

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

# AG NEWS

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**College recognizes  
award recipients during  
Ag Appreciation Weekend,  
page 4.**



COLLEGE OF  
AGRICULTURE AND  
NATURAL RESOURCES



Dean Frank Galey

“ Travel, in the younger sort, is a part of education; in the elder, a part of experience. ”

Francis Bacon

Dear Friends and Colleagues,

One of the stories in this Ag News highlights a new, international faculty-led study opportunity to Australia. The program will introduce students to Australia’s livestock production systems and global marketing strategies. As exciting as this study trip sounds, it is just one of many opportunities for our students to study abroad.

Encouraging our students to experience other cultures and gain a broader appreciation of the global nature of today’s world is an important focus for the college. UW is fortunate to have study abroad opportunities covering six continents and ranging from short-term, faculty-led study programs to semester-long programs.

To help our students financially, the college offers grants through the Beyond the Classroom program. This year the program awarded grants to 24 students. Programs represented a broad spectrum of interests and countries. They included studying sustainability and renewable energy in Iceland; a semester-long program at the University of Queensland, where the student hopes to gain an understanding of Australia’s approach to natural resource management; a textiles field study of Scotland, London, and Paris; studying European agriculture in France; examining soil health and profitability in the Canary Islands; animal behavior in Ecuador; and a summer-long research lab experience at Arcadia University in Ireland.

Students are asked to write an essay upon their return, sharing what they learned from their experiences. Perhaps the reason I am passionate about this program is best summarized by **Kathryn Bolton’s** essay. Kathryn, who spent a semester in Brisbane, Queensland, Australia, shared:

“To fit everything I have gained from this experience into an essay is impossible! Not only have I grown in my academics, I learned so much outside of the classroom and made memories that I will forever remember. I was also able to inspire others to study abroad. Two of my housemates in Australia are now in China for a semester. As one of a few Americans ... there (at the time), I was able to act as a good ambassador for the United States and for Wyoming.”

**Erin Rooney** participated in a natural resource management course to Patagonia, Chile. She shared:

“As a first-time international traveler, I felt completely lost at the start of this trip. Fortunately, my fears did not stand a chance against my experienced and confident fellow students ... It took Chilean soils an impressively short amount of time to completely confound me. Having recently taken soil pedology, my skills were immediately put to the test. Acidic soils? Where climate did not dictate acidic soils?! I dug many soil pits, hoping to understand how climate was shaping the formation of these acidic soils. I found many beautiful soil profiles, requested digging permission in shaky Spanish to native speakers, and performed analysis under time constraints. It’s easy to get caught up in the excitement of soils and forget the multitude of far-reaching effects escalated by soil management choices. This course has further ingrained in me the necessity of communicating and understanding those effects on an international scale.”

Departments are currently discussing academic and curriculum goals for the next five years. Many of these plans will include a stronger emphasis on internships and study abroad opportunities. Consequently, we will be working with donors to increase funding for Beyond the Classroom. When you make a gift to the college this year, please consider directing that gift to this worthwhile program.

Dean Frank Galey  
College of Agriculture and Natural Resources

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# Ag Appreciation Weekend



Dean Frank Galey recognized college award recipients during halftime of the UW-UC Davis football game last fall. Above with Cowboy Joe and handlers, from left, McKenzie Hatch and Taryn Chapman, are Galey, Legacy Award recipient John Hines, Amy Hendrickson, and Dave Neves representing the Wyoming Wool Growers Association, which received the Outstanding Research/Partner Award, and Outstanding Alumni Award recipients Bill Gross and Doug Miyamoto. Visit [bit.ly/2016ag](http://bit.ly/2016ag) to view more photos.



## Student Support

The Ag Day Barbecue raised more than \$7,800 for the scholarship funded by the event and for student agricultural organizations. The Food Science Club prepared the food, and members of ag student groups volunteered to serve. To view more photos, visit [bit.ly/2016barbecue](http://bit.ly/2016barbecue).

# Research finds first evidence of white-tailed deer declines from CWD

Chronic wasting disease has caused significant declines in east-central Wyoming white-tailed deer populations, according to research published by University of Wyoming scientists.

Chronic wasting disease (CWD) is a prion disease of deer, elk, and moose found in 24 states and two Canadian provinces.

The research, led by recent UW Ph.D. graduate David Edmunds under the direction of Associate Professor Todd Cornish in the Department of Veterinary Sciences is the first conclusive evidence CWD found at high prevalence leads directly to population declines in free-ranging deer populations.

The findings, published in the scientific journal *PLOS ONE*, provide new information that could influence management of this continually expanding disease.

“Chronic wasting disease has likely been present in southeast Wyoming deer and elk populations for approximately 50 years,” Edmunds says. “It has been steadily increasing to the point that some hunt areas are seeing populations with as many as 30 percent to almost 50 percent of harvested deer testing positive for this disease.”

From left, Associate Professor Todd Cornish, graduate students David Edmunds and Melia DeVivo use telemetry to find radio-collared deer in a chronic wasting disease study.

(Todd Cornish Photo)

For eight years, he and his colleagues tracked white-tailed deer east of Casper to determine if CWD itself can cause population numbers to decline by increasing mortality of deer annually.

“We found that CWD drastically reduced annual survival rates in the deer population, especially in females,” Edmunds says.

Working as a graduate student under Cornish in the Wyoming Wildlife/Livestock Health Center in the Department of Veterinary Sciences, Edmunds and colleagues captured both female and male fawns on their winter ranges to test whether they had CWD; pregnancy tested females; and marked all deer with radio transmitters attached to collars for tracking.

Deer were tracked throughout the year and captured annually to retest for CWD. A variety of data were collected, including survival and pregnancy rates, number of fawns seen alongside does in late summer, and CWD prevalence. All of these were used to determine the population growth rate — which is by how much the population size varies from one year to the next.

The researchers found that over the study period from 2003-10, the population declined 10 percent annually, which they say could lead to localized extinctions in less than 50 years.

“The decline was caused directly by CWD lowering annual survival of female deer, which have the biggest impact on population growth rates,” Edmunds says. “This was because CWD-positive deer died both directly from the disease and were more likely to be killed by hunters than CWD-negative deer.”

Cornish says the findings highlight the importance of preventing CWD from spreading into new deer and elk populations.

“We really do not have any effective strategies to manage CWD once it becomes established in landscapes and in populations,” he says. “Now that we know CWD causes populations to decline once the disease reaches significant levels in deer, this is a disease to be taken very seriously, with more research on control and prevention strategies warranted.”

Edmunds and Cornish are two of the co-authors of the report, along with a collaborative team of researchers from the Wyoming Cooperative Fish and Wildlife Research Unit, the Wyoming Game and Fish Department, UW’s College of Agriculture and Natural Resources, and Texas A&M University.

To read the article summarizing the research in *PLOS ONE*, go to [bit.ly/cwddeer](http://bit.ly/cwddeer).



David Edmunds performs a tonsil biopsy on a white-tailed deer to test for chronic wasting disease. He and other UW researchers have documented the first conclusive evidence CWD found at high prevalence leads directly to population declines in free-ranging deer populations. (Todd Cornish Photo)

# TO THE FRONT OF THE CLASS

## Plant sciences master's students shoulder adjunct professor roles in Powell, Sheridan

West of those magnificent Bighorn Mountains that form an apostrophe in north-central Wyoming, graduate student Austen Samet would park her black pickup truck in a parking spot behind the Northwest College greenhouse in Powell on Mondays, Tuesdays, and Thursdays.

She begins prepping at 8 for her 9 a.m. agroecology students.

