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Animal Science Newsletter

Department of Animal Science

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News of the Department of Animal Science

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South Dakota State University

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News of the Department of Animal Science

South Dakota State University

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Animal Science Scholarship Awards

The Animal Science scholarship banquet was held the evening of September 12 at the Volstorff Ballroom in the Student Union on campus. Nearly 300 people were in attendance, including parents, donors and faculty. For the 2017-2018 academic year, approximately \$105,000 was awarded to 125 SDSU students majoring in Animal Science. A sincere thank you to our donors whose support is greatly appreciated.

The Darwin and JoAnn Britzman Graduate Scholarship was awarded to **Emily Petzel**, Balsam Lake, WI, pictured right, with advisor **Dr. Jeffrey Held**.



The Barry Dunn Animal Science Graduate Student Scholarship was awarded to **Wes Gentry**, Lamesa, TX, pictured left, with Kayla Gentry and **President Barry and Jane Dunn**.

The Meat Nerd: Excellence in Meat Science Scholarship was awarded to **Christina Fehrman**, Lake Benton, MN, pictured right, with advisor **Dr. Kyle Grubbs**. **Dr. Kyle Grubbs** and Theresa Garren-Grubbs created this new scholarship to encourage outstanding students to pursue graduate study in meat science.



Callie Kukuchka, Signature Wool Project scholarship winner is pictured with **Rufus and Patty DeZeeuw**.

Some of the Beef Bowl Scholarship winners posed for a picture with **Dr. Michael Gonda**.



Upcoming events



November 28, 29, 30 – Range Beef Cow Symposium, Cheyenne, WY

November 29-30– SD Cattlemen's Association Convention, Pierre

December 6-8 – Sheep Shearing School, Brookings

January 8, 2018 – Instruction Begins, Spring Semester, 2018

January 13 – Lamb Bonanza SDSU vs Denver

January 27 – Pork Classic SDSU vs Fort Wayne

March 23-24 - Little I

May 5 – SDSU 131st Annual Commencement

May 21, 22, 23 – NCCRA057, Brookings, SERF



Dr. Rick and LaRayne Wahlstrom presented the Rick and LaRayne Wahlstrom Scholarship to Boaz Swift, Burke, SD

Numerous other scholarships sponsored by organizations, endowments, and faculty members were presented that evening. Departmental awards announced at this year's banquet included the Richard Wahlstrom Animal Science Award for Excellence; the Distinguished Alumni Award, and Friend of the Department Award.

Richard Wahlstrom Animal Science Award for Excellence

This monetary award is given annually to recognize outstanding scholarship of Animal Science faculty members in the areas of teaching, research, extension and/or outreach. This year's recipient, Assistant Professor **Dr. Crystal Levesque**, is pictured with **Dr. Joe Cassady** and **Dr. Richard Wahlstrom**. **Dr. Levesque's** research is focused on swine nutrition, specifically intestinal health and the interface among nutrition, immunology, and microbes in the digestive tract. Her research has explored alternative feeding programs for newly weaned pigs that do not use animal products or antibiotic growth promoters. Since 2013, **Dr. Levesque** has secured over \$2 million in funding for her research, including the highly prestigious Foundation for Food and Agricultural Research – New Innovator Award. She has published 10 peer reviewed scientific manuscripts, 25 scientific abstracts, and one book chapter.



Distinguished Alumni Award

The Distinguished Alumni Award recognizes the accomplishments of alumni of the Animal Science Department at SDSU who have impacted the agricultural industry, communities and individuals across the state, nation, and world. Awarded annually, this year's recipient is **Howard Hillman**. Pictured right, **Dr. Joe Cassady** presents the award to Howard and JoAnne Hillman.

Howard Hillman received his Bachelor of Science degree in Animal Science from SDSU in 1963. While at SDSU, he was active in several organizations, including the livestock judging team that won the national championship in 1962. After graduation, Howard returned as a managing partner to the diversified family farming and ranching operation, BonView Farms, near Canova, SD. From the time of his return through their dispersal in 1999, the BonView name became synonymous with high quality, production oriented Angus cattle. They were a world renowned seedstock operation, producing Angus genetics for decades that have influenced the international value of Angus cattle. Numerous BonView-produced sires have headlined AI studs, including sires that historically rank in the top high-usage bulls of all time in the breed. These breeds continue to genetically impact leading registered herds and commercial cattle programs.



