

October 2014



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Ag Appreciation Awards

By Ann Tanaka | October 2014

No slides are available in this gallery

The college's award recipients were recognized at the dean's banquet on Friday and the UW-Florida Atlantic University football game during Ag Appreciation Weekend September 19-20.

Ranchers Joel Bousman from Boulder and Brad Boner from Glenrock were Outstanding Alumni Award recipients; Bill Baker from Saratoga received the Legacy Award for he and his late wife's establishment of their scholarship; the Wyoming Stock Growers Association was the Outstanding Research/Outreach Partner Award recipient; and molecular biology Professor Don Jarvis was presented the Andrew Vanvig Lifetime Distinguished Faculty Achievement honor.

See their stories and additional photos at

<http://www.uwyo.edu/uwag/alumni-friends/ag-appreciation-weekend.html>.

Proposals Submitted

By Ann Tanaka | October 2014

Baumgartner, Robert: \$24,876 from Dow Chemical for “Corn Hybrid Screening.”

Beck, Jeffrey: \$50,000 to Wyoming Game and Fish for “Sage-Grouse Histrionics.”

Beck, Jeffrey: \$47,860 to Wyoming Wildlife and Natural Resources Trust for “Analysis of the Energy Disturbance Thresholds Associated with Greater Sage-Grouse Lek Persistence: Implications for the Wyoming Core Areas Management Strategy.”

Cook, Craig: \$81,802 to National Ecological Observatory Network for “Service Agreement for Laboratory Analysis of Soil Samples for Carbon and Nitrogen.”

Dai, Boyi, and **Randolph Weigel:** \$24,978 to High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) for “Joint Loading During Agricultural-related Manual Material Handling Tasks in Youth.”

Dhekney, Sadanand, Anowar Islam, Randa Jabbour, and Blaine Horn: \$20,000 to Wyoming Department of Agriculture for Engineering Alfalfa Weevil Resistance in Commercial Alfalfa Cultivars: A Valuable Tool for Integrated Pest Management of Alfalfa Weevil.”

Hess, Bret: \$150,000 to USDA-ARS for “Collaborative Long-Term Agro-ecosystem Research (LTAR) efforts in the High Plains and Thunder Basin.”

Islam, Anowar: \$20,000 to Wyoming Department of Agriculture for “Evaluation of Birdsfoot Trefoil—a Non-Bloating Legume—in Wyoming.”

Islam, Anowar, Glen Shewmaker, Richard Allen, Ashok Mishra, Steven Fransen, Amor Ines, and Earl Creech: \$367,432 to National Institute of Food and Agriculture for “Adaptive Controls for Sustainable and Synergistic Food-Energy-Water-Economic Security under Altered Climates in the PNW and Intermountain U.S.”

Mealor, Brian: \$6,000 from Dow Chemical for “Continuation of Biology and Management of Invasive Weeds

in Rangelands.”

Mealor, Brian: \$4,000 from DuPont Pharmaceuticals Company for “Continuation of Integrated Management of Invasive Weeds in Rangelands.”

Moss, Gary: \$3,150 to Rijk Zwaan Production B.V. for “Niching of Corn Salad and Carrots for Seed Production in the Big Horn Basin.”

Peck, Dannele, Chris Bastian, Amy Hagerman, and Columb Rigney: \$70,000 to Animal and Plant Health Inspection Service (USDA) for Small Ruminant Movements during Production and Marketing Activities in the Intermountain West.”

Rashford, Benjamin: \$49,895 to Institute for Wetland and Waterfowl Research for “Ecological-Economic Modeling of Land-Use Change and Waterfowl Production in Prairie Canada.”

Sbatella, Gustavo: \$11,280 to Wyoming Department of Agriculture for “Technical and Economic Evaluation for On-Farm Drying of Confection Sunflower and Grain Corn in the Big Horn Basin.”

Scasta, John, E. Thacker, D. Feuz, B. Burritt, A. Gearhart, and S. Swanson: \$1,500 to Public Lands Council for “The Science and Policy of Wild Horse Management.”

Shaw, Scott: \$160,518 to National Science Foundation for “Collaborative Research: Dimensions US-Biota Sao Paulo: Chemically Mediated Multi-trophic Interaction Diversity across Tropical Gradients.”

