outstanding sophmore award recipients Cole Foreman and Tevyn Baldwin with Gamma Sigma Delta president Kelly Wiseman



Outsanding junior award recipient Jonathan Miller and Gamma Sigma Delta president Kelly Wiseman



Gamma Sigma Delta president Kelly Wiseman presents Hannah Cunningham the outstanding master's student award.



Outstanding doctoral student award recipient Helmuth Aquirre with Gamma Sigma Delta president Kelly Wiseman



Family and consumer sciences Honor Book recipient Courtney Nordhus and Bruce Cameron, head of the department



Family and consumer sciences Honor Book recipient Michaela Tratos with adviser Chrissy Wade



Microbiology Honor Book recipient Zachary Siler, left, and program representative Gerry Andrews



Veterinary sciences department head Will Laegreid and Honor Book recipient Michala Lindley



Ecosystem science and management award recipients, from left, Donald Foulk, Phillip Klebba, Delina Dority, and John Tanaka, head of the department



Plant sciences department representative Urszula Norton and ShannonToomey, department representative Karen Panter and PrestonTalbert



Gamma Sigma Delta president Kelly Wiseman, center, with outstanding senior award recipients, from left, Daniel Adamson, McKensie Harris, Marley Mardock, Courtney Nordhus



Molecular biology representative Pam Langer with department award recipients Amanda Johnson, William Trebelcock, Claire Korpela, and Mathias McCormick



Plant sciences department representative Brian Mealor, left, with outstanding graduate student Cara Noseworthy, Anowar Islam, department representative, and outstanding graduate student award recipient Dhruba Dhakal



New members of the American Society of Animal Science include, from left, Mary Lenz, Melanie Whitmore, Cole Foreman, Laura Strohecker, McKensie Harris, Marley Mardock, animal science associate professor Warrie Means, Johnathan Miller. Not pictured: Rachel Balcom, Brittany Hamilton, Eilise Patrick, Brittney Rodgers, Jacob Chaloupka, Brandt Mortensen, Katelyn Newman, Hannah Shoults, Erin Bentley, Erin Hansen, Kelly Munson.

FIRST CUTTING

TATMANS HONORED FOR AGRICULTURE INDUSTRY ACHIEVEMENTS

Courtesy Wyoming Livestock Roundup

Former University of Wyoming Extension educators Wayne and Kathy Tatman were inducted into the Wyoming Agriculture Hall of Fame during the Wyoming State Fair and Rodeo in Douglas in honor of their contributions to the state's agriculture industry.

"Wayne and Kathy have strong roots in Wyoming agriculture," says Gary Stone, who nominated the couple. "They truly are the 'best of the best' when it comes to Wyoming agriculture."

Wayne's extension career spanned more than 30 years. His educational efforts focused on livestock and crop production and economic issues, along with invasive plants, agricultural research, and water issues.

"Wayne has an impressive resume of promoting agriculture to consumers and helping Wyoming's youths through the 4-H youth leadership program," says College of Agriculture and Natural Resources dean Frank Galey. "Wayne is the true definition of a great extension educator."

While Wayne worked in the production side of the industry, Kathy focused her career on consumers. She spent her years in extension educating on nutrition, food safety and preparation, and food economics. She was widely recognized for her leadership in the arena.

"Kathy joined the UW Extension Cent\$ible Nutrition Program in 2000," says Galey. "During her eight years with the program, she worked with low-income families to provide nutrition, meal planning, food safety and food preparation. She was also deeply involved in 4-H youth leadership programs."



Sen. Mike Enzi, right, reads the induction for Kathy and Wayne Tatman, with Sen. John Barrasso.

Galey also mentioned Kathy was integral in developing a nutrition curriculum for the state of Wyoming, a monumental effort.

Former University of Wyoming President Tom Buchanan says, "As longtime representatives of UW Extension, Wayne and Kathy helped literally hundreds of Wyoming residents understand the impact of agriculture on so many facets of life. The proof is in the countless hours they spent working side by side with community members to successfully apply research-based knowledge to real-world problems."

The Wyoming Agriculture Hall of Fame was started in 1992.

Dennis Sun, publisher of the *Wyoming Livestock Roundup*, says, "The Ag Hall of Fame is about honoring those people who have been important for the Wyoming ag industry. When we honor those people, we honor the achievements of the entire industry as well."

Each year, *Roundup* readers and agriculture industry representatives nominate their neighbors and others to be inducted into the Hall of Fame. A panel of three independent judges ranks nominees to select the year's inductees. Inductees receive a belt buckle and poster in recognition of the accomplishment.

Animal science student, rescued racehorse took trail to greener pastures

Buckdeer faced a career change. He was, by all measurements, a failure.

A name change and career switch later, he's back in the saddle again. At least, his owner, University of Wyoming junior Lindsay Zacco, is.

The thoroughbred that finished dead last in his only race gave her the courage to pursue her dreams, says Zacco, an animal science major who has an equine science option.

Buck was sold at age 3 to a trainer at the same Pennsylvania horse barn Zacco used. Buck was to be trained as a hunterjumper horse after his failed race career. Zacco said Buck wasn't working out with his new owner.

"He and I just always got along," says Zacco, who began riding at age 8. "With everyone else, he was a little crazy. When I rode him, he was always very good. The woman just decided to give him to me."

She bought him for \$1 two years later, and a few years after that, Buck was in a horse trailer bound for college in Wyoming with his owner.

Buck got a name change and would major as a hunter-jumper with a minor in western trail.

Colorado Competition

The horse excelled in March at the Colorado Most Wanted Thoroughbred event, a competition that promotes rescue of unwanted thoroughbred racehorses. He showed off his ranch horse and jumping skills and, with Zacco aboard, he's at home on the range herding cattle or helping guide horse tours on dude ranches.

When younger, she and her parents vacationed at a dude ranch near Jackson. Wyoming always called to Zacco. "I loved Wyoming and decided to move out here," she says. "I told my parents if I was going to college in Wyoming, my horse was going. I think they just kind of assumed that."

She would later work at the same dude ranch with Buck.

"He never really had a problem with any of it," notes Zacco. "Which is shocking. He had never seen a bear or buffalo, but he didn't care. Black bear, grizzly, bison – he's pretty laid back."

By coincidence, a Pennsylvanian posted the Colorado competition on Zacco's Facebook wall. Zacco said Buck qualified because he had been boarded in Colorado during the year (He's now about five minutes from Laramie).

Unwanted Racehorses Important Topic

The Retired Racehorse Project sponsors Colorado's Most Wanted Thoroughbred event. Today's unwanted horse topic is very relevant in the equine industry, says Jenny Ingwerson, an equine lecturer in the Department of Animal Science.

"It was an honor Lindsay and Buck were chosen for this competition among many applicants," notes Ingwerson. "We are very proud to have one of our UW animal science undergraduate students participate in this event."

She says the number of unwanted horses, neglect, abuse, and welfare cases have increased with horse slaughter banned in the United States and the drop in the economy.

"Many unwanted racehorses can end up as animal welfare cases or going to slaughter, even though it isn't legal in the



Lindsay Zacco with Buck

United States," she says. Some "ex-race" horses do find good homes and alternative futures, she notes.

Jumping at Opportunities

The Colorado event showcases what the "ex-race" horses can do, Zacco says, including jumping, which Buck does naturally.

"He's an unexpected horse to do so well in competition," she says. "A year and a half ago, we thought he was going to die. He dropped about 600 pounds and was skin and bones. It's bizarre. We still don't know what happened."

They rushed him to Colorado State University, where he stayed for two weeks.

"To go through that and be able to jump 4 feet high. It's kind of amazing," she notes. "In three days, he had gone from healthy to almost dead."

The jumping comes naturally to Buck. That characteristic taught Zacco patience, she says.

"He's always been a little unpredictable. He's always really calm and then all of a sudden he'll jump into the air," she says, and laughs. "He used to do it more when he was younger. Never malicious, never bad or anything like that. He just does it when he gets really excited. It's been entertaining trying to get that out of him. But it's also what makes him such a good jumper."

Read more about Buck and Lindsay Zacco at http://bit.ly/readaboutbuck

Producer collaboration with University of Wyoming

Steve Miller

Courtesy Wyoming Business Report and Research Wyoming

Young ones.

You provide a good environment, ensure healthy nutrition for their growth, then it's up to them to make their way.

Worland sugarbeet producer Vance Lungren Jr. found that providing good direction is also important.

