

COWPOKE

NEWS

*Department of Animal & Food Sciences
Oklahoma State University
Summer 2019*





CONTENTS

- 4** Announcements
- 5** Animal and Food Sciences provides youth with unique opportunities
- 7** Youth Extension intern named CASNR Outstanding Freshman
- 8** Steve Armbruster, a cut above the herd and a Legend of Feedlot Nutrition
- 10** OSU's new Animal Nutrition and Physiology Center to benefit all of Oklahoma, and beyond
- 12** OSU hosts ASAS Southern Section Academic Quadrathlon
- 14** FAPC honors food science graduate students with fellowship
- 16** Food safety program helps prepare OSU students for food industry
- 17** Valerie Novak promotes animal and food sciences through ag communications
- 18** Awards and recognition
- 25** Student organizations
- 26** Alumni memorial scholarships
- 27** Sponsors of the department

5



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12



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21



PHOTO / VALERIE NOVAK

22



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COWPOKE NEWS

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On the Cover

A gilt from the OSU Swine Center is on the cover of this edition. She was one of the three not so little pigs which took part in a practicum stop during the 2019 Animal Science Quadrathlon.

Announcements

2019 Reciprocal Meat Conference

The OSU Department of Animal and Food Sciences made a strong showing at the 2019 Reciprocal Meat Conference in Loveland and Fort Collins, Colorado. Here are some of the highlights:

- Gretchen Mafi – Distinguished Teaching Award
- Ranjith Ramanathan – Distinguished Achievement Award
- Morgan Pfeiffer – Cleaver Award (Ph.D. Teaching)
- Kathryn Hearn – Undergraduate Scholastic Achievement Award
- Charley Rayfield - Undergraduate Scholastic Achievement Award
- Drew Cassens – Past President of the AMSA Student Board
- Laura Yoder – newly elected Director of the AMSA Student Board

Big 3 Field Days Break Records

The popular Big 3 Field Days broke records again this year. Each day surpassed attendance for all previous field days, with 1,860 youth participating in total.

Arrivals

Jeff Robe has joined our team as program coordinator for the Oklahoma Quality Beef Network. He is working with Paul Beck, beef cattle Extension specialist, to make updates to the program and plan upcoming sales. Read more about the OQBN program on page 14.

Jeremy Cooper joined our farm shop in July. He helps our department with mechanical repairs to farm equipment. Welcome to the team!

Evin Smith joined our main office staff as an administrative assistant. She can be found at the front desk in ANSI 101, cheerfully greeting students who enter the office.

Departures

Deb VanOverbeke is the new assistant dean for the OSU College of Agricultural Sciences and Natural Resources as of August 1, 2019. We are sorry to see her leave the department, but wish her all the best in her new position!

Animal and Food Sciences provides youth with unique opportunities

Within the OSU Department of Animal and Food Sciences, Extension services and programs are developed to help communities and industries with their agricultural needs. Some of these programs focus on assisting youth in developing their animal and/or food science knowledge and skills. The department of animal and food sciences holds many events throughout the year that do just that.

“Our department hosts these events for two main reasons,” said professor Gretchen Mafi. “It is part of our Extension function as a land grant university, and it is an excellent educational tool for youth.”

The department hosts events revolving around livestock, horse, and meat judging throughout the year. Undergraduate student Cathy Mapes helped plan some of the events this year as a youth Extension intern.

“Organization is key with all of these events,” Mapes said. “The two main events in the summer are the Livestock Judging Camp and Big 3

Field Days, hosting 160 and 1,900 participants respectively. They each require much attention to detail, making sure everything is lined out for these events.”

Several months of planning, preparing, and hard work go into hosting these Extension events, as well as communication and team work. Mafi has organized meat science events for the department, including a

“In my opinion, the main reason AFS chooses to host these events is to grant the students experience and life skills that will be helpful as they continue into college, such as decision making, confidence, and hopefully success.”

- Cathy Mapes

Youth Extension Intern

youth meat judging contest that runs congruently with the Big 3 Field Days.

“Hosting these events takes a ton of work,” Mafi said. “The meat events require planning to slaughter animals to have all the product that is needed, fabricating for judging, coordinating registration, scoring, awards, and then after how to fabricate meat for sale. The Robert M. Kerr Food and Agricultural Products Center is a great partner for these events.”

The youth Extension events help Oklahomans, as well as youth from many other states, develop the right skills and knowledge necessary to follow their dreams in animal and food sciences.

“These events are important for youth because it teaches them many life skills like organization, time management, and team work,” Mafi said. “It also teaches them many things about the industry and might give them excitement or insights into future career opportunities.”

By Rebekah Alford



PHOTO / CATHY MAPES

2019-2020 AFS Youth Extension Events

The Oklahoma State University Department of Animal and Food Sciences hosts youth Extension events throughout the year. For more information and events, visit our website at afs.okstate.edu/youth.