Stahl, Peter: \$78,218 to Chesapeake Energy for “Best Methods for Reestablishment of Wyoming Big Sagebrush Using Container Grown Seedlings.”

Tanaka, John: \$20,000 to Wyoming Department of Agriculture for “Advancing Landowner Tools for Use With the Greater Sage-Grouse Umbrella Candidate Conservation Agreement with Assurances (CCAA) for Wyoming Ranch Management.”

Vincenti, Virginia, Axton Betz-Hamilton, Donovan Rudisuhle, and Cynthia Jasper: \$10,000 to National Council on Family Relations for “Risk Factors Associated with Elder Financial Exploitation by Relatives with

Powers of Attorney.”

Monies Awarded

By Ann Tanaka | October 2014

Baumgartner, Robert: \$24,876 from Dow AgroSciences for “Corn Hybrid Screening.”

Beck, Jeffrey: \$20,000 from Anadarko Petroleum Corporation for “Factors Influencing Pronghorn Survival and Reproduction in South-central Wyoming.”

Beck, Jeffrey: \$14,861 from Wyoming Wildlife-The Foundation for “Red Desert Pronghorn Survival and Reproduction.”

Collier, Timothy: \$24,525 from Animal and Plant Health Inspection Service/Department of Agriculture for “Biological Control of Wyoming Weeds and Gypsy Moth Survey.”

Crawford, Warren, and Kimberly Reaman: \$241,437 from Bureau of Education and Cultural Affairs (United States Department of State) for “American Youth Leadership Program with Ghana: Enhancing Global Perspectives in Youth.”

Despain, Johnathan: \$2,600 from Wyoming Department of Agriculture (WDA) Wyoming for “State Fair Chaperones.”

Dhekney, Sadanand: 12,851 from Higher Committee for Education Development in Iraq for “Biotechnological approaches for mint genetic improvement (Ali Sabah Alhasan).”

Dhekney, Sadanand, and Christopher Hilgert: \$18,400 from Higher Committee for Education for “Development in Iraq Alleviating Grapevine Cold Damage in Wyoming Vineyards.”

Edwards, Jeffrey: \$25,000 from CropLife Foundation for “Creating a Sustainable Pesticide Safety Education Program for Wyoming.”

Fox, Jonathan: \$303,907 from National Institute of Neurological Disorders and Stroke/NIH/DHHS for “Year 3 Defining the Role of Brain Iron Dysregulation in Huntington’s Disease.”

Gatlin, Jesse: \$240,000 from Pew Charitable Trusts for “2014 Pew Scholar in the Biomedical Sciences: Regulation of Mitotic Spindle Size and Shape.”

Geiger, Milton: \$10,000 from Montana State University for “Exploring Small Hydroelectric in Montana: A Joint Project of the UW Extension and MSU Extension.”

Jarvis, Donald, and Christoph Geisler: \$73,134 from GlycoBac for “Glycoengineering Insect Cells - Amendment.”

Jeliazkov, Valtcho, Peter Stahl, and **Kristina Hufford:** \$39,500 from Bureau of Land Management/Department of the Interior for “Landscape Restoration Through Science-based Reclamation and Education.”

Kniss, Andrew: \$4,800 from Monsanto Company for “MSA Service Order 1: Rotation crop response to dicamba.”

Latchininsky, Alexandre, and **Larry Debrey:** \$3,357.20 from Animal and Plant Health Inspection Service/Department of Agriculture for “Wyoming Potato Cyst Nematode Survey.”

Latchininsky, Alexandre, and **Larry Debrey:** \$31,762 from Animal and Plant Health Inspection Service/Department of Agriculture for “Wyoming Cooperative Agriculture Pest Survey - Bundled Small Grain Commodity Pest Survey.”

Latchininsky, Alexandre, and **Larry Debrey:** \$7,365 from Animal and Plant Health Inspection Service/Department of Agriculture for “Wyoming Cooperative Agriculture Pest Survey - Nematode Survey.”

Liberles, David: \$457,886 from National Science Foundation for “Beyond dN/dS: Population Genetics, Genome Structure, and Protein Structure.”