Lungren, the fourth generation of his family to farm their ground south of Worland, found during collaboration with University of Wyoming agricultural students that switching from running rows north-south to east-west provides the seed bed more sunlight per day in March and April. That extra sun would warm the soil enough to give the young crop a jumpstart.

"It was out-of-the box thinking that comes from fresh, young minds," says Lungren, a 1998 UW graduate in agricultural business. "We producers can get bogged down. It was a little embarrassing but made for great discussion."

Invited to Participate

Lungren had been asked by Assistant Professor Randa Jabbour to present some of the cropping system types, newer technology, and issues north-central Wyoming producers face.

He talked to the students last September. Students – five undergraduates and 10 graduate students – then broke into four groups and selected the challenges they wanted to research.

Rather than drive to Laramie to hear the results in December, Lungren traveled about 2 miles into Worland to the Outreach Video Network in the Worland Community Center (see related story page 16) and heard and saw students present their findings.

Jabbour said she wanted to connect with Big Horn Basin producers and wanted students to learn what can be applied to real-life, current topics.

"I try to teach in a way I'm bringing in the voice and perspective of farmers," says Jabbour, in the Department of Plant



Plant sciences Assistant Professor Randa Jabbour asked Worland producer Vance Lungren Jr. to collaborate with her cropping systems management and ecology class in Laramie.

Sciences. "I realize as a scientist and in academia there are many things I don't know about in terms of how farmers make decisions and what they face on a day-to-day basis. I feel it's crucial to incorporate that into our curriculum so our students get a sense as to why these issues matter."

Switch from Ridge Row to Center Pivot

Many Big Horn Basin beet growers had switched from planting beets in a ridge row (which warmed sooner but also led to wind and water erosion) to strip-tillage, and from row irrigation to center pivots. Minimal tillage leaves surface residue to fight wind and water erosion and help water retention.

"But at the same time, we noticed our sugarbeets were a little slower under that system than in the conventional tillage system," says Lungren. The soil had warmed quicker when ridged.

So Lungren asked students to investigate and found soils were warming more slowly but fuel savings and increasing soil health offset the slower emergence.

"And they came up with solutions to try to minimize [the slow emergence]," he says. "One of them was ingenious and embarrassing on the producer's side."

Rows were oriented toward the river during row-irrigation days. Row orientation stayed the same during the switch to center pivots.

Lungren did his own research and determined changing row direction would provide an average of about two hours more sun per day in March and April.

"We have tractors that can guide themselves. We can make the straightest rows you've ever seen, but we just weren't putting them in the right direction to soak up the last rays of sun in the early spring months," he says. "That's a pretty significant deal."

No-till Switch Questions

The students also delved into whether soil organic matter had increased with the switch to no-till and whether the increased organic matter could cause a late-season release of nitrogen. In sugarbeets, the extra shot would cause an increase in impurities, lower sugar content, and create processing issues.

Organic matter was increasing, but there were not enough years to determine

agriculture students harvests research results



John Core of Worland, left, and Milt Geiger of Laramie just prior to the start of their empirical analysis for public administration class through the Outreach Video Network (OVN) facility in the Worland Community Center. Tajin Perez helps deliver classes through the UW Outreach School. Geiger, the University of Wyoming Extension energy coordinator, was attending WESTI Ag Days and was able to attend his class via the OVN facility.

if statistically significant. Research did not find adverse affects of extra organic matter on production, but Lungren said two months wasn't enough time, and further research is needed.

The fourth issue was recommended fertilizer requirements for seed alfalfa.

"We have been all over the place, especially when it comes to phosphorous," he says. "We have not settled on the spot where we need to be for seed production."

Research indicated that probably too much phosphorous is being applied, which Lungren agrees with.

"We are encouraging vegetative growth and discouraging some seed production and making the plant's stem longer and causing some harvest issues."

Not Just a Class Assignment

Jabbour says the students working with a producer provided them more motivation than if only doing a class assignment.

"I think they worked hard to do a good job because they didn't want to let Vance down knowing these were things important to him and his operation," she says.

Lungren also contributed to the success, she notes, through his openness and being so enthusiastic.

He was excited to talk to a class about sugarbeets. Wyoming producers own the process from raising the crop and processing through producer-owned factories.

"It's a big industry, and we want to keep it around here," Lungren says. "I was making young kids aware of what's out there and maybe presenting them with opportunities after their education in that industry. That was my sole purpose, to let some of these kids know."



Vance Lungren Jr. of Worland participates as a member of the soil health panel during WESTI Ag Days in Worland in February.



University of Wyoming agriculture students at the Laramie campus watch and listen to Worland producer Vance Lungren Jr. in Worland via the Outreach Video Network last fall during a session of the cropping systems management and ecology class.

Outreach Video Network eases collaboration with agriculture students

Fly as the crow from Worland to the University of Wyoming campus in Laramie and you'll wing 222 miles.

Take the scenic drive through Wind River Canyon to Riverton and down to Rawlins and I-80, and you'll have 308 miles of windshield time.

Or, walk or drive a little to the Worland Community Center and use the Outreach Video Network (OVN). That option saved sugarbeet producer Vance Lungren Jr. eight to 10 hours of drive time when he collaborated with agricultural students at the University of Wyoming.

Lungren had traveled to Laramie in September 2014 to visit with students about production challenges he and other Big Horn Basin producers wrestle. The students selected four key issues and began their research. They produced research papers, but this time Lungren didn't have the eight-hour-plus round trip to Laramie – he saw and heard presentations live at the OVN.

The OVN opened late last year, but efforts began years before. Washakie County taxpayers passed a 1-cent initiative to fund a new UW Extension office and OVN site. The OVN is managed through the Washakie County office of UW Extension. Extension office associate Tajin Perez manages the OVN



In left screen, Milt Geiger of Laramie and John Gore of Worland participate in their empirical analysis for public administration class via the Outreach Video Network taught by political science Assistant Professor Doug Oxley, right screen, in Laramie.

through the UW Outreach School.

"What I take out of it was it was fantastic – the ease with which I was able to sit in on their presentations," Lungren says. "Knowing now about the OVN available through UW Extension, money and time will be much better spent presenting to a class [while] in Worland and not traveling and having that expense."

> Two other non-students were also able to participate because of the OVN, notes Phyllis Lewis, UW Extension educator in Washakie County: Jason Guidice, a field representative with Yellowstone Bean, and Gary White, production seedsman with Allied Seed of Worland, but who was in Powell that day and participated through the OVN at Northwest College.

> "Vance said it took him two full days to drive down to Laramie, attend the class and drive back home," says Lewis. "Now, he simply needed to drive into town, and he could interact with the students."

Scientists unravel genes searching for connective tissue disease causes

Molecular biologist David Fay doesn't much look like famous sleuths such as television's Columbo – no trenchcoat, at least – nor Fox Mulder of "X Files" fame; there is no doubting-what's-out-there Scully at his side.

Fay earned his Ph.D. in molecular biophysics and biochemistry from Yale University, and his laboratory logo is a worm with a boot (emphasis on singular boot) and spur, sporting a red neckerchief and hat with a "W" – "The Wyoming Worm Lab."

His research history includes a \$1.4 million grant, a \$1.19 million grant, a \$799,000 grant, and others of lesser amounts. His scientific journal articles total 48 and date back to 1991.

And yet, there is no denying the look of fun that spreads across his face when this director of the Molecular and Cellular Life Sciences (MCLS) Program at UW talks about the mystery he and his lab associates pursued, tracked down, and ultimately solved.

It began with mutant worms.

"This was one of those studies where the idea of doing really basic, exploratory science shines," he says.

His lab works with *C. elegans*, a transparent (and not parasitic) nematode, usually about a millimeter long with about 3,000 cells. Probably somewhat disappointing to humans, its genome is similar to ours.

Fay and others in the field often mutate wild-type (normal) worms in a random manner and look at the resulting phenotypes – the appearance of an organism resulting from its genotype and environment.

"The classic genetic strategy is to break something to figure out how it's working," says Fay.



Fay, MCLS doctorate student Melissa Kelley, and others in his lab found themselves looking at a mutant that had an unusual phenotype, one not well described or understood at any level.

"Some of the fun of it is like sleuthing, figuring out what happened," says Fay, flashing that look.

The fun and difficult part, he says, is figuring out just how deep and precise you can get in your understanding of the problem.