East of those mountains on Tuesdays and Thursdays, Clay Wood would stride the sidewalk from his graduate student office in the Watt Agriculture Building on the south end of the Sheridan College campus to the Science Center to prep for teaching his 1 p.m. range management classes.

Being a graduate student AND an adjunct professor is about as common as a green August in Wyoming. Many graduate students are required to have some type of teaching

experience (teaching assistantships), but for those whose master's degree tracks emphasize research, like Samet and Wood, classroom experience isn't usually required.

## Learn Valuable Life Skills while Teaching

But teaching can add tools to a student's skillset. Samet adviser Gustavo Sbatella says standing in front of people and delivering a talk for a class or even at a job interview is an important skill.

"Teaching is not just delivering a lecture," says Sbatella, an assistant professor and irrigated crop and weed specialist at the Powell Research and Extension Center (PREC) about a mile up the road from NWC. "There are a lot of challenges that are good for any student. Austen has a chance to have that opportunity."

Wood and Samet's paths to flipped classrooms have common themes. Each moved from major to major to eventually settle on plant sciences.

Each had received undergraduate degrees and each had worked prior to entering master's programs.

California girl Samet grew up at the edge of Petaluma surrounded by dairies, chicken farms, and lots of horses. She seemed on an animal science track and had declared that major when she enrolled at Oregon State University.

The choice didn't feel right. She recalls she's not sure what took her over to the ag department but says she became interested in those courses and the jobs after college and switched.

Samet was recruited into the ROTC program at OSU (the signing bonus and pay for college were top considerations) and would earn her degree from OSU. She worked in a soil physics lab in Salem, Oregon, and as a trail guide and packer in the Sierra Madre Mountains, killing time before beginning a six-month Army training course.

She visited the Powell area with a friend and eventually accepted a research job at PREC.

## Opportunity Knocks in Ag College Halls

Plant sciences department head Jim Heitholt saw Samet when she was visiting the UW campus and said he had a great opportunity for her – applying for the adjunct professor job at Northwest College. She did and was accepted.

She is on track to finish her degree this year.

NWC has always had a good relationship with UW's College of Agriculture and Natural Resources,



Austen Samet adjusts lights used for student projects in the Northwest College greenhouse.

says Vern Dooley, head of the agriculture department at NWC.

“Having the research and extension center right outside of town is very helpful to us,” says Dooley, in his second stint as department head. NWC plant and soils Associate Professor Micah Humphreys collaborates with the PREC researchers and knew Samet. Humphreys is on sabbatical, which opened a need for an adjunct professor.

Dooley says an adjunct professor has to know the content but perhaps most importantly want to teach.

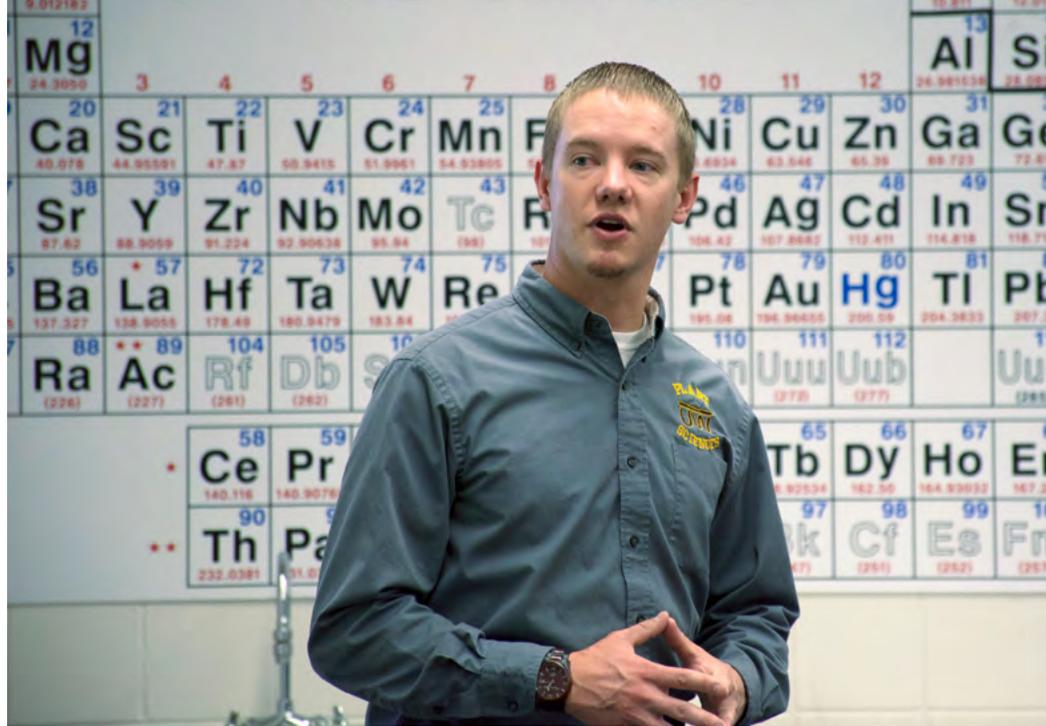
There are those excellent in their fields but who can't teach.

“You have to want to impart the information and particularly to freshmen and sophomores who are not intelligent consumers of information; they're not sure why they need to know the information,” he says. “You have to relate the importance of why they should know.”

Brian Mealor, director of the Sheridan Research and Extension Center (ShREC) and who had taught in the plant sciences department at UW, guided Wood toward the Sheridan College position.

Wood has several years' professional experience in rangeland management and reclamation, serves on boards of several statewide natural resources-related entities, and is committed to teaching younger people about rangelands, says Mealor.

In addition, “He's a thoughtful communicator who interacts well with students,” he says. “I think he was a great fit for this opportunity.”



Clay Wood enrolled as a master's student after four years of reclamation and rangeland monitoring work.

## GRADUATE STUDENT TEACHING CEMENTS VALUABLE SKILLS

You'll find out PDQ if you ask Ph.D.s. skilled in instruction and research the value teaching can add to the graduate student journey.

Not knowing what kind of questions may be asked is good, says Gustavo Sbatella, adviser to Austen Samet.

He's based at the Powell Research and Extension Center near Powell.

“Students figure out fast if you know or don't know or you are making stories up,” says Sbatella, the irrigated crop and weed specialist. “Students appreciate when you are honest with them. If they come up with a question like that, say ‘I really have no idea, but let's try to figure it out,’ then go find the answer or information and get back to them. They appreciate that, and that creates a lot of respect.”

Classroom teaching gives a master's student a different perspective on learning, says Brian Mealor, director of the Sheridan Research and Extension Center with facilities on the Sheridan College campus. They develop their ability to think through and present concepts and build relational and communication skills that they may not focus on in solely a research program.

“Learning something well enough to take a test is one thing. Learning it well enough to teach it and make it clear to someone who has never heard of the concept requires a whole different depth of knowledge,” he says.

Northwest College agriculture department head Vern Dooley taught while a master's student at Michigan State University.

“I think I learned the content of my discipline better,” he notes. “It's one thing to study for a test and forget about it in graduate school, but when I have to get up and talk about it, I better know what I'm talking about.”

Thinking on one's feet is also tested when a master's student defends their thesis to their committee.

“What I'm looking for is how their brain works when you present a challenge, how they would solve it,” Sbatella says. “A common question in defense is, ‘If you had to do it again, what would you do differently?’ What they say is very important. What would happen if instead of ‘A’ you ended up with ‘B?’ You want to see if they are not only familiar with their topic, but the way they approach a problem or solution.”

## From Ranch to Class to Work to Class

Wood was raised on a ranch between Sundance and Hulett in view of Devils Tower. If traveling the road between Hulett and Sundance, bypass the junction to the Wyoming icon and continue. The family ranch is a few miles down the road.