Miller, Myrna: \$20,000 from Wyoming Animal Damage Management Board for “Rabies Surveillance and Sampling.”

Miller, Myrna, and William Laegreid: \$55,000 from National Institute of Food and Agriculture/Department of Agriculture for “Amendment #3 - NAHLN Diagnostic Laboratory Testing for Animal Diseases of High Importance.”

Moss, Gary, and Gary White: \$3,150 from Allied Seed LLC for “Niching of Corn Salad and Carrots for Seed Production in the Big Horn Basin (Cosponsored by Rijk Zwaan Production B.V.).”

Moss, Gary: \$1,710 from Briess Malting and Ingredients Company for “Briess Variety Trial/Fertilizer.”

Norton, Jay, Axel Garcia y Garcia, Urszula Norton, and Sandra Frost: \$20,000 from WDA for “Soil Health, Water Use, and Fertilizer Recommendations for Sugar Beet-DryBean-Barley Rotations under Conservation Tillage, Cover Crops and Limited Irrigation.”

Peck, Dannele, and Myrna Miller: \$14,068 from WDA for “Economic Benefits and Costs of Vaccinating Domestic Sheep Against Bluetongue Virus in Wyoming.”

Schell, Scott, Alexandre Latchininsky, and Keith Wardlaw: \$5,200 from WDA for “Mosquito Larval Control Workshop and West Nile Virus Prevention Training.”

Stahl, Peter: \$78,218 from Wyoming Community Foundation for “Best Methods for Reestablishment of Wyoming Big Sagebrush Using Container Grown Seedlings.”

Varga, Krisztina, and **Daniel Levy:** \$550,000 from National Science Foundation for “Structural-functional characterization of a hyperactive antifreeze protein.”

Whipple, Glen, and Justin Derner \$54,000 from Agricultural Research Service/Department of Agriculture for “Enhancing Decision-Making by Agricultural Producers in Wyoming with Weather Variability: Reducing Enterprise Risk and Increasing Resilience.”

Whipple, Glen, and Justin Derner \$96,000 from Agricultural Research Service/Department of Agriculture for “Enhancing Decision-Making by Agricultural Producers in Wyoming with Weather Variability: Reducing Enterprise Risk and Increasing Resilience.”

Presentations

By Ann Tanaka | October 2014

Edens, L.J., **Levy, D.L.** (2014). cPKC regulates interphase nuclear size during *Xenopus* development. *Journal of Cell Biology* Biobyte podcast: http://jcb.rupress.org/site/biobytes/biobytes_aug_18_2014.mp3

Seminars

By Ann Tanaka | October 2014

Department of Molecular Biology Seminars:

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

- **October 3:** "Cell signaling control at the nuclear lamina," Larry Gerace, Scripps Research Institute
- **October 10:** "Development and Maintenance of the Lung Alveolar Epithelium," Tushar Desai, Stanford
- **October 17:** "The Centromere is a molecular tension machine," Kerry Bloom, University of North Carolina
- **October 24:** "Cytoskeletal enzyme assemblies organize bacterial metabolism," Zemer Gitai, Princeton University
- **October 31:** "Plant traits by design with Synthetic Biology," June Medford, Colorado State University

Research across Disciplines and Ecosystem Restoration Seminars:

Fridays, 2:10 p.m., Ag C building, room 1030 -

- **October 3:** "Military applications of soil chemistry," Brandon Lafferty, US Army Corps of Engineers Research and Development Center
- **October 10:** TBA
- **October 17:** "Disturbance and recovery of Red Desert soils in the Wamsutter natural gas field," Samantha Day, Soil Science Graduate student, Ecosystem Science and Management Department
- **October 24:** "Fossilized crania and falsified carbon: Reconstructing modern human origins after a scientific forgery," Jim Ahern, Professor and Head, Department of Anthropology, University of Wyoming
- **October 31:** "Examining changes in species distributions with occupancy models," Darryl MacKenzie, Proteus Wildlife Research Consultants, Dunedin, New Zealand

Research across Disciplines Seminars:

Fridays, 2:00 p.m., Ag C building, room 1030

November 7: "Flow and Transport through Heterogeneous Aquifers," Mine Dogan Diker, WyCEHG

November 14: "Extent of Pre Bull Lake Glaciation," Larry Munn, UW emeritus professor of soil science

November 21: "Moose Expansion into Western Alaska," Eric Wald, PhD candidate, Department of Ecosystem Science & Management

Agricultural economics awards initial Glenn P. Roehrkasse Scholarship

By Ann Tanaka | October 2014

Agricultural economics graduate student Susan Wells is the first recipient of the \$1,000 Glenn P. Roehrkasse Scholarship.