Dairy Judging Youth Events

State 4-H and FFA Dairy Judging Contest

Every April, OSU hosts the State 4-H and FFA Dairy Judging Contest. Participants evaluate the physical characteristics of dairy cattle.

Summer Dairy Field Days

Each June, OSU hosts the Summer Dairy Field Day. It consists of a dairy judging contest and Oklahoma dairy producer meeting.

Equine Youth Events

Horse Communication Contest

Youth compete by demonstrating their equine knowledge and public speaking ability in this multi-contest event which includes speeches, illustrated presentations, photography, and quiz bowl.

Horse Science Academy

High school aged youth get immersed in the STEM side of equine management, using math skills, and scientific concepts while doing hands-on activities.

State 4-H and FFA Horse Judging Contest

Students from across the state compete to determine the best of the best in horse judging. Finishing as the top teams allow youth to advance to national competitions such as the AQYHA World Show.

State 4-H Horse Show

Top contestants from the four districts compete at the Tulsa State Fair to determine the state champion in events such as Western Pleasure, Hunter Hack, Showmanship, Reining, and Ranch Roping.

Food Science Youth Events

4-H Round Up

OSU hosts a session called "Don't Judge a Burger by its Color." This includes three demonstrations related to meat quality, how to measure tenderness, what is the reason for meat color, and a quick tour of the Robert M. Kerr Food and Agricultural Products Center.

Food Science CDE

Food Science CDE is held the last Saturday of April. There are different components, including objective questions, practicum, product development, and oral presentation. Over the last six years, participation in OSU food science youth Extension events as doubled!

National Lab Day

This event is held in May and focuses on engaging students in grades K-12 with STEM experiences.

Livestock Judging Youth Events

Big 3 Field Days

Our Big 3 Field Days is the most time-honored summer field day in the country! The three-day event draws approximately youth to OSU in July to participate in livestock judging and other educational events. The 2019 Big 3 Field Days had record-breaking attendance all three days, with a total of 1,860 unique individuals participating.

Cimarron Classic

The Cimarron Classic is open to Junior College, 4-H, and FFA Youth livestock judging teams. There is no limit to how many teams or individuals a Junior College, high school, or county can enter. The contest will have three divisions in total.

Livestock Judging Camp

The OSU Livestock Judging Camp brings 160 prospective students each June to participate in one of two events. This unique experience will give participants the exciting opportunity to work with some of the most successful livestock judging coaches in the country. In 2019, youth from approximately 25 different states came to OSU to participate.

Oklahoma Youth Expo

The Oklahoma Youth Expo (OYE) is recognized as the largest youth event in Oklahoma. Each March, Oklahoma State University plans a day of games, giveaways, and fun during "OSU Day at the OYE."

Meat Youth Events

Big 3 Meat Judging Contest

This popular event is held in conjunction with Big 3 Field Days. No experience is needed. Individual and team awards are given in junior and senior divisions.

Midwest Invitational Meat Judging Contest

Open to all youth and will include both Sr. 4-H and FFA divisions and a Jr. division. Teams can consist of up to four students, but alternates are eligible for individual awards. There is no limit to the number of teams a 4-H club or FFA chapter may enter. Teams have traveled from as far as North Dakota to participate in this event.

State 4-H & FFA (CDE) Meat Judging Contest

OSU hosts this judging contest each year. The contest is held on the last Saturday in April. The state meat judging contests are held annually for 4-H and FFA students from around the state.

Youth Extension intern named CASNR Outstanding Freshman

Cathy Mapes began livestock judging at nine-years-old and continued through her senior year of high school. When it came time to pick a university, she wanted to make sure she wouldn't get lost in the crowd.

"Coming from a small town and graduating with a class of fifty-three students, I was anxious that I would not find professors and staff who truly cared about me at the same parallel that my high school teachers once had," Mapes said.

Mapes considered Oklahoma State University since her older sister was an undergraduate student there. Her sister was also interning for youth Extension specialist Rusty Gosz, who Mapes had met many times while livestock judging in her youth.

"Before I selected my major, I had the opportunity to see the passion and drive the faculty in the department of animal and food sciences held for its students as my sister went through the program," Mapes said.

Mapes knew she wanted to be a physician and would need to go to medical school after receiving her bachelor's degree. After looking into the requirements, she decided the department of animal and food sciences was the perfect place to pursue her passion for helping others.

"Other than the commitment that the faculty have for their student's success, there is also the diversity of several different options in each major that make it possible to achieve various careers from this degree," Mapes said. "I could have chosen a very different route because my intention has always been to attend medical school. I knew it was possible to achieve this through animal science and I would gain the support needed to make this goal obtainable."

As an undergraduate student, Cathy has been extremely active volunteering for community service projects. She is also involved in

many campus activities, including the Student Alumni Board, President's Partners, Homecoming Steering, Boren Mentoring Initiative, Chi Omega Sorority, and Alpha Zeta Honor Society (CASNR). Mapes has also spent time planning large events as part of her youth Extension internship, which focuses on providing training and experience for livestock judging.