Howard and JoAnne continue to champion the need for youth leadership and have funded scholarships with the American Angus Association and at SDSU to continue this charge.

Friend of the Department Award

Awarded annually, the Friend of the Department Award honors a person who has impacted students, staff and faculty of the department, as well as the entire agricultural industry across the state, nation, and world. Congratulations to this year's recipient, **Glenn Muller**. Glenn accepted the award from **Dr. Joe Cassady** at the scholarship award banquet held September 12.



Glenn Muller, Executive Director of the South Dakota Pork Producer's Council (SDPPC), is a graduate of SDSU with a degree in Agricultural Education. While there, he was a four year participant in Little International, more recently has judged their swine competition and served as Master of Ceremonies in 2012. Three of his children attended SDSU and his daughter-in-law and son-in-law are SDSU graduates.

Glenn received the 2013 SD Honorary Master Pork Producer Award, 2014 SDSU Gamma Sigma Delta Honored Alumni Award and 2015 SF Area Chamber of Commerce Agri-business Citizen of the Year.

Glenn served as President of the SD Pork Producers Council in the early 1990's and was a stabilizing force in working through the "anti-corporate farming" issue facing SD. He was invaluable in helping SDSU develop an Extension swine program relevant to the industry and what would best serve SD producers.

Since becoming Executive Director of the SDPPC in 2010, Glenn has been a tremendous leader for all of agriculture. He has assisted the Department in multiple ways for more than 25 years, including leading efforts of the funding and construction of the recently completed SDSU Swine Education and Research Facility (SERF). His efforts with the state legislature were essential in receiving project approval as well as \$2 million of state support. In order to ensure the new SERF could function to its potential, he led the efforts to provide \$25,000/year for an M.S. assistantship for an Assistant Manager of the Unit.

Fulbright U.S. Scholar Program

Dr. Bob Thaler, Professor and Extension Swine Specialist has been chosen for the Fulbright U.S. Scholar Program and will work with the Vietnam National University of Agriculture in Hanoi January through May 2018. **Bob** will interact with the Vietnamese people to share his knowledge as the country transitions from backyard production to sustainable commercial enterprises. He will be a guest lecturer as well as work with officials to extend the knowledge through the countryside. His wife, Karen, who has been granted a sabbatical from the Brookings School District, will accompany him. She will continue to be connected to her students via a blog.



Condolences

We express our sympathy to **Dr. Rosie Nold** and family on the passing of her father-in-law, Martin Charles "Doc" Nold, on September 5. He was a longtime Gettysburg, SD veterinarian.

Congratulations

On July 19, graduate student **Lee Opdahl** presented a seminar prior to his successful M.S. defense. The title of his presentation was *Identification of candidate cellulose utilizing bacteria from the rumen of beef cattle*. **Lee** studied under the direction of **Dr. Michael Gonda** and has begun a Ph.D. program at Washington State.



Graduate student **Jerica Rich** presented a seminar prior to her successful M.S. defense on July 21. The title of her presentation was *Local and systemic actions of GnRH relating to estradiol and associated reproductive parameters in beef cattle*. **Jerica** studied under the supervision of **Dr. George Perry** and has begun a Ph.D. program with **Dr. Perry**.



Dr. Bob and Karen **Thaler** became grandparents on July 28 when Brett Randall was born to Sarah and Dustin Holt of Summit. He weighed 5 lbs 7 oz and was 18.5 inches long.



Farewell



A farewell party for **Dr. Sara Mastellar** was held August 4th. We extend best wishes to Sara in her equine position at the Ohio State University.

Graduate student **Sara Awrahman** presented her research titled *Using RNA-sequencing to define gene pathways associated with Salmonella spp. vaccine response in cattle* at a seminar prior to her successful M.S. defense on August 31. **Sara** studied under the direction of **Dr. Michael Gonda**.



In August, **Chelsea Sorensen**, Professional Academic Advisor, was published in a book about pedagogy and teaching skills for student affairs professionals, titled *Learning Everywhere on Campus*. Her chapter focuses on applications of growth mindset and goal-setting strategies for college students.



Former department head (1989-2005) **Don Boggs** and Rosemary became grandparents on September 29 when Dylan Arthur Crist was born to Matt and Theresa Crist of Minneapolis, MN. He weighed 8 lbs 4 oz. and joins brother Logan.