He graduated from Hulett in a class of 18 and declared an agricultural business major at UW. He switched to agroecology after two years and took a range management class. He knew then that was what he wanted as a major, balancing the art and science of rangeland management.

Wood worked for more than four years as a reclamation and rangeland monitoring consultant. He would return to UW for a master's degree.

### GOOD NEIGHBORS

The close proximity of University of Wyoming research and extension centers to Northwest College and Sheridan College has been a benefit for both.

"We have had a real good relationship for decades," said Verne Dooley, director of agriculture programs at Northwest College. "Having the research and extension center right outside of town is very helpful to us."

Same with Sheridan College, says Keith Klement, head of agriculture programs there. The R&E Center moved to the college campus last year, and the college's agriculture students use the R&E Center resources and have access to the information and the possibility of summer internships.

"With the SC and research center within a few yards of each other, it's been a great relationship," says Klement.

Sheridan College (SC) agricultural students can utilize ShREC resources, which also strengthens relationships between SC and UW, says Keith Klement, director of the SC agriculture program.

Klement also says he looks for enthusiasm and exceptional knowledge of material in adjunct professor candidates and the ability to express themselves in classroom situations, one-on-one, and in team settings. They have to be able to teach material in ways students with different learning styles can learn. Klement also puts candidates through a mock classroom presentation.

"When looking at the pool of applications, Clay stood out above the others," he says.

### Call Upon Graduate Experiences, Instructor Expertise

Samet and Wood have drawn upon class resources used by former instructors of the classes. They've also used examples of positive experiences as undergraduate and graduate students.

Both use hands-on experiences to reinforce concepts. For example, Wood takes students to land on college property to demonstrate monitoring techniques and plant community dynamics.

He had covered biomass sampling methods in the classroom during one session, but the hands-on learning is what made the techniques clear to students.

"Before we went out to the field, a lot of them seemed a little bit confused," he says. "But once we went out to the field and did the field work, they said, 'Well, that's not as hard as

I thought it would be. It's a lot simpler than it sounds.'"

His biggest challenge is getting student engagement and delivering lectures that can be understood by students with various backgrounds.

Samet's undergraduates have hands-on plant experiments in large black tubs protected in the NWC greenhouse. Students learn information such as plants have minimum requirements of water and light, to how too high a plant density is harmful to natural growth and production.

### Students not Always Studious

Samet, too, would like more student engagement and is learning that current college student behavior is different from hers.

She was a serious student.

"My takeaway is that some students don't study," she says. "To the point that when they walked into the class on Monday for their third test, some said they didn't know they had a test that day, even though we reviewed everything the Friday before. How in two days do you forget there is a test?"

Still, she enjoys teaching more than she thought she would. She didn't think she would be bad at teaching, but she had always strayed from the path taken by many in her family tree.

Her father teaches high school science.

"He was getting a master's degree the same time I was," she says. "He got his degree a little earlier than I did, but I got to tell him I'm teaching on the college level. It's a running joke."

# Virginia Vincenti defines a profession, answers a calling

Professor of Human Development and Family Sciences Virginia Vincenti has dedicated her career to defending and defining the discipline known nationally as Family and Consumer Sciences.

The profession – which at other times has been called, and throughout much of the world is still called, home economics – is for Vincenti “a calling.”

“I believe in its mission to make individuals’ and families’ lives better,” she states.

Vincenti (her friends call her Ginny) could be said to have entered the field at a precise moment in time and with a particular set of experiences that have equipped her to pursue the science, philosophy, activism, and love of humanity that constitute her stock in trade.

## Trip Cracks World Apart

June 28, 1964, was the hottest day of the year in New York City.

Vincenti, a Pennsylvania farm girl newly graduated from high school, sat in a pew at the Abyssinian Baptist Church on West 138th Street in Harlem. There, Adam Clayton Powell, a formidable civil

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“I believe in its mission to make individuals’ and families’ lives better.”

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rights activist and first African-American elected to the House of Representatives from New York, was pastor.

That week, her regional Presbyterian youth group lived in the homes of members of an African-American Presbyterian church in New York City; youths from the combined groups painted the church interior and visited the World’s Fair on Long Island.

Vincenti says, “The trip was a breakthrough in my understanding and compassion for people living in an urban ghetto at the very time the Civil Rights Act was being signed on July 2, 1964.”

This America was different from the fields, 4-H, and farm chores with which she had grown up, this history a different hue than in New London, where she studied first through fourth grade in a schoolhouse established in an American colony. At New London Academy, the light from tall windows shone on dark wood-plank floors as it had for three former students who signed their names to the Declaration of Independence.

Eighteen-year-old Virginia Bramble embraced both worlds.

“It was a powerful experience to be a racial minority, to be able to talk about race, culture, and discrimination with an openness that would have prompted a negative reaction in my high school and community,” she says.

A passion for justice took hold.

## Grappling with Stereotypes

Vincenti recalls the technical, knowledge-and-skills approach to home economics curriculum she gained in college. “I was filled with a sense that I should be able to do everything well,” she says. “But there was little emphasis, as I remember, on a philosophical foundation to guide teaching.”

In her first professional position, she served as home economist with The Pennsylvania State University Cooperative Extension



Vincenti has taught at UW 25 years in 2017. Among her classes is Ethics in Research and Practice.

Service in rural Huntington County, Pennsylvania. She added expectant parent classes, drug abuse taskforce efforts, and radio, TV, and newspaper outreach to duties with 4-H, state and county fairs, and adult homemaker and agriculture groups. "I loved the freedom to work to address community needs," says Vincenti.

She left extension for graduate studies in home economics education at Penn State just as the field was about to be shaken to its core.

The 1979 earthquake came in approximately 100 pages in which authors Marjorie Brown and Beatrice Paolucci declared:

"The mission of home economics is to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead

(1) to maturing in individual self-formation and

(2) to enlightened, cooperative participation in the critique and formulation of social goals and means for accomplishing them."

Says Vincenti, "It was perfect timing to be there when a new critical science approach was introduced." Faculty and students created a seminar to examine and discuss this new direction. Among the social theorists cited by Brown and Paolucci were German-born Jürgen Habermas and Hannah Arendt, both of whom deeply questioned how society could allow the rise of Nazi totalitarianism and articulated theories of action aimed at avoiding such unreflective acceptance in the future.

"The emphasis was on home economics as an ecological,

family-focused profession that understands improving individual and family wellbeing is interdependent with improving society," says Vincenti. She wrote a history of the philosophy of home economics as her Ph.D. dissertation. It is still widely read and was translated into Japanese in 2005.

Vincenti revisited the subject as co-editor of "Rethinking Home Economics: Women and the History of a Profession," published in 1997.

On August 2, 2016, Vincenti presented a keynote address at the 23rd World Congress of the International Federation of Home Economics in Daejeon, Korea. Her subject? Challenges and future directions of home economics. The conference attracted 1,200 participants from 60 countries. From the stage, Vincenti advocated for activism and collaboration within the context of 10 megatrends, including technology, urbanization, and aging populations.

### **Why do Family Members Betray Trust of Elderly Relatives?**

The question of why elder financial exploitation is most commonly perpetrated by family members with power of attorney is the subject of research Vincenti has conducted since 2011 with colleagues from five universities through the University of Wyoming Agricultural Experiment Station and with support from the U.S. Department of Agriculture and leading family and consumer science organizations.

Besides losses from misused resources, family members who intervene may face legal fees, travel costs, and lost wages. Often, the

severest consequence is the human toll, notes Vincenti. "Family members and relationships become stressed, and the fractures and estrangements can weaken families for generations," she says.