"I wanted to be involved with the activity that taught me so many life skills for the future," Mapes said. "Now looking back on the internship, I think it has helped me grow individually, become more organized, and learn the depth of planning events of this caliber. Something I have enjoyed about this internship has been to have my boss, Rusty Gosz, as a mentor who has taught me skills that will benefit me in my future career."

Mapes was recently recognized with the 2019 Charles and Magda Browning Outstanding Freshman. The award is given to one sophomore student within the College of Agricultural and Natural Resources who exhibited academic excellence and outstanding leadership during their freshmen year. Other honors she has received while at OSU include: Oklahoma State University Top 10

Freshmen Woman, Raina Rose Tagle Leadership Award, Oklahoma Foundation for Excellence Outstanding Mentor of the Year, National Society of Leadership and Success, and National Society of Collegiate Scholars.

"I intend to use the leadership skills and experiences I gain during college to employ them in my career field, community, and life. I truly want a career I am passionate about, so I can put my heart into it and have the drive to be successful."


Mapes is about to start her junior year and still thrilled with her decision to attend OSU. She knows the department of animal and food sciences is the right place for her to prepare for her future career.

"There are many things I genuinely love about the OSU Department of Animal and Food Sciences, but something that stands out to me is how the professors and staff care so much about each and every student coming through the program," Mapes said. "Although AFS is one of the largest departments on campus, it still offers one of the best mentoring and advising programs that every student hopes to find coming to college."

By Rebekah Alford



PHOTO / TODD JOHNSON



Steve Armbruster, a cut above the herd and a Legend of Feedlot Nutrition

The Plains Nutrition Council (PNC) is the “flagship” professional organization for consulting feedlot cattle nutritionists across the U.S. and many other countries. Steve Armbruster was recently recognized as a “Legend of Feedlot Nutrition” (consultant category) by the PNC at its annual meeting in San Antonio, Texas. The purpose of the award is to honor those “who have contributed to and have had a profound and lasting impact on the feedlot industry as it relates to innovation, leadership, advancement, service and education in the area of feedlot nutrition.”

Armbruster was born in Hardtner, Kansas, and grew up on a wheat and beef cattle operation near Burlington, Oklahoma, where he graduated from Burlington High School. He received his B.S. degree in agricultural economics in 1967 and his M.S. degree in animal science in 1969, both from Oklahoma State University. He then continued his education at

the University of Nebraska where he completed his Ph.D. in ruminant nutrition.

Armbruster worked as an Extension feedlot specialist at Kansas State University and as a consulting nutritionist with Scott-Pro, Inc. in Scott City, Kansas, prior to joining the animal science faculty at Oklahoma State University in 1975 as an Extension beef cattle specialist. At OSU, he was responsible for Extension programs in cow/calf and stocker cattle nutrition and management and for research in cow/calf nutrition and management.

He formed Steve Armbruster Consulting, Inc. in 1981 to focus on consulting work in feedlot cattle nutrition and management, and quickly distinguished himself as one of the premier independent consultants in the feedlot industry. At one time, his firm served clients with upwards of 1.5 million cattle on feed. Armbruster is a visionary, and constantly sought

to provide cutting-edge advice and service to his clients and to continually grow and reposition his firm always with total transparency and the best interest of his clients as the paramount driving force. John Rakestraw, one of Armbruster’s former clients and former president and CEO of ContiBeef,, alluded to a few of Armbruster’s many impacts on the feedlot industry.

“Dr. Armbruster was a very early catalyst for the development and use of portable computer technology for making daily feedlot management decisions,” Rakestraw said. “He worked with in-house company programmers to transition feedlots from hand-written feed sheets to computer records. This greatly decreased the time from initial morning feed calls to when cattle were first fed. He was an early herald and teacher of the importance of cattle comfort long before animal well-being became a contemporary issue, and pioneered much of the thinking about how cattle

were managed during the step-up period in order to minimize acidosis and feed aversions with the goal of maximizing intake during finishing. Steve is known as a consummate teacher and mentor. He taught basic animal husbandry to individuals that often had little to no livestock experience, and taught bunk readers to incorporate cattle behavior into their feed calls.”

Troy Sander, operations manager for Heritage Beef, LLC, first met Armbruster on his first day of work as a management trainee at XIT Feeders in Dalhart, Texas, in June 1991. Armbruster served as his nutritional consultant and confidant for the next 27 years as Troy navigated his career in the cattle feeding industry.

“He formulated, measured, monitored, and taught,” Sander said. “His efforts were as diligent, consistent, and thorough as any I had ever seen. His integrity, poise and tactfulness continued to influence others as it did me, so many years earlier. A true gentlemen and scholar who never missed an opportunity to do what was best for the cattle, people and businesses for whom he worked.

He always demonstrated an extreme level of professionalism that never changed no matter the circumstance.”

Armbruster has mentored many undergraduate and graduate students through job shadowing ‘ride alongs,’ as well as many young company nutritionists during his service on advisory boards. Colton Robison, current Ph.D. student in the OSU Department of Animal and Food Sciences, was able to learn much from Armbruster.