The scholarship was established by Marion Roehrkasse in memory of her husband and former agricultural economics faculty member Glenn Roehrkasse. The scholarship is given to an outstanding graduate student in agricultural and applied economics whose research focuses on statistical or quantitative modeling, notes Associate Professor Ben Rashford, who announced the scholarship on behalf of the department's graduate committee.

Wells has maintained a 3.77 GPA while working toward a triple graduate major (master's degree in Agricultural and Applied Economics, Environment and Natural Resources, and Water Resources), and a reclamation certificate.

Her thesis under the direction of Assistant Professor Kristi Hansen and Associate Professor Chris Bastian is entitled, "The economic impacts on Goshen Irrigation District of reservoir storage policies on the North Platte River under different climate scenarios."

She is developing a detailed mathematical programming model of the North Platte River to analyze the economic impact of different policies the Bureau of Reclamation might implement to allow its contractors greater flexibility in storing water from year to year, says Rashford.

She is also an excellent department and community citizen, he notes. Wells was elected by her peers to serve as the department's graduate student representative during the 2013-2014 academic year, and she continues to volunteer each year with the Fort Phil Kearny State Historical Site and Meals on Wheels.

Wells is originally from Sheridan, where her parents, Don and Nancy, still reside. Prior to enrolling at UW, she attended the U.S. Naval Academy and served over 20 years in the Navy.



Susan Wells

Agricultural economics announces Vanvig fellowship recipient

By Ann Tanaka | October 2014



Kate Harlan

Kate Harlan has been selected to receive the ninth-annual Andrew and Connie Vanvig Fellowship.

The fellowship is the premier award for graduate students in the department, says Tom Foulke, research scientist in the department and representing the graduate committee.

The \$4,000 fellowship is made possible by an endowment from former department head Andy Vanvig and his wife, Connie. The fellowship is given annually to an outstanding graduate student in agricultural and applied economics.

Selecting the Vanvig awardee is a challenging process, notes Foulke. Faculty members nominate students, and the graduate committee selects from the nominees. Selection is based on attributes such as GPA, quality of research, initiative, and collegiality.

“Our talented graduate students come from diverse backgrounds and study a variety of topics within our field,” explains Foulke. “They have a myriad of accomplishments both inside and outside of the classroom. This makes the committee’s job all the more challenging, but enjoyable as well, since it is a pleasure to have such a talented pool from which to choose.”

Harlan has a 4.0 GPA and is a leader within the program, says Foulke

She is the daughter of Robert and Lynn Harlan of Kaycee. Her father is a UW agricultural and applied economics alumnus, graduating in the 1970s. He has been putting his degree to work on the ranch raising sheep ever since, notes Foulke.

Harlan received her bachelor’s degrees, double-majoring in agricultural education and agricultural business, from UW in 2012. She joined the master’s program in 2013. Her graduate research centers on building a tool to optimize ewe selection. The proposed title of her thesis is, “Valuation of Residual Feed Intake as a Selection Tool for Northeastern Wyoming Sheep Producers”.

Food and Nutrition Service head keynotes UW Consumer Issues Conference

By Ann Tanaka | October 2014

Audrey Rowe, USDA Food and Nutrition Service (FNS) administrator, is a keynote speaker at the “Food: Perceptions, Practices, and Policies” Consumer Issues Conference October 8-10 on campus.

Rowe directs the arm of the USDA responsible for delivering federal nutrition assistance programs including WIC, Supplemental Nutrition Assistance Program (SNAP) and school meals. FNS programs are aimed at reducing hunger and obesity in the United States. NFS has budget authority for 75 percent of USDA’s \$199 billion budget.