"We were able to solve the mystery of the mutant phenotype in pretty good detail," he says. "We made a lot of new connections, and you never know where these studies are going to lead. Sometimes they lead to genes that might be nematodespecific."

In this case, it led to genes that are conserved in humans.

"Thanks to previous studies from another group, we already knew that genes with clear human correlates were involved in what we were studying," Fay says. "That's partially what made us interested in the problem to begin with. We knew the study

"This was one of those studies where the idea of doing really basic, exploratory science shines." David Fay would have relevance to human biology and possibly disease."

Scaffolding Support

Their research led to a gene that encodes a worm protein related to the fibrillin proteins in humans. Fibrillins are essential for proper formation and function of elastic-like fibers in connective tissues. Fibrillin works outside the cell, providing structural support – a scaffold – for the cell.

Two of the three fibrillin proteins in humans are associated with disease, in particular, Marfan syndrome. Marfan affects connective tissues, and symptoms can be long arms, legs, and fingers, a tall and thin body type, flat feet, and harder-to-detect signs such as aorta defects. Some have speculated Abraham Lincoln may have had the syndrome, but many now reject that.

The lab's mutant worm didn't have a normal scaffolding system. This led to a range of deformities in the developing worms, says Fay. The lack of a proper tissue scaffold also led to the discovery of certain intrinsic biomechanical forces operating in embryos that no one had previously postulated.

Results in Open Access Journal *eLife*

The results were first published on March 13 in *eLife*, a highly regarded open access scientific journal. Publication in *eLife* is free because of backing by the Howard Hughes, Max Plank, and Wellcome Trust

The Search Begins

Institutes. The Fay lab is the first from the University of Wyoming to publish an article in this journal. Kelley is one of three lead authors.

Fay eagerly credits his collaborators, which include Nobel Laureate Martin Chalfie in the Department of Biological Sciences at Columbia University. Others are from Stanford University; Harvard Medical School; Rockefeller University; the David Geffen School of Medicine at UCLA; and Universidad Mayor, Santiago, Chile.

Kelley said work on the project began 10 years ago, before she joined the lab.

"I have been very fortunate with this project, both to be able to work on wellestablished research and because I have had this opportunity to be an author on a paper with such outstanding collaborators," says Kelley, who is interested in studying developmental biology and human diseases.

She says collaborating with a Nobel Laureate did not influence how she went about her work.

"I would have taken my lab work just as seriously if we'd had no collaborators because it is essential to always do good science," notes Kelley.

The research has implications for sorting out the complicated genetic landscape of diseases.

In the case of Marfan syndrome, two siblings can have the exact same mutation in the fibrillin gene but the symptoms can be radically different in severity. That told scientists there must be additional critical genetic modifiers that influence the severity and outcome of the disease.

"People don't know yet what those modifiers are for Marfan syndrome," says Fay. With the genetic machinery largely being the same in humans and *C. elegans*, "We can use worms to figure out what the genetic modifiers of diseases like Marfan syndrome are," says Fay. "That could have an influence on diagnosis, prognosis, and although further out, treatment."



Research by Ph.D. student Melissa Kelley and Professor David Fay discovered in C. elegans intrinsic biomechanical forces no one had previously theorized operating in embryos.

Ph.D. student had early interest in biology

Melissa Kelley didn't start out to be in molecular biology after she started observing tadpole development at age 4.

That's no typo. Age 4.

One of her high school teachers helped students think critically and not just memorize a lot of facts without context – that helped propel her to the next level.

"I had decided I would major in biology before I was actually accepted into college, although I was uncertain about what I wanted to do with this major," she says.

Kelley was inspired during her undergraduate studies during a talk about developmental biology and epigenetics, specifically how fetal malnutrition can lead to health problems in individuals later in life, and how these problems can be passed on to subsequent generations.

"This was incredible to me and expanded my understanding of biology in ways I had never thought about," she notes.

A later embryology class increased her interest in development biology. Kelley was interested in human diseases, and many human health problems originate before birth, she says.

She applied to the Molecular and Cellular Life Sciences at the University of Wyoming because several professors either had or are conducting developmental biology research and using molecular biology tools to answer questions.

First-year MCLS students are rotated through four laboratories to help them determine where they want to spend the rest of their Ph.D. studies. The rotation in Professor David Fay's lab piqued her interest in development research.

"It turned out I loved working with *C. elegans*, and I was and still am enthusiastic about the work being done in his lab," she says.

Plant sciences professor helps Sheridan College team advance to national Innovation Challenge finals

Revving up the genetic horsepower of algae to gush lipids for use as biofuel propelled four Sheridan College students onto the national stage in Washington, D.C.

Hannah Shafer, Rapid City, South Dakota, Ceirra Carlson, Greybull, and sisters Hannah and Paige Jernigan of Cheyenne were one of 10 community college teams from across the nation advancing to the Innovation Boot Camp this month, the final competition of the National Science Foundation's Innovation Challenge.

The students use the laboratories of CM in the University of Wyoming Sheridan Research and Extension (R&E) Center and draw upon the research expertise of Sadanand Dhekney, who holds the E.A. Whitney Professorship in Agriculture at the college.

Turbocharge Algae

The students proposed to genetically engineer algae for enhanced lipid production. They're figuring out how to replace the original genes – yank out wimpy stock genes, insert turbo-charged replacements – and turn the algae into lipid megaproducers.

Lipids are molecules that contain hydrocarbons and make up the building blocks of the structure and function of living cells. Examples include fats, oils, and waxes.

"We're excited we made it all this way with this little idea that has come so far from the beginning," says Hannah Jernigan. "We've thoroughly enjoyed learning what we have. It's totally new, and we've grown leaps and bounds from where we were a couple months ago."

Sheridan College instructor Rob Milne had mentioned the National Science Foundation's Innovation Challenge to his general



From left, University of Wyoming assistant professor of plant sciences Sadanand Dhekney, Sheridan College students Hannah Shafer of Rapid City, South Dakota, Paige Jernigan of Cheyenne, Ceirra Carlson of Greybull, and Hannah Jernigan of Cheyenne, and Sheridan College science faculty member Rob Milne near UW's Research and Extension Eenter at Sheridan College. (Photo courtesy Daniel Mediate)

chemistry class last November. The challenge thrusts research into the traditional teaching roles of community colleges.

Shafer wanted to initiate a project, and, once it seemed she and the other students wanted to pursue algae lipid production, Milne saw a good connection with Dhekney at the R&E center.

Undergraduate research is encouraged at the college, but the reality is facilities, time, and equipment are limited.

"The initial motivation has to come from the students," says Milne. "The nice part is, these students are exceptionally motivated."

Seek Help from Dhekney

And so the students took the fiveminute walk from their science center to the R&E center to visit Dhekney. The assistant professor in the Department of Plant Sciences at UW has been nationally recognized for his grapevine research but knew nothing about algae.

The state of Wyoming matched funding from Whitney Benefits to create the E.A. Whitney Professorship in Agriculture position, designed to implement at Sheridan College an enhanced degree completion program within UW's agroecology curriculum and to teach selected courses each semester.

"The students had this idea in mind, increasing lipid production in algae, but had no clue how they were going to do it," Dhekney recalls.

Dhekney threw out ideas and showed them research by Steve Herbert, the former head of the plant sciences department in the College of Agriculture and Natural Resources.

"This is like a Ph.D. project," says Dhekney. "These kids are pretty ambitious. They did not have anyone to show them the way or have a place

to do it. We don't work with algae, but we have everything in our lab to work with in the research center."

Dhekney has mentored students for more than 11 years.

"When a student comes to me, I never turn them down," he says. "If it's something not in my area of expertise, I'll give some type of guidance or mentoring that can take them to the next level. With the Sheridan College students, I knew I could give them a place to work, the necessary supplies and the chemicals to work."

Appreciate Assistance

That collaboration, says Jernigan, has proven invaluable.

"I'd say that was the most important part," she notes. "We were coming here with very little knowledge. He didn't have to accept our project or help us, but he was super excited about it, he brought us in and even took his personal time to research and find out more about it and try and help us."



Joining Ron Cunningham cto elebrate his retirement were, back, from left, Jim Debree, Mike Schwope, Jerry Langbehn, Wayne Tatman, Scott Hininger, Betty Holmes, and Tammie Jensen. Sitting: Ron Cunningham, Jim Gill, Ron Kaufman, and Gerald Fink.

Long-time educators quick to answer fondest memories of position – the people

Jensen, Cunningham made UW Extension their career

Two educators with a combined 78 years with UW Extension who retired this spring give the same answer to the most enjoyable part of their jobs – people.