“My time on a job shadowing trip with Dr. Armbruster proved to be invaluable, and I learned more about applied feedlot nutrition and feed management in two days than I could have possibly imagined,” Robison said. “Above all else, I was shown the value of being a genuine intellectual and thoughtful professional.”

Many will tell you that no one taught them more about the industry or had a greater influence on them as a person and professional. Armbruster has greatly impacted the present and future human resources of the feedlot industry.

By Gerald Horn

Armbruster has remained a steadfast supporter of the OSU Animal Science Alumni Association (ASAA). Some of his contributions to and/or recognitions by the department include: Recipient of the Totusek Lectureship (1999), Advanced Degree Graduate of Distinction Award (2001), president of the ASAA (2009), and presidential appointee to the ASAA Board of Directors (2010 to present). Armbruster and his wife, Patty, were recognized with the Totusek Award of Excellence at the 2017 ASAA Gala.

Fred Owens and Don Gill, emeritus OSU faculty, also received the PNC Legends of Feedlot Nutrition award (Academia/ Extension category) in 2017 and 2018, respectively. The ASAA Alumni Update, Spring 2019, included an article about Dr. Gill. No other university has had faculty receive the Legends of Feedlot Nutrition award in all three categories, Academia, Extension, and Consultant.



OSU's new Animal Nutrition and Physiology Center to benefit all of Oklahoma, and beyond



PHOTOS / TODD JOHNSON

Recent groundbreaking ceremonies for Oklahoma State University's new Animal Nutrition and Physiology Center heralded a new era for the university's longstanding commitment to the animal agriculture industry and animal well-being in general.

"Best management practices depend on the continual advancement of the science that leads to improved awareness and understanding about animal needs, and their interrelationship with the environment around them," said Tom Coon, OSU vice president who leads the university's Division of Agricultural Sciences and Natural Resources. "In turn, the science behind best management practices enhances the potential profitability

of animal agriculture industries while strengthening the economic base of rural communities."

Coon added the new center will be a place where the brightest minds at OSU conduct research, making discoveries and preparing undergraduate and graduate student researchers for the future.

"With research serving as an integral part of our Animal and Food Sciences and Natural Resource Ecology and Management programs, OSU's land-grant mission to tackle concerns and issues of importance to Oklahomans requires modernized facilities that allow our faculty and student researchers to conduct needed science year-round," he said.

The new OSU Animal Nutrition and Physiology Center will be a state-of-the-art facility dedicated to conducting animal studies primarily related to climate variability, production efficiency and sustainability in the areas of animal and human health; animal genetics, growth, nutrition and reproduction; and general animal well-being.

"Improvements in our ability to take observations from the field and test them in a more controlled setting stand to benefit all of Oklahoma, and beyond," said Jim Long, Oklahoma Cooperative Fish and Wildlife Research Unit leader. "Take fish, for example: Fish live their lives largely invisible to us, underwater. Beyond people's enjoyment of fishing and the

money visiting anglers might bring to local communities, fish often serve as indicators about the health of our water resources.”

Long is quick to point out how science moves at the speed science moves, and that it is important for researchers to continually advance and review “accepted scientific findings.”

“You can’t just dial up scientific discoveries on a whim,” Long said. “Our responsibility is to keep doing the science and find out facts, and those facts are then used to develop the research-based best management practices that wildlife, livestock and land managers can use to accomplish their specific goals.”

Innovations at the new center will include individual stanchions and group pens to accommodate animals of all sizes; metabolism stalls for the collection of waste and emissions; specialized rooms with total climate control from 25 degrees Fahrenheit to 100 degrees Fahrenheit; a surgery room to accommodate large cattle, sheep and swine; wet and dry laboratory spaces; a fishery to perform ichthyological research; and isolation rooms for livestock research under Biosafety Level 2 conditions.

One OSU scientist sure to make use of the Biosafety Level 2 isolation rooms is Glenn Zhang of the department of animal and food sciences, a professor of molecular immunology and holder of the university’s Boulware Endowed Chair whose research has led to the development of several innovative antibiotic-free strategies for use in both humans and livestock.

As stated by the World Health Organization: The rise in [bacterial] resistance to antibiotics is a threat to public health globally and there is a growing recognition that we may need to use antibacterial agents in a more judicious way.

“Antibiotics have been the cornerstone of therapy for bacterial infectious diseases in humans and animals, but there has been increased public awareness about the need to develop antibiotic-free strategies

in recent years,” Zhang said. “The center will enhance our capabilities to conduct these very important scientific studies.”

In addition, the center will allow OSU students to perform and participate in intensive research projects in combination with applied animal studies at other facilities and make the university more competitive in garnering research funding.

“Increasing capabilities and research funding provides greater opportunities for OSU students to conduct innovative research as part of a high-quality, well-rounded education,” Coon said. “That not only benefits them and makes them more employable, it enhances the professional fields they will one day join. In turn, we all benefit.”