The complexity of relationships and financial exchange patterns often makes the crime difficult to recognize, she says. Loyalties and pride may lead families to keep the behavior secret or unreported.

Vincenti and Assistant Professor Bernard Steinman, also of the Department of Family and Consumer Sciences, are expanding the research in 2017 with a survey and follow-up interviews with participants who have experienced elder financial exploitation within their families and others where family member power of attorney was carried out responsibly.

Vincenti and Steinman's study, funded by the University of Wyoming Social Justice Research Center, is designed to identify potential risk and protective factors.

"This study is an example of dealing with injustice, family life, and a growing societal problem," says Vincenti.

The results have the potential to change end-of-life strategies and how attorneys, financial planners, and other professionals work with families to reduce the risk of family member elder financial exploitation.

### **What Not to Say to Ginny**

The name family and consumer science (FCS) was adopted by the profession in 1994 to acknowledge how myriad choices of goods and services, commercial and political messages, and policy development

affect individuals, families, and community wellbeing.

“The continuing focus on cooking and sewing in some school curricula hurts the profession,” says Vincenti. “It also hurts students and families struggling with influences that serve others’ interests to the detriment of their own and the greater good.”

The University of Wyoming eliminated its home economics education program in 1995, which has led to a dearth of certified teachers in the state. FCS students needed a path to teaching.

For five years Vincenti has worked with Assistant Professor Dawn Mallette of Colorado State University to conduct a course-by-course review of FCS curricula and determine how UW students can earn concurrent degrees in FCS and human development from UW and FCS education from CSU with Colorado certification accepted by the Wyoming Professional Teaching Standards Board.

Vincenti bristles when she hears the offhanded comment, “I have a family, so I could teach FCS.” She wants highly trained teachers to teach Wyoming students how to make rational and broadly considered decisions about housing, diet, finances, human relationships, and other factors that affect them, their families, and society.

Vincenti told her 2016 audience in Daejeon, “Critical science teaches us not to accept what *is* happening as if it therefore *should* be happening and not to adopt a powerless position.”

In her office on the second floor of the Agriculture Building, she says simply, “I am so proud of my profession.” Her goal, she adds, is to help her students respond to the calling.

## AN INTERNATIONAL MOMENT

During the 23rd World Congress of the International Federation of Home Economics (IFHE) in Daejeon, Korea, participants were invited to visit a Korean family in their home in the fifth-largest city and Silicon Valley of Korea.

Vincenti received a special request to visit Heejoon and Mijung Park and their son Minwoo. When she arrived, she was surprised to learn the special request came because Heejoon Park was a 2011 graduate of the University of Wyoming College of Engineering.

IFHE is an international nongovernmental organization (NGO) with consultancy status with the United Nations, Council of Europe, and other NGOs. It advocates for the improvement of everyday life for individuals, families, and households worldwide.

## A GRAVESTONE RUBBING

“Ellen Swallow Richards was the founder of our profession,” says Vincenti of the framed gravestone rubbing that hangs in her office.

Swallow was a chemist and MIT professor (also MIT’s first female graduate). She brought science to the management of the home and introduced new ideas on air, water, and food quality.

Swallow published a book in 1910 on the science of the controllable environment. She conducted drinking water experiments in the laboratory and mapped the results, which led Massachusetts to adopt the first water quality standards and build the first modern sewage treatment plant in America.

Making homes healthier and more habitable, she believed, led to more successful human beings and societies. Her 1885 book on food safety led to the passage of the nation’s first pure food and drug act in Massachusetts. Swallow applied chemistry to the study of nutrition, pioneered the idea of school lunch, and co-founded a kitchen laboratory aimed at helping people of modest means eat better.

She is credited with introducing the word ecology, from the German zoologist Ernst Haeckel, into the English language. Ecology, the scientific study of the relationship of living organisms to their environment, is from the Greek *oikos* and *logy* and means literally study of home.

## LEADERS IN FAMILY AND CONSUMER SCIENCES

A biography of Vincenti was included in *Leaders in Family and Consumer Sciences*, published in 2016. Also included among the 130 FCS leaders is University of Wyoming President Laurie Stenberg Nichols.



# Collaborative study finds mice respond differently

Casual conversation three years ago between veterinary sciences and molecular biology researchers resulted in findings that show for the first time mice engineered to have the human genetic disorder Huntington's disease have an altered immune response to a common infection.

They are now seeking funds to pursue additional studies to understand how infectious processes may interact with Huntington's, which is caused by a single gene mutation.

Jonathan Fox in veterinary sciences and Jason Gigley in molecular biology exposed mice with Huntington's disease (HD) to toxoplasmosis, a common and widespread infection.

Their research found such mice die sooner and have an altered immune response, and that could reveal facts about not only Huntington's but also the interaction between infectious diseases and related neurodegenerative disorders, such as Alzheimer's, Parkinson's, and prion diseases in humans, they say.

Fox and Gigley refuse to speculate if the response they observed may be the same in humans with HD – Fox's research focus – but do say they believe they've found one factor that could contribute to the variability of when symptoms appear in humans.

That varies greatly from childhood to old age, but for most people it's in early adult life.

“We know environmental factors contribute to the large variability in age of disease onset, but next to nothing is known about which environmental factors are involved,” says Fox.

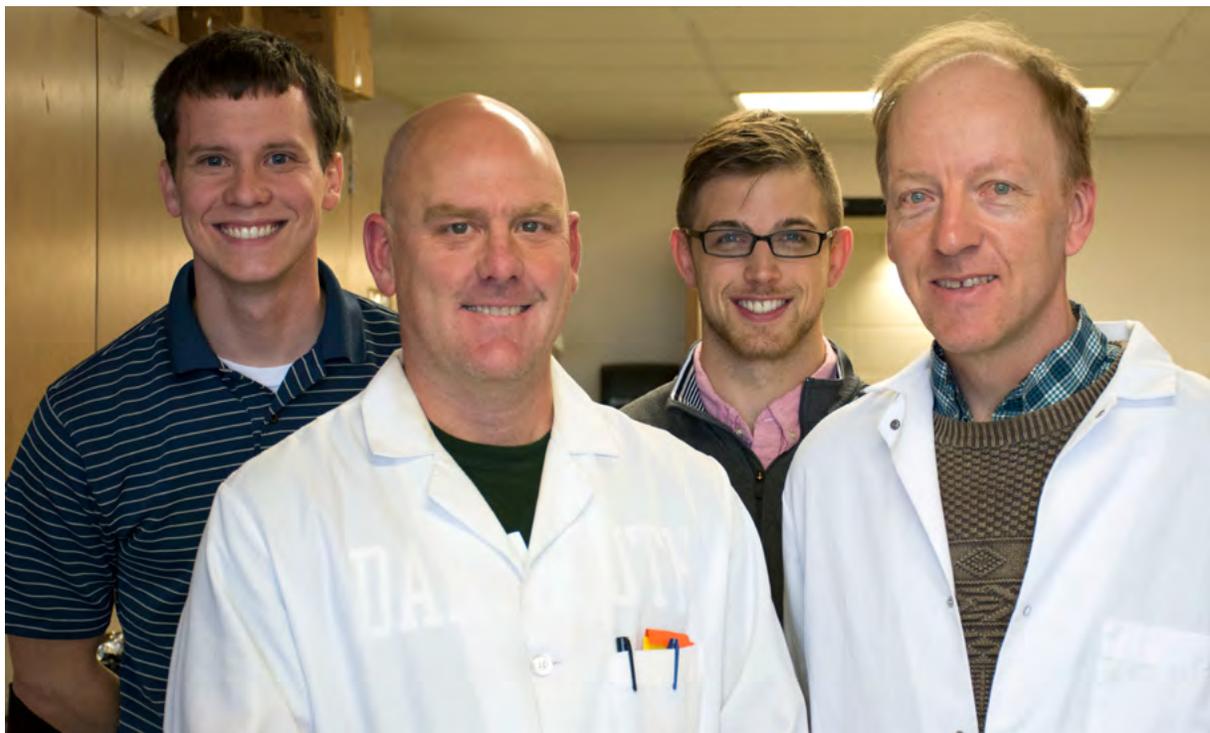
## Research Uses Common Parasite

Toxoplasmosis, caused by *Toxoplasma gondii*, appears to make mouse HD worse.