A farewell party was held September 25th for **Ann Kolthoff**, who has accepted employment with Strauss Brands of Milwaukee, WI. She served as Sheep Unit Manager for six years.



Welcome New Employees



Brady Jensen recently began employment in the Animal Science Department as an Instructor/Livestock Judging Coach. He received his M.S. degree in Animal Breeding and Genetics in August, 2017 from Kansas State University and his B.S. in Animal Science and Industry in 2015 also from Kansas State University. Additionally, he received an Associate in Agriculture degree from Butler Community College in 2013. His work experience includes a stint with Jensen Bros. /Jensen Genetic Center (family ranch and business) at Courtland, KS. While

pursuing his M.S. degree, he was a graduate teaching assistant as well as assistant livestock judging coach for K-State.

Chanda Engel began employment in October as an Extension Cow-Calf Field Specialist at the Watertown Regional Center. She received her B.S. in Animal Science from SDSU in 1997 and her M.S. in Ruminant Nutrition at SDSU in 2007. She most recently was employed as an Animal Science Specialist at the NDSU Carrington Research Extension Center.

As an interim instructor, **Stephanie Perkins**, pictured far left, is teaching several equine studies courses.



She continues her work as a lab technician in the Reproductive Physiology/Genetics labs. **Savanna Tomoson**, pictured near left, received her B.S. degree in Animal Science from SDSU in May, 2017. She is serving as a teaching assistant in equine studies while pursuing her M.S. in Curriculum and Instruction at SDSU and is working with Dr. Rosie Nold on a related research project.

Necitas Abelilla, a visiting scholar, is conducting research in Swine Nutrition under the direction of **Drs. Bob Thaler** and **Crystal Levesque** while pursuing her Ph.D. degree under the advisement of **Dr. Rommel Sulabo** (M.S. 2004), University of the Philippines.



Pictured left to right, **Anlly Miley Fresno Ruedo**, **Sangwoo Park** and **Kevin Jerez Bogota** are serving as



lab technicians assisting **Dr. Tofuko Woyengo** with swine research. **Dr. Agatha Ampair**, Post Doctoral is also assisting **Dr. Woyengo** with swine research.

Welcome Graduate Students

Robert Hoiten received his B.S. degree in Animal Science from SDSU in May, 2017 and has begun M.S. graduate studies in Monogastric Nutrition under the direction of **Drs. Ryan Samuel** and **Bob Thaler**. He is a native of Montrose, SD.

Samantha McKinney is pursuing her Ph.D. degree in Meat Science under the direction of **Dr. Kyle Grubbs**. She completed her B.S. degree in Animal Science at Pennsylvania State University in 2015 and a M.S. degree in Animal Science from PSU in May, 2017.



Erin Radke, from Colman, SD is pursuing her M.S. degree in Genetics under the direction of **Dr. Michael Gonda**. She received her B.S. degree in Animal Science from SDSU in December, 2015.



Christian Ramirez Camba, from Guayaquil, Ecuador, has begun M.S. graduate studies in Swine Nutrition under the supervision of **Dr. Crystal Levesque**. He received his B.S. degree in Agriculture from Zamorano University, Honduras.





Emily Rosenthal received her B.S. degree in Animal Science from SDSU in May, 2017 and has begun M.S. graduate studies in Ruminant Nutrition under the direction of **Dr. Derek Brake**. She is originally from San Diego, CA.

Wyatt Smith, Adair, OK, received his B.S. degree in Animal Science from SDSU in May, 2017 and has begun M.S. graduate studies in Ruminant Nutrition under the direction of **Dr. Derek Brake**. He also serves as Assistant Livestock Judging coach.



Livestock Judging Team Reunion and Auction



The weekend of July 14-15 was a special time for livestock judging alumni who gathered in Brookings for a reunion. **Darrell Anderson** (1969) was master of ceremonies at the Friday night banquet held at McCrory Gardens Center. **Dr. Dan Gee** presented a memorial tribute to Coach **Paul Kohler** and **Robert Hanson** (1965). Current SDSU Livestock Judging Coach **Grady Ruble** and judging team members were



introduced to the 120 people in attendance. A special welcome was given to the incoming SDSU Livestock Judging Coach, **Brady Jensen** and his wife, Allie. Following the meal, Sony Booth served



as auctioneer of donated items. The auction netted approximately \$30,000 for the Gee-Kohler Livestock Judging Endowment. The reunion continued on Saturday morning with a well-attended tour of the Cow Calf Education and Research Facility, Swine Education and Research Facility, the Dana J. Dykhouse Stadium and the Sanford-Jackrabbit Athletic Complex.