Ron Cunningham worked 38 years with extension – all in his home Fremont County. Tammie Jensen worked 35 years and was based in three counties during the years. She served as an educator in Uinta County from 1980-1988, earned her master's degree in food science and human nutrition from UW in 1992, and worked as an educator in Carbon County until 1994. She then accepted her position in Niobrara County and also served Converse and Natrona counties until her retirement.

Jensen didn't plan to make extension a career.

"In fact, I tried very hard not to be in extension," she says. "My dad (Si) was a county agent for 32 years, and he was so amazing I knew I could never be as effective or dynamic as him, so extension was never an option." She credits God with having other plans because things fell in line for her to do just that.

"I am glad He was in charge because I can't imagine a more perfect career for me," she says, "and I have had so many amazing opportunities and experiences – plus, I love working with youths."

Cunningham majored in ag education and worked as a voc-ag teacher in Gordon, Nebraska, then on a ranch near Ten Sleep before joining extension.

What pushed his envelope?

"What pushed me most was that I had very limited education and training in horticulture," he says, "and I had to learn almost from the ground up. I shuddered when I got horticultural calls or someone came in the office with a horticulture problem. I had to rely on and learn from UW Extension specialists."

He got over the shuddering, later specializing in crops, beef, and sheep.

"I also got to work with 4-H youths and see them excel in both meats evaluation and livestock evaluation at many state and national contests," he says. "Seeing youths from Wyoming compete and excel in national contests was extremely satisfying and rewarding."

Jensen's most satisfying responsibilities were also with the 4-H program.

"I have especially loved working with youths and watching them grow from children into young adults with amazing life skills and as contributing citizens," she relates.

She's a strong believer in the judging programs and taught meats, wool, livestock, and produce.

"I loved watching their life skills develop in critical thinking, decision making, communications, public speaking, self-discipline, and team work," she notes.

On the adult side, she relishes the experience working in a research program with Tom Whitson and former educator Wayne Tatman studying the plant Riddell groundsel and another project with Tatman on the lifelong impact of 4-H judging programs on youths.

She also enjoyed her work with Annie's Project, and was presented the national Annie's Project Women In Ag Educator Award for her efforts to improve the lives of others presented by Annie's Project – Education for Farm Women.

Cunningham says he never thought of doing anything other than extension work after he was hired. Jensen tested the waters after she received her master's but extension always remained.

She liked working with youths too much to change, plus she had a hard time finding a job that offered the flexibility, opportunities and financial stability extension did.

"That was an eye-opener because everyone always thinks extension didn't pay well, but I did not find any job that provided me the salary and benefits extension did and let me stay in Wyoming," she says. "Staying in Wyoming (and rural Wyoming) was important to me, and so extension has always been a win-win. Besides, my dad always told me I was getting a whole lot more than I was worth, and I think he was right."

"I have especially loved working with youths and watching them grow from children into young adults with amazing life skills and as contributing citizens."

– Tammie Jensen



Educator Mary Louise Wood, right, presents Tammie Jensen a retirement gift during Jensen's retirement reception.

Wyoming school IPM: Where prevention trumps remediation

The Wyoming School IPM program is available for anyone seeking solutions to pests in or around facilities, notes John Connett, who joined the program in 2012 to provide pest solution oversight, along with training programs and Web-based educational materials.

The program provides statewide training for professionals in pest prevention in and around facilities, plus other types of control such as cultural, mechanical, biological, and chemical control, notes Connett. Last fall, the Wyoming Department of Agriculture entered into a cooperative agreement with the University of Wyoming to fund the School IPM coordinator for the next year.

Connett, who conducts training for IPM implementation in schools and other facilities, networks broadly and shares expertise with IPM specialists in other western states, helping establish a more accessible pest management knowledge base.

"It's really nice to have IPM training that applies to pest control around school facilities," notes Gary Barker, facilities and maintenance supervisor for Uinta County School District 1.

Focus on Prevention

IPM helps schools focus more on prevention than remediation, says Connett, and strategies emphasize common sense with a variety of biological insights including the life cycles of pests and their interactions with the environment.

This information, in combination with available pest control methods, is used to manage pest damage by the most economical means and with the least possible hazard to people, property, and the environment, notes Connett.

Biological, cultural, physical, mechanical, and chemical methods are used in site-specific combinations to solve the pest problem.



Safe School Environment

The IPM approach to managing pests in and around schools helps maintain a safe and healthy environment for students and staff and reduces exposure to pests and potentially harmful chemicals. Additionally, teaching IPM to teachers and students can enhance pest prevention in schools, says Connett.

IPM programs are an effective way to minimize pesticide exposure while improving health and safety in schools, says Dixie Thomas, Wyoming Department of Agriculture inspector.

"The implementation of IPM as a management strategy is the safest and most effective approach because it minimizes pesticide use in schools," she notes.

IPM programs take advantage of appropriate pest management strategies including making the habitat less conducive to pest development, improving sanitation, and closing off pest entry points into buildings.

Combining Management Strategies

Targeting pests in a variety of ways greatly increases successful control, Connett notes. IPM includes prevention, action thresholds, monitoring, control, and record keeping. Modern school facilities often include food preparation areas, athletic fields, and areas for art and other projects that must be considered when developing IPM strategies.

"Since children spend a significant part of their lives in school, we need to ensure it is a safe environment where they can learn and grow," says Connett.

IPM can make schools safer by decreasing pest and pesticide risks for students, teachers, and other people who work in schools. Over time, the efficiencies in an IPM program can also save schools money, he says.

Long-term Savings

Initiating an IPM program may require repair and maintenance activities to prevent pest entry and to eliminate sources of shelter, food, and moisture. In the long-term, these repair and maintenance activities can reduce overall costs of the pest control operation, says Connett.

The Wyoming School IPM website http://www.uwyo.edu/ipm includes links and videos about pest biology and management. Data sheets, handouts, and recordkeeping forms can be downloaded and adapted to any facility situation.

For more information, contact Connett at jconnett@uwyo.edu or (307) 761-0960.

Ron Pulley, Champion of Agriculture

Ron Pulley passed away on June 28 after a lengthy illness. He was passionate about Wyoming, about UW, and about agriculture, and he dedicated not only his financial resources but all his time and energy to support the things he loved.

Ron and his wife Lynne first became involved with the UW College of Agriculture in 2004 when they were awarded a grant for meat research into the raising of yaks. In 2008, they funded a charitable gift annuity that supports graduate assistants in the Department of Animal Science, among other support.

Then in 2013, the Pulleys established the Ron Pulley Rapid Response Agricultural Research Fund. It funds applied agricultural research at the University of Wyoming addressing current issues faced by Wyoming agricultural producers. The goal of the fund is to respond quickly to producers' questions with timely science-based solutions.

For example, the fund supported a study of the economic importance of sheep production in Wyoming. The study found that Wyoming has a robust sheep industry—approximately 354,000 head in mostly large flocks throughout the state—and sheep production will likely remain a vital part of the state's agricultural economy for the foreseeable future.

Ron and Lynne have raised dogs, chinchillas, yaks, and Highland cattle, among other animals. Most recently, they raised rare mulefoot hogs, which are the descendants of pigs brought to the Americas by the Spanish in the 1500s. In mulefoots, the normally cloven hooves are fused into a single toe (syndactyl).

Ron and Lynne worked closely together and loved their animals. "You are not com-



Ron Pulley

In 2013, the Pulleys established the Ron Pulley Rapid Response Agricultural Research Fund. to fund applied agricultural research at the University of Wyoming addressing current issues faced by Wyoming agricultural producers. The goal of the fund is to respond quickly to producers' questions with timely science-based solutions. fortable leaving your 'children' with other people because you always are worried they are not being taken care of quite like you would," Ron said.

Ron attended the University of the Pacific to become a pharmacist, but when he found he preferred business and psychology classes to organic chemistry, he switched majors and earned a bachelor's in psychology. He said that what he learned from his degree was invaluable throughout his life.

He and Lynne met while at university. Throughout their lives, they lived in western Iowa, westerm Nebraska, Grand Junction, Colorado, Cheyenne, and then Huntley. Their livelihoods were in agriculture, and Ron also worked in banking.