OSU President Burns Hargis agrees, citing how the Animal Nutrition and Physiology Center is indicative of the university’s commitment to its state and federally mandated land-grant mission.

“The land-grant mission is as vital today as ever, and the new center represents one of our many ongoing efforts to provide value to OSU students and all of Oklahoma, and beyond,” he said.

Additional information about the need for and ways to support Oklahoma State programs and facilities is available by contacting Megan Bryant of the OSU Foundation by email at mbryant@osugiving.com or by phone at 405-385-0743.

By Donald Stotts





OSU hosts ASAS Southern Section Academic Quadrathlon

Oklahoma State University hosted the lab practicum and written exam portion of the 2019 American Society of Animal Science Southern Section Academic Quadrathlon in Stillwater, Oklahoma, on January 26th-27th, 2019. The Academic Quadrathlon is a skills and knowledge based competition held at the local, regional, and national levels.

The competition consists of an oral presentation, written exam, lab practicum, and quiz bowl. Teams of four are made up of university undergraduate students who train independently for the annual competition. Winning teams move up to the next level of competition.

Blake Wilson, assistant professor in the OSU Department of Animal and Food Sciences, has advised the OSU Quadrathlon team for the last several years. As an undergraduate, he participated in the Quadrathlon and has thought highly of the event ever since.

“In most collegiate competitions, you have to be an expert and extremely skilled in one area,” Wilson said. “This contest tests you in all areas of animal science and incorporates hands-on production tasks though the

practicum, written evaluation, and oral communication, as well as creativity through the presentation and quick thinking/trivia knowledge through the quiz bowl.”

Advisors provide their students with a general description of the Quadrathlon based on the rules and competition format so the students know what is required of them. Faculty can’t directly coach a Quadrathlon team, so the team members must be self-motivated, well-rounded individuals in order to be successful.

“You have to have students who are smart, but also have experience, knowledge, or skills in all areas of animal science,” Wilson said. “Team members have to be motivated, seek out resources, and work on preparing on their own.”

The lab practicum is the most lengthy and intensive portion of the competition. It started early in the morning on Saturday and took the teams through 16 practicum stops located at various OSU facilities, including the Animal Science building, many farms, and the Robert M. Kerr Food & Agricultural Products Center. The teams had to complete a practicum stop in 15-20 minutes

before moving on to the next location. The students were never certain what they would encounter at the next stop since each one required something unique.

“You can’t possibly prepare for everything that you will see in a competition as anything and everything related to animal science is fair game, but you try to be an expert on some things and hope your teammates are experts on the others,” Wilson said. “Having a well-rounded animal science background and experience with multiple species is a huge plus.”

Each of the practicum stops revolved around a different animal science topic/discipline. The students interacted with feed, animals, tools, and research equipment related to the topic of the practicum stop in order to demonstrate their ability to perform physical skills. The topics included meat science, food safety, pet and companion animal, genetics and biotechnology, breed ID, metabolism and physiology, reproduction, poultry, equine, dairy, animal behavior, swine, beef (receiving/feedlot), beef (purebred/cow-calf), sheep, and forages, feeds, and feeding.

This year, Wilson was also chair of the Southern Section Academic Quadrathlon Committee. He was in charge of organizing and overseeing this year's competition, including communicating with the Southern Section committee members, assigning duties for the competition, working with ASAS to reserve rooms for the contest, finding judges for the oral presentations, making sure the written exam and quiz bowl questions were updated, coordinating grading of the exams, and reserving hotel rooms for the practicum portion. Other Southern Section committee members included Joseph Daniel, Patricia Harrelson, and David Forrest.

"There is a substantial amount of planning and organizing that goes into successfully conducting the Quadrathlon competition every year," Wilson said. "It is an intense weekend for all involved, but extremely rewarding to the participants. This workload is dramatically increased when your university is also the practicum host."

OSU faculty, staff, and graduate students helped with hosting duties this year by planning, setting up, and supervising the practicum stops.

"The OSU Department of Animal and Food Sciences was an excellent host and put on a challenging lab

practicum," Wilson said. "Thanks to Dr. Rusk and the animal and food sciences faculty for hosting and supporting the event!"

The oral presentations and the quiz bowl were held at the Sheraton Hotel in Oklahoma City, Oklahoma, on Sunday. The OSU Animal Science Academic Quadrathlon team did an exceptional job in the competition, receiving 2nd place overall, 1st place in the quiz bowl, and 1st place in the lab practicum.

"It was an extremely competitive contest this year," Wilson said. "A total of 14 universities fielded teams from across the Southern Section. This included some schools competing for the first time and the return of others. I think it takes outstanding and balanced students to excel in this contest and I enjoy getting to work with those students and see them compete against the best from other universities."

Wilson also received the Outstanding Young Animal Scientist Award in Education from the American Society of Animal Science at the ASAS 2019 Southern Section Meeting in Oklahoma City, Oklahoma. This award recognizes a member of ASAS who has made an outstanding contribution in education in the field of animal science.