SDSU Photos

Beef Bowl BBQ 2017

Due to extensive construction on campus, the annual beef BBQ was held north of the Sanford-Jackrabbit Athletic Complex September 16. Approximately 2,000 people were served a BBQ beef sandwich meal prior to the SDSU football game against Drake University. Additionally 20 beef bundles were auctioned. All proceeds from the Beef Bowl meal and auction are available for scholarships for Animal Science



undergraduates. During half-time of the football game, Craig Dybedahl, Colton, SD was honored as the 2017 SDSU Friend of the Beef Industry. Craig has been generous in his support of building the new SDSU Cow Calf Education and Research Facility and continues to support students and the Animal Science Department. Pictured L to R: Wayne Tupper, **Dr. Joe**

Cassady, Dr. Don Marshall, Craig Dybedahl, President Barry Dunn.

ASAS-CSAS National Meeting

The inaugural meeting of the American Society of Animal Science (ASAS) and the Canadian Society of Animal Science (CSAS) was held July 8-12 in Baltimore, MD.

Dr. Joe Cassady is currently a Director-at-Large of the organization. **Dr. Derek Brake** was Chair of the session Ruminant Nutrition: Nitrogen I.



Invited oral presentations were given by **Dr. Derek Brake**, *Effects of postruminal flows of protein and amino acids on small intestinal starch digestion in cattle*, and **Dr. Kristi Cammack**, *Tiny but mighty: The role of rumen microbes in livestock production*.

Oral presentations were given by **Dr. George Perry**, *Influence of vaccination with a combined chemically altered/inactivated Bhr-1/BVD vaccine or a modified live vaccine on reproductive performance in beef cows and heifers*; graduate students **Venkata Bandarupalli**, *Identification of novel rumen bacteria using starch as a selective nutrient in batch cultures*; **Erin Beck**, *Effects of post-insemination dam nutrition on calf performance and DNA methylation*; **Ethan Blom**, *Effects of lipid intake and degree of saturation on nutrient digestion and nitrogen balance in steers consuming corn-based diets*; and **Emily Rosenthal**, *Effects of solvent- or mechanically extracted-Brassica carinata meal on performance of cows*.

Posters were presented by **Lee Opdahl**, *Identification of six uncultured rumen bacteria from different phylogenetic lineages using cellulose as a selection agent*; **Cheyenne Hron**, *Identification of a previously uncharacterized Ruminococcaceae bacterial species associated with inclusion of high levels of lipid in the diet of beef steers*; and **Brooke Brunsvig**, *Evaluation of NDF, ADF and acid detergent insoluble ash to predict forage selection among heifers grazing pastures containing a binary mixture of brassicas and grass*.

Others attending were **Drs. Benoit St-Pierre, Julie Walker, Tofuko Woyengo, and Warren Rusche**, as well as graduate student **Subash Acharya** and undergraduate student **Christina Mogck**.

Society for the Study of Reproduction



The Society for the Study of Reproduction met in Washington, DC on July 11-17. **Dr. George Perry** attended the meeting with several graduate students who made presentations. Those presenting were **Stephanie Perkins**, *Characterization and comparison of proteins in the sperm storage tubules of female chickens to bovine epididymal fluid*; **Jerica Rich**, *Influence of small doses of GnRH following CIDR removal on reproductive parameters in beef cattle subjected to a fixed-time AI protocol*; and **Emmalee Northrop**, *The influence of elevated preovulatory estradiol on apoptosis in the trophectoderm of day 16 bovine conceptuses*.

Minnesota Nutrition Conference

The 78th Minnesota Nutrition Conference was held September 20-21 in Mankato, MN under the general theme *The Future of Animal Production*. Graduate students who presented and participated in the graduate student poster competition were **Jung Wook Lee**, *Porcine in vitro degradation and fermentation characteristics of oats*, **Jacob Koepke**, *Evaluation of a bio-processed soybean meal on nursery pig performance and immune status*; and **Jamie Ortman**, *Comparative analysis of bacterial composition in the ileum of early post-weaned piglets fed microbially enhanced soybean meal and fishmeal*. Others attending sessions were **Drs. Crystal Levesque, Ryan Samuel, Tofuko Woyengo, Agatha Ampair** and graduate students **Jamie Ortman, Ron Navales, Christian Ramirez-Camba, Sam Welu, Necitas Abelilla** as well as **Kevin Jerez, Sangwoo Park** and **Anlly Miley Fresno Ruedo**.