Ron's agricultural advocacy extended far beyond UW's Laramie campus. He served as vice chairman of the James C. Hageman Sustainable Agriculture Research and Extension Center, which promoted innovation in agriculture. Ron was a member of Wyoming Leadership Education and Development (LEAD), which develops exceptional agricultural leaders. They were also awarded the College of Agriculture and Natural Resources Legacy Award in 2012.

Our deepest condolences to Lynne and the Pulley family.

If you would like to support the programs that Ron believed in so strongly, you can make a memorial contribution to the **Ron Pulley Memorial Fund**. Contributions can be made online at uwyo.edu/giveonline—make sure to enter the name of the fund in the box under Gift Designation. You can also call the UW Foundation during normal business hours at (307) 766-6300 or send a check payable to the University of Wyoming Foundation, 222 South 22nd Street, Laramie, WY, 82070.

AGAPPRECIATION Advocate champions agriculture at

An agricultural advocate at the state and national levels and whose roots are nestled against the western flanks of the Bighorn Mountains has received the Outstanding Alumni Award from the College of Agriculture and Natural Resources.

Ken Hamilton graduated in 1982 from the University of Wyoming with a bachelor's degree in animal science. He joined the Wyoming Farm Bureau Federation (WFBF) in 1983 and is now executive vice president.

"Every decision and action Ken makes

"Every decision and action Ken makes is led by his desire to keep the agriculture industry strong in Wyoming."

> Perry Livingston Wyoming Farm Bureau Federation President

is led by his desire to keep the agriculture industry strong in Wyoming," says Perry Livingston, WFBF president.

UW animal science Emeritus Professor Connie Kercher, who was a nominator, noted Hamilton's communication efforts.

"He does an excellent job keeping the members informed about current agricultural issues," says Kercher. "He is straightforward and honest. His most important role, in my opinion, is his lobbying effects in the Legislature."

Manderson-Hyattville High School Grad

Hamilton received an associate's of art degree in pre-law at Northwest College after graduating from Manderson-Hyattville High School. From 1980-1981, he participated in an exchange program between the American Farm Bureau Federation and Agricultural Investments of Australia.

Hamilton worked as a ranch hand on the family operation near Hyattville after graduation from UW, then joined the WFBF in 1983, and has been the executive vice president since 2004.

He's worked with state and national agencies and Wyoming legislators on behalf of the agricultural industry.

Legislators are used to being pressed by lobbyists, and rancher Mark Semlek, a 12-year member of the body – six as chair of the House Agriculture Committee – says he valued Hamilton's input. "I found over the years that Ken's experience, his diligent research, and understanding of the broad issues before our committee provided us with important and useful advice for directing policy and establishing laws that were in the best interest of Wyoming agriculture," says Semlek.

Trusted Advocate

He notes Hamilton's most valuable contribution at the legislature was his testimony to the committee and found him effective in working with other committee members and legislators who were not committee members.

"I also found Ken to be very helpful to me, and I sought his advice on how he believed legislation should be crafted that could affect the agriculture industry," he notes. "Ken has a broad base of education, experience, and interest, and he has been a premier supporter of agriculture in Wyoming for many years."

So also says Kermit Brown, current speaker of the House from Laramie.

"He was always well-versed on issues related to agriculture and was a strong and effective advocate for the agricultural community in general and Farm Bureau members in particular," says Brown. "Time and again, he was a timely and deep resource on issues we faced in the Legislature, and I personally found him to be a great reservoir of knowledge I could call on when I needed a deeper understanding on an issue."

Former legislator and rancher John Hines credits Hamilton's professionalism

OUTSTANDING ALUMNI

WEEKEND state, national levels

and honesty in the information he presented.

"Ken is the type of individual who represents his job, the university, and Wyoming in a manner that is very respected by those he comes in contact with," he says.

Positive Impacts Upon Wyoming

Few have served the agricultural industry as well as Hamilton, and his efforts have had strong, positive impacts on Wyoming, especially in agriculture, says Brett Moline, director of government and public affairs with the WFBF.

On state-level issues, Hamilton has ensured agriculture's views are heard and understood.

"He has made changes that have been very positive for Wyo-

ming farmers and ranchers, working to reduce potential negative impacts of governmental rules and regulations," notes Moline.

Nationally, Hamilton has diligently worked to have national policy that works as effectively as possible for Wyoming farmers and ranchers, he says.

"Ken has done a fantastic job making sure Wyoming farmers and ranchers are up to date on issues affecting them," notes Moline. "He uses every form of communication available to inform people and encourages involvement from those he serves."

Here is what others say about Hamilton:

• "His work with the agricultural community reflects an in-depth understanding

for the issues affecting agriculture and the ranching and farming professions." Mark

of the issues affecting agriculture and the ranching and farming professions." Mark Marquardt, emeritus of the Mountain West Farm Bureau Mutual Insurance Company

"Farm Bureau's purpose is to protect, promote, and represent the economic, social, and educational interests of America's agricultural people, not only at the state level but nationally as well. Ken's life and time at Farm Bureau have been truly dedicated to these principles." Dominique Giroux, office manager, Paragon Audit and Consulting, Denver.

Ag Appreciation Weekend Schedule

Friday, September 25 -

Dean's Dinner honoring this year's award recipients at the Hilton Garden Inn (by invitation only).

Saturday, September 26 -

The 2015 award recipients will be recognized during University of Wyoming vs. New Mexico football game. Kickoff is 1 p.m.

Ag Day Barbecue September 26

The Ag Day Barbecue that benefits College of Agriculture and Natural Resources student organizations is 10:30 a.m.-12:30 p.m. Saturday, September 26.

The annual event will be in the Wyoming Indoor Practice Facility at the southwest corner of the Fan Fest area under the Cowboy Joe Club tent.

Prices are \$12 for adults, \$5 for children 6-12, and ages 5 and under, free.

The kickoff of the Cowboys vs. Florida Atlantic football game is 1 p.m.



AG APPRECIATION

Graduate with deep Wyoming roots

A rancher who obtained his bachelor's degree from the University of Wyoming before World War II and continues to be involved in his family's ranching operations at 94 is a recipient of the Outstanding Alumni Award from the College of Agriculture and Natural Resources.

Charles "Bud" Christensen built a ranching enterprise that grew to include properties in Wyoming, Montana, and Nebraska and totals approximately 156,000 deeded acres. The ranches are operated by CJR Ranch, LLC, a successor to what was originally CJR

"Bud's long, successful career as an agricultural producer is a tribute to his own abilities as well as to the education he received in the College of Agriculture"

> Jim Magagna Executive Vice President Wyoming Stock Growers Association

Christensen Ranches, named for Charles and his daughter and son, Janet and Robert.

He's a sought-after resource for not only livestock and ranching but also mineral industry issues.

Bob Innes of Innes Ranch in Campbell County says Christensen is one of the most informed persons he knows on agriculturalrelated issues.

"Very early in my profession, I learned that Bud was one of the most intelligent and informed individuals I would ever meet," he says. "As a result of that understanding, I knew I should listen well when Bud was visiting with me. I was never disappointed."

Graduates Early

Christensen entered UW at age 16 and was a three-year letterwinner in swimming and diving. He graduated with honors at age 20. His father, Fred, had built the Gillette ranch to 65,000 acres. Christensen and his brother split the ranch in the 1960s and after developing his own Gillette operation, he began adding additional places.

"My granddad is part of a generation who worked hard and built Wyoming," says grandson Mark. "They set high expectations, worked hard, and lived their lives with integrity."

His grandfather had the vision to develop a vertically integrated operation across three states, he says.

All calves are brought back into the herd as replacements or fed in a retained ownership program for the packer market, notes Brett Befus with the University of Wyoming Foundation, who supported the alumni award nomination. Years ago, Bud Christensen was driving on the road to his ranch and stopped for a minute to visit with fellow rancher Bob Innes.

Innes relates he asked Bud, "Why aren't you golfing or fishing or taking a vacation?" His response was, "I'm doing what I enjoy and doing what I know best. I have too much to get done to take time for those things."

Heifer and bull calves from all ranches are shipped to the South Loup River Ranch near Broken Bow, Nebraska, in the fall. The best are developed into replacement heifers and herd bulls for the cattle operation. Cull heifers and steers are sent to commercial feedlots for finishing.

The majority of the herd is Salers and Angus crossbreds.

Still Contributes to Operations

Though ranching operations have been continued by Mark's father and aunt, "The success of the ranches lies with Bud," Mark says. "To this day, at 94 years of age, he is still involved in the day-to-day operations of the ranch. He still pays the bills and handles the financial matters of the Christensen Ranches."