“We’re thrilled that Audrey Rowe will be attending this year’s conference. This will be the first visit to Wyoming in 10 years from a USDA official in Rowe’s position,” says Virginia Vincenti, a professor in the Department of Family and Consumer Sciences and one of the conference organizers.

A graduate of Federal City College and a former fellow at the John F. Kennedy School of Government Institute of Politics at Harvard University, Rowe has served as senior vice president and managing director for the Children and Family Services Division and senior vice president for Public Affairs for Affiliated Computer Service, formerly Lockheed Martin IMS. Rowe will give an overview of FNS’s nutrition programs and will also take part in a panel discussion on school nutrition issues.

The conference will highlight food issues citizens, researchers, and governments at all levels are concerned about and have been working on, says Vincenti. “We hope to bring a diverse audience together to network and engage with each other.”

Details of the conference are at www.uwyo.edu/cic. Professional credits are available. Registration costs vary, but all students are free.



*Audrey Rowe, deputy secretary
Special Nutrition Programs*

From the beginning until now: New book details rise, domination of insects

By Ann Tanaka | October 2014



Scott Shaw

“Planet of the Bugs: Evolution and the Rise of Insects” by Scott Shaw at the University of Wyoming has drawn glowing comments from national and international reviewers, but bugs may be the final critics.

Shaw, a professor in the Department of Ecosystem Science and Management, jokes that editions of his new (and first) book would probably end up in the guts of some insects and digital versions devoured by computer bugs.

If that happens?

“Dark justice,” says Shaw, and smiled.

More about that later.

Shaw tells the story of evolution of the dominant insect species and their shaping of life on earth, written with rich, descriptive images (you’ll walk with a contemplative Shaw in his prologue, sloshing his way along a rainforest trail oozing with slippery mud), has drawn glowing reviews from the *Times Higher Education Review* and *New Scientist*, inspired a cartoon in *The New Yorker*, and is on Google Books, Amazon, iTunes, Barnes and Noble, and other bookstores.

He was invited and wrote an opinion piece “Bug Love” published August 23 in *The New York Times*.

The resulting buzz seems to have little effect on Shaw, who joined UW as an assistant professor 25 years ago.

Shaw says, with the printed book now on his desk, the vacuum of not having to pour work into the project is strange.

“There was a tremendous amount of work creating and finishing the book, especially the last year,” notes Shaw.

He had sketched out the book 10 years ago and was 80 percent complete within the first two years. Then, work intervened and writer’s block.

Chapters were sent to experts and friends for review before he approached University of Chicago Press.

Once he did begin working with a publisher, there were changes. “It’s a major transformation from the original concept,” says Shaw. “Some of the chapters were cut out entirely.”

The 1-inch thick book compares to the 6-inch-plus stack of versions and revisions on his desk.

“I was shocked how compact it all looks now,” he says. “I’m very pleased with the final product. I had a very productive collaborative effort with my editors. They were extremely helpful and extremely knowledgeable

about what makes a good book a good book.”

Shaw writes chronologically, time-travelling with readers back to about a half-billion years ago when the ancestors of insects were paddling and swimming about in the oceans, and then to the explosion of present-day diversity. The 10,000 years or so of human civilization is miniscule compared to time insects dominated the planet.

Insects are the feature presentation in life’s evolution; mammals take backstage.

He mixes creative writing style with solid scientific information; a result of teaching courses to broad audiences, such as instructing honors classes and accompanying students to Ecuador in special project courses. The chronological format sprang from repeated questions from students. During lectures about insects and evolution, students - whether in the hard sciences or not - seemed to always want to know more about what happened with insects “before.”

What happened to Shaw before is that the *The Cat in the Hat* and the 1960s science rush conspired to eventually land him in entomology and scientific research.

Think back. Sally and her brother (unnamed) are stuck inside their house on a rainy day while their mother is away. The Cat enters and wreaks havoc and lets lose Thing One and Thing Two. Sally’s brother quickly uses a net to catch Things One and Two when the siblings discover their mother is about to come home. The story prompted Shaw to want his own net at an early age.

Shaw has been netting insects since he was 4 years old but that would remain a hobby for a while. Meanwhile, the space rush of the 1960s had him dreaming of becoming a space shuttle astronaut. He claimed astrophysics as an initial major as an undergraduate but that quickly changed. He even dabbled in poetry until deciding on entomology for his life’s work.