“Importantly, this infection has high prevalence in the human population, so we think it important to investigate if *T. gondii* also affects human HD,” he says.

A game of cat and mouse lays at least a little of the foundation for the research, and there's a good

Molecular biologist Jason Gigley, front left, and veterinary sciences researcher Jonathan Fox, front right, collaborated to determine the effects of an infectious disease on mice with Huntington's disease. A grant allowed veterinary sciences Ph.D. student David Donley, back left, and psychology undergraduate student Andrew Olson, now graduated, to participate in the research.



# Huntington's disease to common infection

chance many reading this have a connection to the study.

Gigley is an expert in *T. gondii*, a parasite found worldwide in more than 30 to 50 percent of humans (and more than 60 million in the United States, according to the Centers for Disease Control and Prevention).

Research shows the parasite alters the behavior of those infected in such a way to help guarantee its survival – the parasite causes mice to lose their innate fear of cats. It can only reproduce in the cat gut and enters the environment through feces.

Humans can contract toxoplasmosis by consuming undercooked meat or coming into contact with feces or not washing vegetables or fruit, or even digging in a garden without gloves, then touching their mouth.

The parasite is forever; once infected, there is no cure. Fox notes *T. gondii* is the third leading cause of foodborne illness in the U.S. that results in hospitalization; however, once people feel better, most show no symptoms.

In their cross-hallway chat (Fox had moved his lab to the same floor as Gigley in the College of Agriculture and Natural Resources), the two found HD and *T. gondii* infection shared a

common biological pathway. *T. gondii* infections activate a pathway in the cell that deprives the parasite of food. A biological pathway is a series of actions that leads to a change in a cell.

“Our thinking was this infection, based on literature, should activate this pathway that is known to make Huntington’s worse; that’s why we came up with the idea of infecting mice with the parasite,” says Fox. “Mice are naturally infected with the parasite, so we are not studying an artificial infection.”

Much HD research is done using mice free of infections, they say. Scientists go to great lengths to keep laboratory mice infectious disease-free.

But in the real world, humans, including those with Huntington’s, are exposed to all kinds of different pathogens – including those that cause cold sores, flu, and toxoplasmosis, says Fox.

“So this area of interaction between genetic disease and infectious diseases is something that hasn’t been studied a whole lot,” he notes.

## Research Shows Impact on Huntington’s

This study is the first that demonstrates any type of definable

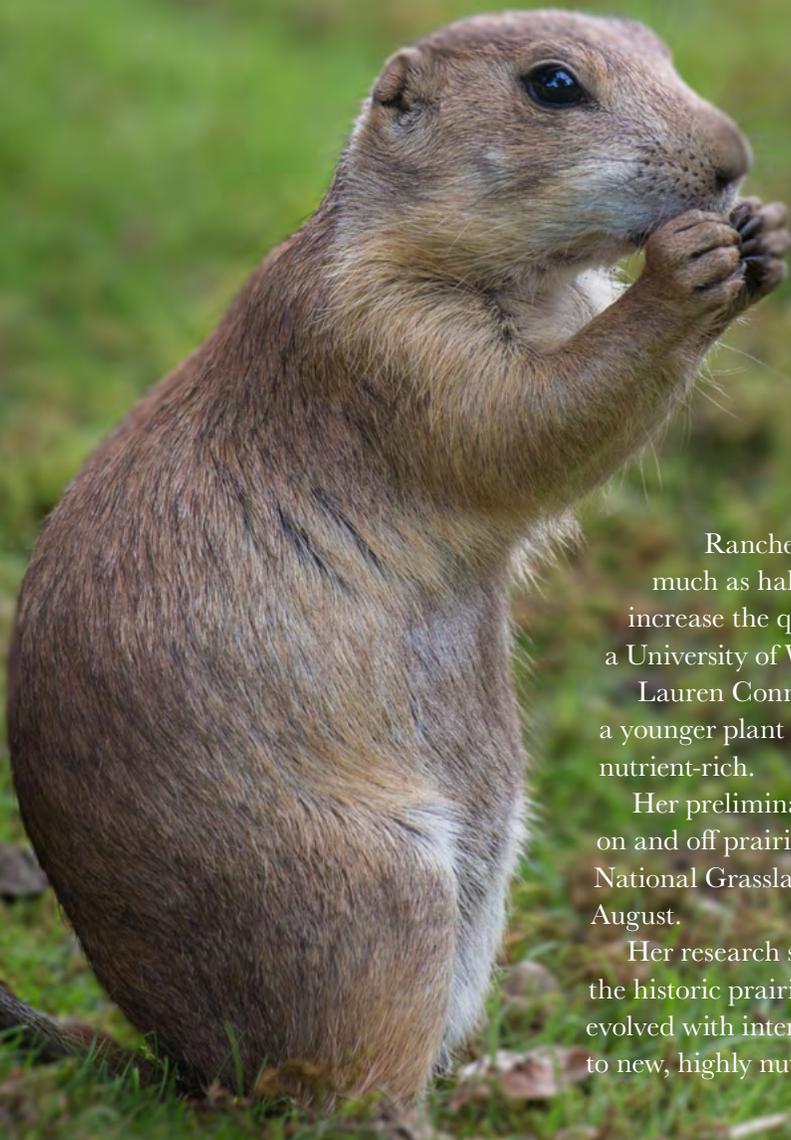
impact of a live infectious agent on an HD animal model.

Their research, “Interaction of *Toxoplasma gondii* and Huntington’s disease in mice,” was published in *PLOS ONE* and culminates three years of work fueled by pilot project funds from a National Institutes of Health Neuroscience Center grant.

The grant also helped pay for a graduate student to participate. David Donley, a Ph.D. candidate in the neuroscience program in veterinary sciences, worked on the research. Andrew Olson, a psychology undergraduate student who has now graduated, also assisted.

“Without the funding, the graduate student and undergraduate would not have been able to participate in the research and learn about cutting-edge research,” says Gigley. “We enjoy having undergraduate students obtain research experience in our laboratories – it’s particularly rewarding for them when they make a significant contribution to a project and obtain their first scientific paper.”

# UW research finds prairie dogs increase quality of forage, acknowledges nuisances



Ranchers have known prairie dogs can reduce forage by as much as half on rangelands, but prairie dogs may significantly increase the quality of forage that regrows, according to research by a University of Wyoming master's student.

Lauren Connell said the forage clipping by prairie dogs maintains a younger plant growth stage, and its palatability is significantly more nutrient-rich.

Her preliminary data is based on forage quality samples collected on and off prairie dog colonies from four sites in the Thunder Basin National Grasslands in June, July, and August and biomass samples in August.

Her research suggests the prairie dog-livestock relationship mimics the historic prairie dog-bison structure. Perennial rangeland plants evolved with intense, short-term grazing by bison and the grazing leads to new, highly nutritious leaves.

## Less, but More

Prairie dogs foraging and associated soil disturbance removes dead plant material, establishes grasses and forbs in a high state of nutrition, and maintains that quality for a longer period of the growing season, she says.