Christensen insisted that even though there were monies derived from mineral development, the ranches always operate as a separate enterprise that make their own ways, says Mark.

WEEKEND

continues contributions to state

Christensen served as director of the American Salers Association from 1983-1988 and received the association's President's Award in 1996. He was named an honorary member in 2002 because of his early use of the Salers breed and his two terms of service to the board of directors, says Jim Wilson of V Ranch near Thermopolis.

"Bud has provided more carcass information on the Salers breed than any other producer in the nation," notes Wilson. "He continues to promote the maternal aspects and range utilization capabilities of Salers and has been featured in testimonial advertisement for the American Salers Association."

70-year member of Stock Growers

He's also a 70-year member of the 143-year-old Wyoming Stock Growers Association. The membership boasts three generations of his family, says Jim Magagna, executive vice president of the association.

"Bud's long, successful career as an agricultural producer is a tribute to his own abilities as well as to the education he received in the College of Agriculture," notes Magagna in his nomination.

His success can be measured by the number of distinct ranches he has brought together in a vertically integrated operation, Magagna says. "However, a better measure may be his effectiveness in integrating family members from multiple generations into the business. There is no lack of words to describe Bud Christensen. Perseverance, determina-



Charles "Bud" Christensen

tion, foresight, strategist, and risk-taker all come quickly to mind."

Christensen has become a respected expert on oil and gas leases and surface use agreements, notes Mark.

"He was one of the first landowners in Wyoming to negotiate annual surface use damage payments as opposed to just a onetime flat fee. In later years, Bud was asked for his advice on oil and gas development negotiations by many in northeast Wyoming."

He gained a reputation for his fairness and integrity.

"There is no lack of words to describe Bud Christensen. Perseverance, determination, foresight, strategist, and risk-taker all come quickly to mind."

Jim Magagna

"I remember being told by an individual from whom we acquired a ranch that they were amazed at how my granddad negotiated the deal and his focus on fairness," says Mark. "My granddad's concern was the long-term relationship and how they would get along on the street in later years, Wyoming being the small state it is."

OUTSTANDING ALUMNI

AG APPRECIATION

Lifetime achievement award recipient sets high standard

Choose any standard – total research money, total patents, graduate student advisees, publications, presentations – and Professor KJ Reddy is esteemed.

This year's Andrew Vanvig Lifetime Distinguished Faculty Achievement Award recipient joined the University of Wyoming as a postdoctoral fellow in the Department of Geology and Geophysics and went about quietly building a national and international reputation.

"The breadth and depth of Dr. Reddy's research is extraordinary," notes Professor Scott Miller, head of the Department of Ecosystem Science and Management. "He has contributed significant research to a range of critical areas, including soil shale, acid mine drainage, nitrates in drinking water, coalbed natural gas co-produced water quality, and arsenic to name a few. KJ possesses a rare, keen intellect and willingness to embrace new research challenges and provide key insight into topics relevant to both human and environmental health."

Professor Emeritus Steve Williams first knew Reddy as a finishing Ph.D. student at Colorado State University. CSU's Willard Lindsey called Williams to say Reddy was considering a temporary position at UW.

"Willard at that time was one of the really noteworthy environmental chemists in the world," says Williams. "He strongly supported Dr. Reddy's application and indicated that, should we hire him, we would never be disappointed.

"Willard Lindsey's words were understated."

Arsenic Removal Expertise

28

Reddy's educational contributions to the University of Wyoming have been tremendous, notes Miller. "He has been recognized, rightfully so, as a master teacher, and his classes routinely draw students from across campus," says Miller. "His ability to effectively deliver complex material in an understandable way sets him apart, and he extends his time outside the classroom to supporting students who need additional work."

Reddy studies natural resource issues that pose major challenges to maintain sustainable ecosystems. Major research topics include removal of arsenic from groundwater, mineralization of industrial flue gas components, and geochemistry and management of produced water from energy resource extraction and energy production processes.

His interdisciplinary research approaches have attracted more than \$25 million in funding as principal and co-principal investigator. He has advised 28 master's and seven

"Dr. KJ Reddy's work in soil and water chemistry has enhanced all of our teaching, research, and outreach endeavors in our department, in the college, and, to a degree, in the university"

Department Head Scott Miller Ecosystem Science and Management Ph.D. students. He has served as a graduate student committee member for 44 master's and 12 Ph.D. students from four different colleges across campus. He has employed 10 postdoctoral fellows and six research scientists and also advised and trained more than 50 undergraduates in his water quality laboratories.

Prolific Publications

Reddy's research groups published more than 50 refereed journal articles, several invited book chapters, conference proceedings, and abstracts. He also edited an invited book on coalbed methane-produced water.

His group has given 114 UW presentations, 112 state and regional presentations, and 159 presentations at energy and environmental conferences and workshops. Reddy has given 79 presentations at international energy and environmental conferences and workshops in 19 countries.

"We have never been disappointed and, on the contrary, Dr. KJ Reddy's work in soil and water chemistry has enhanced all of our teaching, research, and outreach endeavors in our department, in the college, and, to a degree, in the university," says Williams.

His arsenic removal research has achieved international recognition.

Arsenic exists in nature and often in water at almost imperceptible levels, notes Williams. Arsenic accumulates in plants and animals and manifests its toxicity later in the life of the organism.

Reddy devised an innovative way to remove arsenic from, among other sources, drinking water, says Williams.

"His discovery has the promise of making potable waters from around the planet at surprisingly economical levels," he notes.

WEEKEND

of excellence



KJ Reddy

Teaching Skills Praise

Several of his graduate students were recognized with UW outstanding thesis awards and James B. Warner American Water Works Association awards for research and publications.

Williams notes Reddy's teaching skills.

"He is a skilled instructor and has that talent of being able to present complex materials and concepts, often in an applied manner that resonates with students and colleagues alike," he says.

Reddy has received UW's highest distinguished teaching honor, the George Duke Humphrey Distinguished Professor Award, in addition to the John P. Ellbogen Distinguished Teaching Award and the Agricultural Experiment Station Outstanding Researcher Award.

"With outstanding accomplishments in all areas of his work – teaching, research, service, and extension – Dr. Reddy has demonstrated how to build an exemplary career at UW," says Miller.

NT AWAI

Legacy Award recipient enhances lives of Wyoming citizens

Helping extend resources of the College of Agriculture and Natural Resources to Wyoming citizens has drawn the John P. Ellbogen Foundation the college's 2015 Legacy Award.

The foundation last year announced an endowment that, when matched by the state, should total about \$700,000 and generate \$30,000 a year for projects by UW Extension educators to energize and extend the vision of the foundation and UW across the state.

The endowment is fueling "The John P. Ellbogen Foundation Wyoming Communities, Agriculture, and Rural Living Project Fund." The foundation seeks to cause or create change to benefit the people of Wyoming in support of science, education, and charity.

Extension has offices in every county and the Wind River Reservation.

A committee will determine project recipients through a competitive process, notes Glen Whipple, UW Extension director, who adds this may be the first such funding of its kind for UW Extension.

"It's not often you get a gift like this, providing substantial funding for new and innovative projects in extension and are told to just go and do the things you normally do," says Whipple.

John Ellbogen was born and raised in Worland and was the first in his family to receive a college degree. He received a degree in history and later a juris doctorate from UW. His philanthropy focus was education.

The foundation seeks to make a statewide impact, says Mary (Ellbogen) Garland, president and chair of the foundation.

"We're excited to serve the people of Wyoming through opportunities identified as priorities in local communities that will enhance the quality of life for their citizens," Garland notes. "It will be rewarding to see how the work done in the extension offices will build on the vision of the foundation as well as that of the university."

JPE JOHN P. ELLBOGEN FOUNDATION

AGAPPRECIATION ANADARKO PETROLEUM 2015 Research Partner of Year recipient

A long-time contributor to research and outreach programs at the University of Wyoming has been selected to receive the Outstanding Research Partner Award from the College of Agriculture and Natural Resources.

Anadarko Petroleum Corporation is one of the largest energy companies in Wyoming in terms of lease holdings and production and was the largest oil producer in the state in 2014.

The company is also the largest private landholder, with approximately 4.2 million acres of private mineral holdings and 1.2 million acres of surface holdings formerly associated with the Union Pacific land grant.