Academic Quadrathlon Results

Texas Tech University was 1st place overall, Oklahoma State University was 2nd place overall, and North Carolina State University was 3rd place overall. Photos from the event are available at <https://bit.ly/2Wx6aKx>. The full Quadrathlon results are listed below.

Results:

- 1) Texas Tech
- 2) Oklahoma State
- 3) North Carolina State

Lab Practicum:

- 1) Oklahoma State
- 2) North Carolina State
- 3) University of Tennessee Knoxville

Written Exam:

- 1) Middle Tennessee State
- 2) Texas Tech
- 3) Mississippi State

Oral Presentation:

- 1) Texas Tech
- 2) Mississippi State
- 3) Texas A&M

Quiz Bowl:

- 1) Oklahoma State
- 2) Texas Tech
- 3) North Carolina State

By Rebekah Alford



Pictured are the 2019 OSU Quadrathlon team members (left to right): Ashleigh Evans, Rachel Scott, Andy Bontrager, and Katelyn Gillum.



Blake Wilson (pictured above) receiving the 2019 Outstanding Young Animal Scientist Award.

FAPC honors food science graduate students with fellowship

Oklahoma State University's Robert M. Kerr Food & Agricultural Products Center honored two graduate students with the Stanley E. Gilliland Memorial Fellowship in Food Science, providing \$1,000 toward each recipient's education.

Joyjit Saha, food science Ph.D. student, and Tony Kountoupis, food science M.S. student, received the awards during the FAPC Research Symposium February 26th, 2019.

William McGlynn, FAPC horticultural products processing specialist and food science graduate program coordinator, said there is no doubt Gilliland would be both delighted and proud to see his legacy being honored and carried on in the form of these two fellowship recipients.

"Those of us who were lucky enough to know Stan Gilliland remember him as a man who believed in the value and power of scientific inquiry," McGlynn said. "He was instrumental in helping to establish and grow the food science program here at Oklahoma State University, and he instilled and demanded intellectual rigor and excellence from those with whom he worked."

Gilliland was a 1962 graduate of OSU. He joined the OSU Department of Animal Science in 1976 and served as the interim director of FAPC, a part of OSU's Division of Agricultural Sciences and Natural Resources, during the construction of the center. During his 34-year career, he impacted the lives of hundreds of OSU students, served as an adviser

to 65 master's and doctoral students, and served on numerous candidate committees.

To continue to make an impact, Gilliland's family supported the creation of the Stanley E. Gilliland Memorial Fellowship in Food Science to provide scholarships for students in food science.

Gilliland's contribution to both academia and industry is noteworthy, Saha said.

"Being selected as a 2019 Gilliland Memorial Fellowship recipient is such an honor for me, and I am so grateful to the FAPC family for selecting me," he said. "I believe it is a great way to be recognized for my research and academic efforts and an inspiration for the start of my professional career."



PHOTO / MANDY GROSS

Saha graduated with his doctorate in the spring of 2019 with a specialization in food microbiology. His research focused on the application of bacteriophages to control shiga-toxigenic *Escherichia coli* in the meat industry.

Following graduation, Saha plans to continue to serve the food industry as a produce safety Extension specialist at the University of Florida.

Divya Jaroni, FAPC food microbiologist and Saha's advisor, said Saha is an outstanding student due to his dedication to food safety research and scholarly contributions to the food science discipline and has shown tremendous initiative in carrying out and completing several food microbiology-related research projects in his graduate program.

"Joyjit has proven to be an accomplished graduate student with tremendous contributions to academia," Jaroni said. "His research has been published in refereed journals, conference proceedings and food-related newsletters and

magazines. He has published nine refereed journal manuscripts, 28 abstracts and two research articles."

Kountoupis graduated with his master's degree in the spring of 2019 with a specialization in food microbiology. His research focused on multiple methods of foodborne pathogen inhibition, specifically enzymes produced by bacteriophages, to help reduce the incidence of foodborne illnesses in the food industry.

"I feel incredibly honored to have been chosen as one of the Gilliland Fellowship recipients," he said. "Receiving the award has validated all of my hard work over the last two years, and for FAPC to notice has made this semester one of the best."

Following graduation, Kountoupis plans to pursue a career in the food industry, particularly in quality assurance or research and development.

Jaroni has known Kountoupis for the past five years as an undergraduate student advisee in OSU's Department

of Animal and Food Sciences and as a graduate student advisee in food science.

"Tony is an exceptional student, as a scholar and as a person, showing unwavering dedication to food safety research with several scholarly contributions to the food science discipline," she said. "To date, he has maintained a 4.0 GPA and has published 13-peer-reviewed abstracts, presenting twice at the International Association for Food Protection annual meetings."

The OSU Graduate Food Science program is a multi-faceted discipline focused on providing safe, nutritious, high-quality foods to the people of the world. Food science combines elements of business, biochemistry, chemistry, economics, engineering, microbiology, and physiology within its scope. The interdisciplinary OSU food science graduate program gives students the opportunity to earn both M.S. and Ph.D. degrees in food science.