“That can be a benefit to cattle,” says Connell, a student in the Department of Ecosystem Science and Management.

The forage quality on prairie dog colonies was higher, even as the summer progressed, and typically forage quality begins to significantly decline.

“It’s almost like extending the growing season, and those are all benefits to cattle and other wildlife,” she says.

Connell grew up next to the Atlantic Ocean along the Florida coast at West Palm Beach and identified as a beach bum while growing up. Her interests now set her in an ocean of rangeland.

She received her bachelor’s degree in environmental studies from Florida State University, later earning a master’s degree in geographic information science there.

Connell would leave Florida.

“I have no better way to describe my decision to move than to simply say the West was calling,” she says. “I packed my car and traveled west, eventually to Burns, Oregon, where I fell in love with rangelands.”

Wildlife and wildlife habitat management especially interest her.

Prairie dogs decrease forage and make holes, and producers worry about cattle breaking legs. She is

well aware of the nuisance factor to ranchers and the conservation status of prairie dogs.

“We looked at whether there were tradeoffs to be had between the two and looked at how prairie dogs can improve the quality of forage for cattle,” she says.

## Plants have Higher Nutritional Value

Her prairie dog colony samples had significantly higher values of crude protein, total digestible nutrients, *in vitro* true digestibility (laboratory tests to simulate digestion in the rumen), and calcium compared to the study’s control sites.

Researchers collected two types of samples: a composition sample of all the grasses and forbs and another of only western wheatgrass.

Western wheatgrass is highly palatable, nutritious, and is desirable forage for cattle.

She purposely included the biomass study to determine if prairie dogs eating mostly grasses caused a net loss of total forage biomass. Although the total forage biomass does tend to be lower on prairie dog colonies, there is substantial variation across the prairie dog colonies, making generalizations hard to make, she says. The reduction in total forage biomass is probably dependent on prairie dog density and colony age.

Some test sites were on U.S. Forest Service land and some on private land, and she says she’s lucky to have local landowners and stakeholders involved.

This project is a joint effort by the Wyoming Agricultural Experiment Station, United States Department of Agriculture – Agricultural Research Service, and the Thunder Basin Grassland Prairie Ecosystem Association.

## Forage Quality vs. Quantity

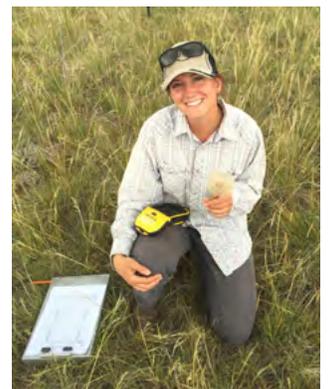
Connell will provide them the results and adds she doesn’t think they will be surprised. She believes they are waiting to see what the tradeoff will be between quantity and quality.

“The biggest point people would argue, and they are right to argue, is the difference between quality and quantity or those tradeoffs,” she says. “That is something we are going to tackle next. If you were going to decrease the biomass by this much but it’s more nutritious – what does that mean for how many head of cattle you can put out?”

In the end, finding ways for cattle and prairie dogs to co-exist is critical, and simply categorizing prairie dogs or cattle as either good or bad is an oversimplification of this complex and controversial issue, says Connell.

Connell was scheduled to present her findings

at the national 2017 Society for Range Management conference in St. George, Utah, the end of January.



Lauren Connell during an annual vegetation survey at a control site in the Thunder Basin National Grassland.

# Can certain stomach microbiomes mean better feed efficiency in cattle?

You thought you were feeding silage or hay to cows on frosty winter mornings, didn't you.

The livestock really being fed are smaller and their names harder to pronounce than Angus, Hereford, Simmental, Charolais or Blonde d'Aquitaine – maybe not that last one – but chances are the next time livestock producers gather, “bacteroidetes” or “firmicutes” won't be rolling off their tongues.

Those two and others like them are microorganisms Hannah Cunningham is studying at the University of Wyoming to determine their effect – if any – on feed efficiency in cattle.



Animal science Ph.D. student Hannah Cunningham

They're part of the rumen microbiome – the microorganisms that ferment ingested feed in the giant vat that is the cow's digestive systems. Cunningham is trying to determine if a specific microbiome can make an animal more feed-efficient than another.

Feed efficiency is a critical area of research for production livestock, says Cunningham, a Ph.D. student in animal science.

“If we can make improvements there, producers are going to benefit, especially given all the pressures we have – increased demand for product but also less land, drought, and feed prices,” she says.

Cunningham studied feed efficiency in the small intestine for her master's thesis.

“I'm continuing a similar line of research, just shifting up the digestive tract a step,” says Cunningham, and smiles.

## GUT IS WHERE THE RUBBER MEETS THE ROAD

Bacteria numbers are huge. There is an estimated 100 trillion bacteria cells in the human gut, and effects of the microbiota go beyond digestion. Research in humans indicates it affects cognitive function and even behaviors such as social interactions. Some research studies its effects on mental health.

Cunningham's study includes Angus and Charolais to look at various breed effects, and calves were born between August and Halloween last year. Most were born naturally, but there were some cesarean sections to see if microbiome effects vary by birth method. Rumen samples were taken 24 hours after birth and then on days 3 and 28, and another will be done after the calves finish their 70-day feed trial post-weaning.

Rumen fluid is sucked via hose and syringe, flash frozen on dry ice and the DNA isolated. It is then shipped to the University of Missouri DNA Core Facility for sequencing, where a dataset will produce an

operational taxonomic unit, a scientific term for closely related organisms.

A sequence that's 97 percent similar or greater is considered the same species.

"These datasets yield an enormous amount of data, oftentimes over thousands of species identified per sample," says Cunningham, whose parents, formerly of Kaycee, own the Cunningham Cattle Company near Meeker, Colorado. "We use a customized computer program that identifies these microbial organisms based on their DNA sequence generated from the University of Missouri DNA Core Facility."

Those groups will be matched with the calves and their feed efficiency performance. Average daily gain, gain-to-feed, and other traditional measures will also be monitored.

Some profiles may indicate a higher feed efficiency – or not.

## PRODUCERS COULD PUT INTO PRACTICE

The benefit to producers may seem far removed, she says, but previous research in sheep has shown a core set of microbes are associated with more feed-efficient animals. That may happen with cattle. If so, rumen content can be transferred to another calf or via probiotics, and that can be done on the ranch or farm.

Besides the on-the-hoof benefits, studies will also contribute to knowledge about the rumen.

"It's exciting because we're trying to figure out the effect the maternal environment has on establishment of the microbiome, and there hasn't been a lot of research in the early development of the microbiome in ruminants," says Cunningham.

She says there is a lot of evidence, in humans and mice, that the birth canal and placenta are large contributors to establishment of the microbiome.

"It has been previously believed that the rumen is sterile at birth," says Cunningham. "However, we are intrigued to see if this is the case and if differences in maternal environment (breed, mode of delivery) can change the calf rumen microbiome."

The research is taken one step further. Cunningham traveled to New Zealand in January to work with scientists studying whether the microbiome is an heritable trait.

Back in the U.S., the research will help identify when changing the bovine microbiome could be best.

"I think it's critical we find that time when it's best to intervene so you can avoid the added cost of having to do it at birth, weaning, or when yearlings," she says. "I think that could be way more affordable to producers."



Charolais cattle

Sue Nixon/shutterstock.com

## RUMEN RESEARCH

Cunningham's research title is "Genetic and maternal influences on progeny rumen microbiome and feed efficiency."

Collaborators include scientists at South Dakota State University, University of Missouri, Virginia Tech, and New Mexico State University.

The study uses two biologically different breeds recognized for different feed efficiencies: Angus (lower feed efficiency) and Charolais (higher food efficiency).