He’s been an author or co-author on more than 115 journal articles, and is curator of the UW Insect Museum and Insect Gallery. The book is an attempt to generate an interest in insects and their importance to nature but also to “pass along ideas to a new generation of scientists who he hopes will do a better job of taking care of the planet than we have done.”

About those insect critics. Bedbugs - among other species - have been known to hide in the spines of books to catch a ride or for room and board, and insects would eat the organic glue once used to bind books. The first computer bug was a moth that flew into the Harvard University Mark II Aiken Relay Calculator in 1947. It was debugged.

Mentoring program creation garners praise for agricultural economist

By Ann Tanaka | October 2014

Creating a mentoring program for agricultural economists prompted an agricultural and applied economics faculty member receiving the Presidential Recognition Award from the Agricultural and Applied Economics Association (AAEA).

Associate professor Mariah Ehmke is co-recipient of the group's honor along with Kynda Curtis. Ehmke is in the Department of Agricultural and Applied Economics in the College of Agriculture and Natural Resources, and Curtis is an associate professor in the Applied Economics Department at Utah State University.

AAEA past president Julie Caswell at the University of Massachusetts Amherst nominated the two. She said the award is based on the challenges and issues faced by the association and contributions a particular individual has made to address those challenges.

UW agricultural economics professor Nicole Ballenger says her fellow faculty member "is incredibly committed and smart."

"Mariah has always just impressed me as a person who is highly motivated," says Ballenger. "She really cares about the advancement of women in our profession, and she goes out there and just gets things done."

Perhaps this reputation led Curtis to approach Ehmke with the idea of a mentoring program to span AAEA, matching those new to academia with senior members to create a realm of professional development.

Caswell says Ehmke and Curtis over the last four years have "developed a truly excellent, annual, year-long mentorship program for new professionals that includes cohort meetings and one-on-one mentoring."

The program began in 2011. Developing mentor-mentee relationships has been coupled with professional development curriculum ranging from how to implement new teaching techniques in the classroom to developing one's research capacity.

"We've had about 25 mentees go through each year, so we're getting into having between 75 and 80 people who have been mentored now through the formal program," Ehmke says. "Hundreds of people have been affected through the sessions and workshops through our association meetings."

Participants attend workshops a day before annual meetings to bring them together and focus their mentoring goals, she says. "Through the next year, they're in a relationship where, through phone, Skype, and Internet, they're interacting so the senior economist can mentor the junior economist. We do a mid-year energizer, and then they meet back for a final year recognition ceremony."

Mentorship participants come from a diverse pool. Some are stationed at large universities with tens of fellow agricultural economists on staff to departments comprised of a sole agricultural economist. Mentorship programs offer the chance for new academics to learn how to make a name for themselves



Mariah Ehmke

through research and published papers and also benefits university students through shared information about effective education and teaching.

“When I went to graduate school, I didn’t get trained to be a teacher - I got trained to be an agricultural economist to run models, to analyze problems from policy - those sorts of things,” says Ehmke. “There’s strength in having a relationship with someone who is actually teaching agricultural economics. I think whether they know it or not, students benefit, too.”

Recognition not only honors Ehmke’s hard work but also brings acknowledgement to the agricultural and applied economics department at the University of Wyoming, notes Ballenger.

“We don’t have a lot of visibility in our profession,” she says. “We have some but not as much as a big department might, and so I think for her to have done this really also puts our department in the spotlight and says, ‘Wow! Look at the kinds of people they have at the University of Wyoming,’ and that’s really good for us, too.”

Ag Barbecue

By Ann Tanaka | October 2014

No slides are available in this gallery

Agricultural club and organization members served about 736 people during the annual Ag Day Barbecue as part of Ag Appreciation Weekend. It's estimated the clubs and organizations will have more than \$5,000 to divide.

Publications

By Ann Tanaka | October 2014

Edens, L.J., **Levy, D.L.** (2014). cPKC regulates interphase nuclear size during *Xenopus* development. *Journal of Cell Biology*, 206(4):473-83. PMID25135933