"Anadarko contributes greatly to natural resource issues and reclamation science in Wyoming, as evidenced by its being awarded the Wyoming Game and Fish Department's Landowner of the Year in 2007," says Jeff Beck, an associate professor in the Department of Ecosystem Science and Management and nominator.

The company has helped fund several research studies through the college, including those by Beck.

The company is also the largest taxpayer in Wyoming – averaging almost \$1 million per day in taxes and royalties to state and local governments since 2002. Beck notes the company has invested more than \$3.2 billion in capital investments in Wyoming since 2002.

The company's commitment to research and outreach is demontrated in the following initiatives, spread across the UW campus.

- Awarded \$1.6 million to the School of Energy Resources to create the Anadarko Fellowship for Excellence in Energy Scholarship for graduate students
- Is one of a consortium of energy companies funding the Mitigation Opportunity Mapping tool through the Petroleum Association of Wyoming. The tool involves mapping disturbances within 2

ANADARKO INVOLVEMENT ACROSS CAMPUS

Several University of Wyoming programs and departments have been involved with Anadarko's research efforts.

They include the Department of Ecosystem Science and Management and Wyoming Reclamation and Restoration Center (WRRC) in the College of Agriculture and Natural Resources, the Wyoming Geographic Information Science Center, and the Wyoming Natural Diversity Database.

Colleen Faber of Anadarko is participating in the vegetation task force with which the WRRC has been involved. The group is working to bring more consistency to reclamation monitoring methods used in Wyoming. Dennis Ellis, Anadarko's government relations adviser for Wyoming, serves on the College of Agriculture and Natural Resources Board of Advisors.



miles of all sage-grouse leks in Wyoming. The maps include annual lek count data to assist in monitoring local sage-grouse population responses to disturbances and restoration activities.

• Funded more than \$1 million of research for the management of the Fortification Creek elk herd in northeast Wyoming as part of adaptive management with the state and the Bureau of Land Management.

That effort has included funding \$129,000 as part of a study conducted by a Ph.D. student advised by Beck.

Since 2008, Beck and colleagues received \$630,181 to conduct research on:

- Sage-grouse (Atlantic Rim), elk (Fortification Creek), and pronghorn (Red Desert) response to environmental features and energy development structures characterizing their habitats
- Impacts of ravens on sage-grouse populations (Atlantic Rim and southwest Wyoming – collaboration with Utah State University)
- A new study that seeks to evaluate the influence of fall hunter-harvest on range-wide sage-grouse population trends.

Beck says these funds have supported one postdoc, two Ph.D. students, and two master's students and led to nine journal articles published and several in various stages of revision or preparation.

PROGRAM NOTES



Anna Scofield

Agricultural and Applied Economics

Anna Scofield, a former wildland firefighter and a 2014 master's graduate of the department, received the national top thesis award from the Agricultural and Applied Economics Association for her research into fire suppression costs.

Her thesis suggests the spatial pattern of development in the Wildland Urban Interface (WUI) can be just as effective reducing fire suppression costs as policies that restrict all development, says Associate Professor **Don McLeod**.

"Such results provide important fodder for the ongoing policy debates surrounding the WUI, especially in the West where private property rights are closely guarded," he says.

The U.S. Forest Service bears most of the responsibility for fire suppression but has no control over residential development, which is the responsibility of local governments. Scofield's work provides theoretical and empirical models that relate fire suppression efforts to residential development in ways previous research has not, says McLeod.

Scofield worked 10 years as a wildland firefighter prior to pursuing her graduate degree. "She brought a wealth of personal experience and technical on-the-ground knowledge to the research," notes McLeod. "It was her unique perspective that led us to focusing on the spatial pattern of development."

Scofield, who now lives in Klamath Falls, Oregon, received the 2013 Vanvig Graduate Fellowship in the department and the Wyoming chapter of Gamma Sigma Delta honor society's master's student award in 2014.

Animal Science

Caleb Boardman joined the department in May as the livestock judging coach. A native of Frannie in northern Wyoming, he graduated from Rocky Mountain High School and attended Coffeeville Community College in Coffeeville, Kansas, then obtained his bachelor's degree in agricultural business and his master's degree in animal science with a ruminant nutrition emphasis, both from Texas A&M University. He competed on livestock judging teams at both institutions. His father, Russ, was the livestock judging coach at Northwest



Caleb Boardman

Community College in Powell for 18 years.

Several students are new members of the American Society of Animal Science.

Seniors: Rachel Balcom, Cheyenne; Brittany Hamilton, Osage; McKensie Harris; Marley Mardock; Eilise Patrick, Laramie; Brittney Rodgers, Laramie. Juniors: Jacob Chaloupka, Saint Charles, Illinois; Cole Foreman; Mary Lenz, Holyoke, Colorado; Jonathan Miller; Brandt Mortensen, Sanford, California; Katelyn Newman, Elbert, Colorado; Hannah Shoults; Laura Strohecker, Casper. Sophomores: Erin Bentley, White Sulphur Springs, Montana; Erin Hansen, Laramie; Kelly Munson, Houston, Texas; Melanie Whitmore, Bear River, Utah.

4-H'ers from across Wyoming competed in meat judging competition in April, hosted by the UW Meat Laboratory, which is managed by **Kelcey Christensen**.



Professor John Tanaka

Ecosystem Science and Management

Professor John Tanaka stepped down as department head July 1 and assumed duties as the associate director of the Wyoming Agricultural Experiment Station and director of the James C. Hageman Sustainable Agriculture Research and Extension Center (SAREC) near Lingle.

He will also work with the Powell Research and Extension Center until a permanent director is hired. Tanaka says he has thoroughly enjoyed his time "leading the best rangeland ecology and management program and working with faculty and students in rangeland ecology, watershed management, soil science, and entomology." He wishes everyone in the department well and best wishes into the future. Members of the

PROGRAM NOTES



Rachel Mealor

department are working with the dean to select the new department head.

Karen Vaughan has accepted the soil pedologist position in the department and comes from a teaching position at California Polytechnic University - San Luis Obispo. Her research seeks ways to improve soil survey techniques and efficiency and the hydromorphology and biogeochemistry of hydric and hydromorphic soils. She has bachelor's degrees in wildlife conservation and entomology from the University of Delaware, a master's degree in soil science from the University of Maryland, and a Ph.D. in soil science from the University of Idaho. Besides teaching at Cal Poly for the past four years, she has also been a Natural Resources Conservation Service soil scientist in the Snow Survey Program and Soil Climate Analysis Network.

Rachel Mealor, extension rangeland specialist, resigned her position and has moved to a parttime position in the UW Extension Office of Communications and Technology, where she will continue to work on rangeland related websites.

Congratulations to Alexandre Latchininsky on his promotion to professor and to Scott Schell on his promotion to senior research scientist. Alex is a world-renowned grasshopper and locust expert. Scott has been the point person on several Wyoming-based entomology projects.

Congratulations are in order to students recently recognized by the Gamma Sigma Delta agriculture honorary: Tevyn Baldwin was the Outstanding Sophomore, Samantha Day the Outstanding Master's Student, and Helmuth Aguirre the Outstanding Ph.D. Student. Tevyn is a double major in rangeland ecology and watershed management and agricultural business management, Samantha completed her master's in soil science, and Helmuth is a Ph.D. student in entomology.



Jackie Barcal and Enette Larson Meyer

Family and Consumer Sciences

Jackie Barcal, who is completing her master's in food science and human nutrition, has received a \$2,500 Graduate Student Research Grant from the Sports, Cardiovascular and Wellness Nutrition (SCAN) Dietetic Practice Group to work on her thesis research.

Her project is titled "Vitamin D: Impact on Infection Risk, Inflammation, and Illness in Collegiate Wrestlers," says Associate Professor **Enette Larson Meyer**.

Barcal, the sports nutrition graduate assistant for UW Athletics, presented some preliminary findings at the SCAN Symposium May 1-3 in Colorado Springs. She received first place in the poster contest.

The annual SCAN Graduate Student Research Grant provides



Jennifer Harmon

\$2,000 to defray research study expenses such as study supplies, laboratory fees, equipment, and participant remuneration. Barcal hopes to become a certified specialist in sport dietetics and be hired by a Division I university as a full-time sports dietician.

Assistant Professor **Jennifer Harmon** joined the department in January. She taught global textiles last spring and modern society online this summer and is teaching two classes this fall – housing, and visual merchandising and promotion. She obtained her bachelor's degree in family and consumer sciences (fashion and retail specialization) from Illinois State University. Her master's and doctoral degrees in human sciences are from The Ohio State University.