The research is funded by a four-year grant from the USDA National Institute of Food and Agriculture.



Students visit an on-farm cheese making facility.



Study break in Paris.



Evaluating a pasture in Normandy.



Learning about wine in the Loire Valley.



Visiting a farm in Normandy where Camembert is produced on-site from local cows.



Wine tasting class.



UW students visit a wholesale distribution center outside of Paris.

# Summer 2017 features courses in France, Australia

Thirteen College of Agriculture and Natural Resources students have opted to go international, studying in France or Australia over the summer.

Now in its 31st year, Food and Farm Culture is the Department of Agricultural and Applied Economics' signature study-abroad program. Students spend the month of June studying at the Ecole Supérieure d'Agriculture in Angers, France, with trips to explore sustainable food systems, agroecology, niche marketing, food and wine production, and local agribusinesses. Students discover how culture, history, science, and public perception affect France's food system. Travels to famous sites include Paris, the Eiffel Tower, and Louvre, Mont St. Michel, and Normandy D-Day beaches.

The Australia course in August is new this year, offered in partnership with the University of New England (UNE) in New South Wales. The focus of this three-week

course is Australia's export-led agricultural sector.

Students start in Brisbane and travel inland to Armidale (home of UNE) and on to Sydney via the Hunter Valley and the coast. Trips to farms, sheep and cattle stations, horse country, wineries, and mining operations highlight Australia's agriculture, history, culture, wildlife, and resource management challenges.

Also for the first time, students enroll in a one-credit pre-course in the spring. Not only do students get help managing the particulars of international travel, they get a grounding in the concepts of globalization. Says senior research scientist Tom Foulke, "From containerization to cave art, there's a lot more crossover between the two countries than one might think."

Besides Foulke, courses are organized and led by Associate Professor Kristi Hansen (France) and Professor Emeritus Nicole Ballenger (Australia).



Rachel Peterson in a wine tasting class.



Students and faculty visit Blois, France.

# WYOMING AGRICULTURAL PRODUCERS SHARE SOIL PRACTICES IN NEW VIDEOS

Farmers and ranchers in five Wyoming counties in a series of videos describe innovative soil practices they say are cost-effective and help maintain profitability.

Producers in Big Horn, Fremont, Goshen, Hot Springs, and Washakie counties are featured in the eight videos, “Soil Management on Wyoming Farms and Ranches,” available at [bit.ly/wyomingsoils](http://bit.ly/wyomingsoils).

University of Wyoming Extension educator Caitlin Youngquist developed the videos of farmers and ranchers showing practices specific to Wyoming.

They offer a convenient reference for local practices that truly function in Wyoming, says Youngquist, who is based in Washakie County and serves northern Wyoming.

“It is a mini-field day idea,” she says. “You get to learn the kinds of things you would by sitting down with these producers and having coffee while asking questions or walking around the farm with them and hearing their stories of what they have tried.”

She says the idea was to answer the questions of what is possible in Wyoming – what people are doing in terms of innovative or interesting soil practices, soil fertility, tillage, cover crops, and what people are experimenting with.

“Ag professionals can expand their knowledge because these videos explain current conditions and ways to improve production. Viewers can then spread these new strategies to other growers,” notes Youngquist.

According to Youngquist, the UW Extension YouTube channel was created as an in-office field day for extension educators but is now growing into a platform available to all ag professionals, such as farmers and ranchers, agronomists, conservation district members, extension educators, and other industry folks.

Western Sustainable Agriculture Research and Education provided funding for the videos.

For more information, contact Youngquist at (307) 347-3431 or [cyoungqu@uwyo.edu](mailto:cyoungqu@uwyo.edu).



Mike Fabrizius of Mile High Ranch in Fremont County and extension educator Caitlin Youngquist examine how organic matter has increased over the years as a result of Fabrizius’ soil management practices.



Washakie County producer Vance Lungren and Youngquist examine soil organic matter in a malt barley field. The Lungrens also raise sugar beets and alfalfa seed and have incorporated minimum tillage and strip tillage to increase soil organic matter and reduce wind erosion.

# AWARDS



## Hot Springs County secretary receives UW Extension's top award

**Vicki Nichols** in the Hot Springs County office has received University of Wyoming Extension's top honor for secretaries.

Nichols received the Frances Freese Secretary of the Year award during the annual Extension Secretary Conference – A Professional Event (ESCAPE) meeting in Buffalo.

Nichols joined UW Extension in 2011.

In the nomination, Nichols was recognized for her professionalism, innovation, and follow-through, as well as graciousness, humor, and warmth.

"It is without question she is considered an integral part of UW Extension," said Ann Roberson, the administrative associate at University of Wyoming Extension who presented the plaque. "She shares her talents with not only her county but her area and at 4-H camps, fairs, fundraising events, and others."

The award, which recognizes extension secretaries for outstanding contributions and accomplishments, is presented each year during ESCAPE.

Freese worked at the Wind River Indian Reservation extension office before moving to the Fremont County office, where she worked for 25 years.

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

## UW nutrition program instructors recognized for excellence

Educators with the University of Wyoming Extension's Cent\$ible Nutrition Program (CNP) were recognized for their efforts to help those who income-qualify eat better for less and to assist the communities in which they live.

Instructors serving Albany, Big Horn, Converse, Natrona, Niobrara, and Platte counties received honors during UW Extension's professional development conference in Laramie in November. CNP is a free cooking and nutrition education program.

**Sandra Biller** of Albany County received the Educator of the Year Award.

Biller is involved in several community groups helping make the community healthier, established an

agreement with Feeding Laramie Valley, and is active in farmers markets.

**Krista Brown** of Casper was recognized for her efforts to strengthen the CNP program. She received the Linda Melcher Award, named in honor of the woman who started the CNP program in Wyoming. She serves Natrona County.

Brown served on multiple committees last year and divides her time between the USDA's Supplemental Nutrition Assistance Program Education (SNAP-Ed) and the Expanded Food and Nutrition Educator Program (EFNEP).

**Kristy Michaels** in Big Horn County received the Community Impact Award recognizing efforts to make communities healthier, particularly for the low-income audience the program serves.

A community garden was established through a community coalition of several agencies working to promote physical activity, prevent youth obesity, and improve the overall health of community members.

Coalition members had working meetings during which they tended the garden. Garden produce was used in commodity distribution and given



*Vicki Nichols*



*Sandra Biller*



*Krista Brown*



*Kristy Michaels*

# AWARDS

to the Salvation Army and the local nursing home, providing low-income families and the elderly access to fresh produce.

First-year educator **Mary Evans** of Platte County was presented the New Educator of the Year Award. She graduated 139 adults and tapped into a new audience in her county by offering lessons to Spanish-speaking participants.

Those in her classes demonstrated a 92 percent positive change in all food groups and decreased intake of solid fats and added sugars by 184 calories per person.

More about CNP is at [www.uwyo.edu/cnp](http://www.uwyo.edu/cnp).

## Washakie County 4-H educator receives UW Extension's highest honor

A Washakie County 4-H youth development educator recognized for broad efforts in local, state, and national programming received University of Wyoming Extension's highest honor.

**Amber Armajo** received the Jim DeBree Award in November during extension's annual training conference.

In partnership with area adults, Armajo provides educational opportunities in livestock projects, fabric and fashion, and the Junior Leaders program.

In a county where census data indicate 398 households include 6- to 17-year-olds, Armajo leads a 4-H program that includes more than 300 adults and children. As county coordinator, she acts as a liaison between UW Extension and Washakie County commissioners.

Armajo has served as the chair of the state 4-H initiative team since 2013. She has served as superintendent of the state 4-H dog skill-a-thon competition since 2010 and has served on the Wyoming Agriculture Leadership Council Board since 2012.