By Mandy Gross

What is Food Science?

The study of food science includes all types of foods, such as dairy products, fruits and vegetables, meat and poultry, and further processed foods you find in grocery stores and restaurants. Food scientists apply principles of biology, chemistry, microbiology, biochemistry, nutrition and engineering to create new food products, to improve food-processing techniques and to ensure quality, safety and nutritional value of the food supply. Food scientists play a central role in optimizing the safety and quality of food from the point of production on the farm until products reach the consumer's plate.

Students enrolled in the food science major have the advantage of being advised by a faculty member working in the program from day one. The advisers are readily available to students and work closely with students throughout their academic careers. Food science students also have access to the Robert M. Kerr Food and Agricultural Products Center, known throughout the nation for its research, Extension outreach and state-of-the-art facilities. Food science laboratories are located in both FAPC and the Animal Science building.

Food safety program helps prepare OSU students for food industry

Oklahoma State University students interested in food safety are taking advantage of a new program offered by the Robert M. Kerr Food & Agricultural Products Center.

FAPC's Food Safety Professional program recognizes current and future industry leaders specializing in food safety who have attended and completed a substantial number of workshops and trainings offered by the state-of-the-art food processing center.

Since the launch of the program in March 2018, three graduate students have applied and earned a certificate through the Food Safety Professional program — Conner McDaniel, Sabra Billups, and James Hearn.

James Hearn, food science graduate student specializing in food safety, said the program allows you to take workshops and trainings that apply to real-world food safety situations, which is definitely beneficial when entering the food industry.

"As a student or industry leader, these workshops and trainings give you a leg up on the competition," he said. "The program certification gives you good talking points on a resume with a future employer. It's a marketing technique that allows you to market yourself in the best way and that is with any certification, like the Food Safety Professional program."

Hearn said the workshops and trainings help to conjoin people of similar interests together in one room.

"You're not only learning the technical skills of the trade, but also getting networking experience, which is almost as important as the technical skills," he said. "The connections you make here can get you much further in the industry."

Conner McDaniel, OSU food science graduate student, said the Food Safety Professional provides students a goal to work toward.

"You're not just leaving with an academic degree, but with experience in workshops and trainings that lead to an influential certificate," she said. "The workshops and trainings supplied by FAPC help to acknowledge personal development."

McDaniel also said the fact the workshops and trainings are offered to students at a discounted rate is really impressive, and it sets OSU and FAPC apart from other universities.

The program not only seeks participation of industry leaders but also encourages students who are interested in pursuing a career in the food industry, said Peter Muriana, FAPC food microbiologist and chair of the program.

"As food safety continues to evolve, there is a demand for professionals to ensure quality products are being developed and manufactured," Muriana said. "Many of our food science students participate in an array of workshops and trainings here at FAPC because of the information gained from the program and its significance within the food industry."

Muriana said he hopes employers will highly consider students who have completed the Food Safety Professional program for employment opportunities, as well as provide a financial stipend for those industry leaders who've received the award.

"These recipients could become higher-valued assets to organizations because of their participation in FAPC's workshops and trainings," Muriana said.

Students can qualify for the FAPC Food Safety Professional program by participating in FAPC workshops and trainings or by taking the equivalent OSU food safety academic courses.

To become a FAPC Food Safety Professional, students must complete at least two trainings or academic courses from each basic, regulatory and advanced categorical group, totaling 10 applied workshop credits.

To apply for the program, individuals must download the FAPC Connect app by texting FAPC to 80802 or visit www.fapccconnect.com and submit the Food Safety Professional form.

By Mandy Gross



PHOTO / MANDY GROSS

Valerie Novak promotes animal and food sciences through ag communications

Valerie Novak, a graduate student in the OSU Department of Animal and Food Sciences, participated in the 2018 Animal Agriculture Alliance's College Aggies Online (CAO) scholarship competition, which connects college students with an interest in promoting agriculture. Throughout the nine-week national scholarship contest, students post information about current and emerging issues on social media while receiving instructions and training from industry experts. The students earned mini scholarships for having the best social media posts, videos, blog posts, and infographics.

"In this competition, I was challenged to promote animal agriculture on various social media platforms," Novak said. "On a weekly basis, I created social media content on relevant issues and misconceptions of animal agriculture, and it was judged by industry professionals for its relevancy, quality, and effectiveness."

Novak won first place in the graduate student section of the CAO scholarship competition. She received a \$2,500 scholarship and an all-expenses-paid trip to the Alliance's 2019 Stakeholders Summit in Kansas City, Missouri.

"Winning this competition was a humbling experience," Novak said. "Besides walking away with a newfound understanding of the importance of promoting animal agriculture today and practical skills in social media content development, I experienced the reward that dedication to a cause and hard work can produce."

Prior to her involvement in the scholarship competition, Novak would have described herself as having 'below average' social media participation. She believed her lack of experience made her one of the less likely candidates to win a social media development contest.