SD Sheep Grower's Convention

The SD Sheep Growers Convention was held in Brookings at Days Inn Convention Center September 29-30. Those travelling by bus to Faribault, MN for a tour of the Faribault Woolen Mill Friday included **Drs. Joe Cassady, Jeff Held, Lowell Slyter** as well as **David Olilla, Heidi Carroll** and **Carol Kleinjan**. The successful SDSU Signature Wool products are manufactured at this location. The Friday evening social event, held at the SD Ag Heritage Museum, included hors d'oeuvres featuring lamb, cheese, crackers and dessert and allowed attendees to explore the award winning museum exhibit "The Unspun Tale: Sheep in SD". Saturday activities included the Shepherd's Shuffle 5K race, 1-mile fun run/walk and 3-mile relay to promote ovine (sheep) GM1 for the treatment of Huntington's Disease (HD) and/or other neurologic diseases. 2017 Master Lamb winners were announced: Purebred Producer, Rob and Christy Zelinsky and Family and Lamb to Finish Producer, Bon Homme Colony, Thomas Stahl, Sheep Manager. Items created from SDSU Signature Wool yarn and fabric were auctioned during the convention and proceeds were donated to the Signature Wool Project scholarship fund.



International Travel

Dr. George Perry presented an abstract at the Association for Applied Animal Andrology (AAAA) Meeting, June 24-26 in Tours, France. It was titled *Characteristics of epididymal and ejaculated sperm when cultured in extender media*. AAAA meetings are held biennially in Europe or North America in order to stimulate and disseminate information on applied animal andrology.

Tours, France was the location of the 18th International Congress on Animal Reproduction (ICAR) Meeting, held June 26-30. ICAR sponsors a major conference every four years in various countries around the world and includes the foremost academics, scientists and practitioners in the field of animal reproduction, namely animal physiology, animal pathology and reproduction technology. **Dr. George Perry** presented an invited talk titled *Factors affecting puberty in replacement beef heifers*. Two graduate students attended ICAR and presented data from their master's projects: **Stephanie Perkin's** poster and presentation was titled *Characterization of miRNAs and piRNAs in the seminal plasma of beef bulls with predicted high and low fertility*; **Emmalee Northrop's** poster and presentation was titled *Influence of preovulatory estradiol on conceptus survival and uterine glucose transporter expression*. Graduate student **Jerica Rich** attended and presented a poster titled *Differences in abundance of GnRH-I and GNRH-II among bovine antral follicles*.

Dr. George Perry travelled to Cordoba, Argentina August 29-September 4 where he attended the International Symposium on Animal Reproduction. While there he gave two talks: 1) *Effects of nutritional management around the period of artificial insemination on embryo development and pregnancy rates in heifers* and 2) *Effect of follicular maturity on the establishment of pregnancy*.

Dr. George Perry attended the CEVA Symposium on Beef Reproductive Technologies September 18-20 in Edinburgh, Scotland. He presented two talks during the conference: 1) *Beef production in the USA and the reproductive technologies used* and 2) *Influence of puberty and heifer development on reproductive success*.

Dr. Amanda Blair attended the Canadian Beef Industry Convention in Calgary, Alberta Canada August 14-17 and participated in the trade mission: Canada Livestock Genetics Export Mission.

News and Notes

In July **Drs. Ken Olson, Amanda Blair, and Adele Harty, Robin Salverson, Taylor Grussing, and Stacy Hadrick** accompanied beefSD participants on a trip to beef industry tour stops in NE, KS, and CO.

Dr. Jeff Held assisted with the 2017 ASI Young Entrepreneurs tour program that brings young sheep producers to our region to gain knowledge on progressive intensively managed sheep production systems. The group toured the SDSU Sheep Unit July 18th.

Drs. Keith Underwood and Kyle Grubbs along with graduate student **Christina Fehrman** conducted a food science educational session in July for University on the Prairie, Lamberton, MN, a 4-H summer program.

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Submitted by Carol Kleinjan, Editor