A 2008 graduate of the Western 4-H Institute, Armajo has led efforts to support and train newly hired 4-H professionals in western states. She also participated in the Western Extension Leadership Development (WELD) program.

Armajo has completed Wyoming LEAD, the leadership development

program for young professionals, and has served on the planning boards.

The Jim DeBree Award is named in honor of the retired Wyoming extension administrator and given to those who demonstrate a high level of professionalism, performance, and leadership within their program areas and communities.

Armajo joined UW Extension in 2002 and is based in Worland.

## Diverse cuisines earn northeastern Wyoming educator extension award

A Weston County University of Wyoming Extension nutrition and food safety educator received the Diversity Enhancement Award for her culinary ethnic cuisine series of cooking lessons offered throughout northeast Wyoming.

**Vicki Hayman** received the honor during UW Extension's November professional development conference.

Hayman conducted 21 workshops that included hands-on cooking and recipes for ethnic foods. Sessions highlighted the cultures of Brazil, China, Cuba, Germany, Greece, Italy, Ireland, Mexico, and Thailand.



Mary Evans



Amber Armajo



Vicki Hayman



Kristi Hansen



Each workshop focused on the culture of the region in terms of tastes and dietary habits, food prep, and the symbolism and ritual of a meal.

Based in Weston County, Hayman also serves Campbell, Crook, Johnson, and Sheridan counties.

### Conservation collaboration prompts award for UW Extension specialists

Three University of Wyoming Extension specialists were recognized for their creativity in helping establish a market framework that encourages conservation and improves natural resources and wildlife.

Water resource economist specialist **Kristi Hansen**, community development specialist **Roger Coupal**, and water resources specialist **Ginger Paige** received the Creative Excellence Recognition Award during extension’s November annual professional development conference.

The Wyoming Conservation Exchange began as a grassroots project in the Upper Green River Basin after landowners and rangeland managers at the Sublette County Conservation District (SCCD) began

discussing how landowners might generate revenue from conservation practices that provide social and natural resource benefits beyond ranching.

The three specialists, along with SCCD and The Nature Conservancy, received money in 2011 from the USDA Natural Resources Conservation Service to explore developing a payment for ecosystem services program.

The initial conservation exchange focuses on three ecosystem services: sage-grouse habitat, mule deer habitat, and hydrologic services. Recently, the sage-grouse portion of the exchange has been expanded across the state.

The Wyoming Conservation Exchange allows “buyers,” for example energy companies seeking mitigation credits or organizations seeking habitat conservation, to pay “sellers” (landowners) for management practices that produce long-term outcomes.

To learn more about the Wyoming Conservation Exchange, see [bit.ly/WCEforgood](http://bit.ly/WCEforgood).

### Weston County 4-H educator receives newer employee honor

Increasing enrollment and expanding the scope of programming in Weston County earned 4-H educator **Stacy Buchholz** the Newer Employee Recognition Award from the University of Wyoming Extension.

Buchholz was recognized during extension’s annual professional development conference in November.

She joined the Weston County office five years ago and has either taught or organized volunteer leaders to teach a number of project workshops ranging from traditional 4-H projects to new after-school programs.

Nominators cited her collaboration with other 4-H educators and help conducting a livestock showmanship and fitting clinic for northeast Wyoming.

### Tobert, Gasvoda receive national 4-H awards

Big Horn County 4-H educator **Gretchen Gasvoda** and 4-H volunteer specialist **Sarah Torbert** received Achievement in Service



*Roger Coupal*



*Ginger Paige*



*Stacy Buchholz*



*Gretchen Gasvoda*



*Sarah Torbert*

# AWARDS

Awards from the National Association of Extension 4-H Agents (NAE4-HA) in October at its annual conference in New Orleans.

The award recognizes professional attitude and accomplishments, commitment to professional improvement and outstanding work in the field of positive youth development.

Gasvoda began her career with UW Extension as an educator in the Cent\$ible Nutrition Program before making the transition to 4-H in 2011.

“Children and teaching have always been my passion,” said Gasvoda.

She has adopted four children, been a foster parent to 12, and taught preschool. Gasvoda is an active member of the Wyoming Association of Extension 4-H Agents and served as treasurer from 2014-2015.

Torbert began her career with UW Extension in May 2016 after working as a 4-H youth development professional in Wisconsin and Missouri. Colleagues in Wisconsin nominated her for her commitment to 4-H and professional improvement and involvement in the Wisconsin Association of Extension 4-H Agents.

The National Association of Extension 4-H Agents is a professional association for 4-H youth development professionals. The association has more than 3,700 members.



Dean Frank Galey with Dan Rule(L), Derek Scasta (R).



Pam Langer with Peter Thorsness, molecular biology department head



Trish Hyson, Dean Frank Galey, Cassandra Thomas, and Anne Leonard



# College of Agriculture and Natural Resources recognizes outstanding staff, faculty members

## Outstanding Employee Awards

Dean Frank Galey presented Outstanding Employee Awards to **Trish Hysong**, family and consumer sciences office assistant and agricultural and applied economics accounting associate; **Anne Leonard**, college relations coordinator; and **Kassandra Thomas**, plant sciences and ecosystem science and management office associate.

Also nominated were **Karyn Bercheni**, molecular biology accountant; **Kelly Greenwald**, administrative associate at the James C. Hageman Sustainable Agriculture Research and Extension Center; **Kali McCrackin Goodenough**, Cent\$ible Nutrition Program marketing coordinator; **Joanne Newcomb**, Agricultural Experiment Station office associate; **Alison Shaver**, ecosystem science and management accountant; and **Melissa Stuart**, molecular biology research scientist.

## Outstanding Educator Award

The Office of Academic and Student Programs honored Associate Professor **Pamela Langer**, molecular biology, and **Denise Smith**, UW Extension nutrition and food

safety educator, with its Outstanding Educator Award.

Also nominated were **Todd Cornish**, associate professor, veterinary science; **Andrew Kniss**, associate professor, plant sciences; **Dallas Mount**, UW Extension range educator in Platte County and serving southeastern Wyoming; **Steven Paisley**, associate professor and extension beef cattle specialist, animal science; and **Christine Wade**, associate professor, family and consumer sciences.

## Meeboer Classroom Teaching, Outstanding Adviser Awards

Students in the college voted on teaching and advising awards. Professor **Dan Rule** of animal science received the Lawrence Meeboer Agricultural Classroom Teaching Award. Assistant professor **Derek Scasta**, rangeland specialist, ecosystem science and management, was presented the Outstanding Adviser Award.

Also nominated for the Meeboer Award was Professor **Donal O'Toole**, veterinary science.

Also nominated for the Outstanding Adviser Award were Wyoming Excellence Chair and Professor

**Holly Ernest**, veterinary science, and agricultural systems specialist **John Ritten**, associate professor, agricultural and applied economics.

## Top Profs

Mortar Board "Top Prof" recipients also were recognized. Following are the "Top Profs" from the College of Agriculture and Natural Resources and the Mortar Board senior honor society members who selected them:

- Family and Consumer Sciences – **Brenda Cannon** was selected by Morgan Hinkle of Riverton; **Alyssa McElwain** was selected by Kathryn Curry of Highlands Ranch, Colorado; **Enette Larson-Meyer** was selected by Erin Lindorfer of Boise, Idaho; and **Michael Liebman** was selected by Haley Ehrle of Shiocton, Wisconsin.
- Microbiology – **Rachel Watson** was selected by Joellen Coates of Laramie.
- Molecular biology – **John Willford** was selected by Rebecca Steinkraus of Laramie.



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