Assistant Professor Jason Gigley

Molecular Biology

The American Association of Immunologists has named Assistant Professor **Jason Gigley** one of 10 AAI Public Policy Fellows for 2015-16.

The program engages postdoctoral fellows and junior scientists in public policy activities that affect biomedical research. Gigley says he is honored by the selection. "Generating public support, improving government policies, and increasing funding for biomedical research are critical for preventing and treating disease," says Gigley, whose research investigates the molecular mechanisms regulating cellular immune responses to the parasite *Toxoplasma gondii*.

He notes he can become a better advocate for the importance of biomedical research and federal funding at the local and national level.

"Having scientists involved

in discussions that influence these decisions is very important because we can provide a reallife perspective on how funding policies directly impact our work and affect long-term biomedical outcomes," he says. "My hope is that by participating in this important program, I will learn how to help my fellow scientists better understand policy making and better voice their opinions to facilitate stronger support for biomedical research at all levels."

Plant Sciences

Matt Wallhead joined the department in June as an assistant research scientist in plant pathology. Assistant Professor Brian Mealor accepted the directorship of the Sheridan Research and Extension Center but will retain his faculty appointment in the department.

Professor **Robin Groose** announced his retirement in June after nearly 28 years at the University of Wyoming. Although he will enjoy the freedom of retirement, he also looks forward to increasing and releasing seed of varieties of his Wyoming-bred winter peas, continued service on graduate committees, and making other contributions to agricultural research and education.

In May, two of our seniors, **Preston Talbert** and **Daniel Adamson**, presented talks at UW's undergraduate research symposium held on campus.



Dhruba Dhukal

Those two seniors were joined by four Sheridan College students working with Assistant Professor **Sadanand Dhekney**.

Students who defended their graduate work this past spring semester included Dhruba Dhakal (Ph.D.), Parmeshwor Aryal (master's), and Albert Adjesiwor all from Associate Professor Anowar Islam's program. Cara Noseworthy and Will Rose (both master's students) graduated from Assistant Professor Brian Mealor's program. In addition to recognition here at UW, Dhakal was recognized as one of 20 students nationwide by the Crop Science Society of America as the University of Wyoming's Gerald O. Mott Meritorious Graduate Student in May.

Graduate students in weed science were recognized for their research and presentations at two professional meetings early this year. In Sacramento at the Society for Range Management conference in February, **Julia Workman** achieved first place in the master's competition for her presentation on targeted grazing of Dalmatian toadflax and Geyer larkspur.

In March at the Western Society of Weed Science meeting in Portland, Oregon, grad student **Thomas Schambow** was awarded first place for his presentation "The effects of simulated weed canopies on *Beta vulgaris* growth." A presentation by **Will Rose** on novel methods for removing cheatgrass contaminants from reclamation seed was awarded third place at the same meeting.

Assistant Professor **Randa Jabbour's** introductory agroecology course students presented 25 posters during two class sessions in May. The sessions were confined to one hour, and each day the class was filled with students, faculty, and guests, and an energy level, he says, that nearly exhausted the department head, Professor **Jim Heitholt**.

Karen Panter successfully launched the Wyoming chapter of the Horticulture Honor Society Pi Alpha Xi. Panter serves as the Society's national president.

Andrew Kniss, Bill Stump, and Jabbour were recognized by Wyoming Sugar Company for their research and related projects that have helped the sugarbeet producers in Wyoming.

PROGRAM NOTES

Wendy Cecil coordinated the agronomy contest of the Wyoming FFA Career Development Events. Several graduate students including Casey Seals, Tim Gergeni, Vijaya Raj Joshi, Austen Samet as well as Scott Schell, Ethan Walter, Leslie Montoya, and Andy Burkhardt, contributed time to help make this contest a success.

Dhekney gave a talk at the Sheridan county Master Gardener program in April and organized a grape production workshop with **Jeremiah Vardiman** at the Powell Research and Extension Center, which was attended by 26 people. Dhekney hosted a Borlaug fellow from Egypt and a Fulbright fellow from Kyrgyzstan this summer, in addition to five research interns who will work at the Sheridan Research and Extension center (SAREC).

Agricultural Experiment Station

There have been several recent changes in the Agricultural Experiment Station, notes **Bret Hess**, associate dean for research and AES director. Professor **John Tanaka** is replacing Professor **Gary Moss**, who is retiring, as AES associate director, and is the director of the James C. Hageman Sustainable Agriculture Research and Extension Center near Lingle. He will also work



Professor John Tanaka

with the Powell R&E Center until a permanent director is hired.

Jim Freeburn, SAREC director of operations, stepped down to begin working full-time for the Western Sustainable Agriculture Research and Education program. He will be based in the Goshen County office of University of Wyoming Extension in Torrington.

The Wyoming Agricultural Experiment Station is celebrating 100 years of serving Goshen County. The 2016 SAREC Field Day in Lingle may include presentations by former AES staff and faculty members on the history and importance of the experiment station in Goshen County.



Jeremiah Vardiman



Kenzie Krinkee



Jeremiah Vardiman joined the Park County Extension staff in January as the Northwest Area extension educator for agriculture with emphasis in crop science. Vardiman has a master's of arts in education with emphasis in science and a bachelor's in biology with emphasis in environmental studies, both from Chadron State College in Chadron, Nebraska. This position provides educational programming to small-acreage landowners and support to area Master Gardener programs in addition to agricultural producers.

Kenzie Krinkee began in January with the Teton County extension team as the 4-H youth educator. Krinkee received a bachelor's in equine science with a minor in business administration from Colorado State University in May 2014. She completed a 4-H internship during the summer of 2014 with



Jordan McCoy

the Adams County Colorado Extension Service.

Jordan McCoy began in January as the West Area extension educator for nutrition and food safety. The position is based in Teton County. McCoy, who grew up in northern Wyoming, received a bachelor's degree in exercise and sports science from the University of Wyoming in 2002. She received a master's degree in kinesiology with emphasis in



coaching in 2004 from Georgia Southern University in Statesboro, Georgia. McCoy graduated with a second bachelor's degree in dietetics from Kansas State University in December 2010. She completed a dietetic internship at Idaho State University in 2012. She is a registered and licensed dietitian.

Academic and Student Programs

The general education program for all University of Wyoming students is changing beginning in the Fall 2015 semester, notes Professor **Donna Brown**, associate dean and director of the Office of Academic and Student Programs.

"One of the most exciting components of the new program

is the First Year Seminar," she says. "Students will be able to pick a topic related to their major, or they can choose a topic based on any number of individual interests. They will be learning from an exceptional group of faculty and staff members, who will help them develop their research and critical thinking skills in small-group settings."

Departments in the College of Agriculture and Natural Resources are offering seven different First Year Seminars this fall. Topics range from "The Neanderthal and the nucleus; the molecular biology of being human" taught by **Naomi Ward**, associate professor in the Department of Molecular Biology, to "Eating as an agricultural act" offered by **Randa Jabbour**, assis-



Donna Brown

tant professor in the Department of Plant Sciences.

Ward's students will explore molecular biology studies of human evolutionary biology and cell biology, how these studies are altering our concept of human identity, and the controversial ethical issues in these fields. Jabbour's class can look forward to learning about the connections between eating and management of agricultural land. They will begin their journey at the supermarket.

There are five other First Year Seminar offerings, including:

- "Public (mis)perceptions of agriculture" by Dannele Peck, associate professor, Department of Agricultural and Applied Economics;
- "One health: People, animals, and the environment – zero degrees of separation" being taught by Todd Cornish, professor, Department of Veterinary Sciences.

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 "Feeding the planet: mankind's greatest challenge" by Professor Rich McCormick offered by the Department of Animal Science.

The Department of Family and Consumer Sciences will offer two First Year Seminars: "People, place, profit and policy – sustainability and well-being in the built environment" taught by Treva Sprout Ahrenholtz, associate lecturer, and a course being taught by Associate Professor Enette Larson-Meyer that will explore healthy eating within the framework of national dietary guidelines and local food systems.

"Our new students will have an exciting list of topics to pick from for their First Year Seminar beginning in the fall," says Brown. "The hope is to engage our new freshman class in hands-on learning and help them learn and develop new skills they will use throughout their baccalaureate experience."

AG APPRECIATION WEEKEND



Look for details on the College of Agriculture and Natural Resources website

www.uwyo.edu/uwag

COWBOYS VS NEW MEXICO