"In the beginning of the competition, I overcame my deficiency by committing myself to create the best content of my abilities, researching topics and tools to encourage relevancy of my work, and being engaged at my fullest with the activities of the competition."

In addition to the CAO competition, Novak has been working with her faculty mentor, Jerry Fitch, as a graduate teaching assistant in the department of animal and food sciences.

"I am currently working on a project for our department that aims to increase student participation in internship experiences," Novak said. "My role is to design a database of internship and job opportunities and share these opportunities with the students of our department."

Novak's strong passion for both animal agriculture and student success led her to choose this project. Her goal is to increase the awareness of and involvement in internship opportunities on state, national, and global levels in order to match animal and food sciences students

with worthwhile, developmental experiences.

"The cumulation of my interests and academic and professional experiences have led me to this work of assisting students in their professional development," Novak said. "The students of our department are the future leaders and players of our industry. By matching them with relevant internship opportunities, we can build them up to be influential contributors to society and the industries of animal and food sciences."

Novak also wants to increase awareness and student utilization of on-campus career development resources, including the opportunity to receive academic credit for their internship experiences. For Novak, helping students find success and satisfaction in their lives is highly rewarding and motivating. After Novak graduates with her M.S. in animal science, she would like to work in career services at a higher education institution to assist students in their professional development.

By Rebekah Alford

2019 AFS Banquet Awards

The 2019 Oklahoma State University Department of Animal and Food Sciences, or AFS, held its annual banquet on April 5, 2019. Both animal science and food science students were recognized with scholarships and awards. We are fortunate again this year to have our loyal alumni support two new scholarships; the Kenneth R. Cummings Graduate Fellowship in Animal Science and the Rodney Orrell Meat Judging Team Endowed Support Fund. Photography services for the banquet were provided by Genesee Photos. Read about the students, faculty, alumni, and friends of the department who were recognized with awards below, or visit the department's website at afs.okstate.edu/weekend/awards.

Animal Science Outstanding Senior



Charley Rayfield became involved in agriculture at a young age, starting in 4-H, FFA, and production agriculture while living in Georgia. She was motivated to pursue a degree that would enable her to continue to be involved in the agriculture industry. She decided to obtain a degree in food science with an emphasis in food safety at Oklahoma State University.

Charley was an AFS Undergraduate Research Scholar beginning her freshman year and was named a 2018-2019 Wentz Research Scholar. During her time working under a food safety specialist, she spent time researching various antimicrobials, as well as obtaining numerous food safety certifications.

While at OSU, Charley was a member of the Leaders of Excellence in Animal and Food Sciences, Food Science Club, Alpha Zeta Honor Fraternity, and an AG 1011 Student Academic Mentor. Furthermore, she was chosen to be a member of the Oklahoma Agriculture Leadership Encounter Class XVI where she has traveled to various regions in Oklahoma learning about regional agriculture, assisted with the Oklahoma Youth Expo, visited Washington D.C., and traveled to Argentina.

In addition, Charley has been actively involved across campus by being on the President's Leadership Council, a member of Mortar Board Honor Society, Phi Kappa Phi Honor Society, and completed numerous community service hours with Circle K International where she serves as vice president.

Charley will be continuing her education here at Oklahoma State University. She looks forward to pursuing a master's degree in food science with the goal of working for the food industry in the area of food safety and regulation.

Cowboy Up Award



Cole McKinney grew up in Spiro, Oklahoma, actively involved in showing hogs and playing football and baseball. Cole attended Northeastern Oklahoma A&M after high school to play football. After being injured, he transferred to Oklahoma State University and immediately went to work at the Robert M. Kerr Food and Agriculture Products Center. Cole learned each job in the meat lab quickly. Faculty, graduate students, and companies utilizing the meat lab greatly appreciate his hard work and dedication to get projects done. Cole completed an internship last summer with OK Foods. He recently graduated with a B.S. in animal science with a focus in production.

One industry partner stated, "Working 'shoulder-to-shoulder' with him has been refreshing. He has the motivation inside him to get things done and done well. It's been my experience that he has a very good idea what teamwork is in real life, and how to use his own skills to better accomplish the goals of the team. Explain the objective, ensure the tools are available, and he will do his level-best to deliver the results. He never backs down from a challenge and seems to find ways to use his good sense and abilities to overcome those challenges. Cole is a great example of what hard-work, common sense, intelligence, and a good spirit can be. I

look forward to working next to him in the future."

Cole has gone above and beyond the duties of a student employee. He is always willing to come in early and stay late to get things done correctly. His willingness to serve make him unique and will ensure his success in the future. Cole plans to pursue a career in the meat industry to make a long-lasting impact. He will be greatly missed by AFS, FAPC, and industry partners. Thank you for your service and dedication.

Outstanding Graduate Students



Conner McDaniel was raised in Ardmore, Oklahoma, where she graduated high school in 2014. She attended Murray State College where she participated in the President Scholars program and earned her A.S. degree in 2014. She then transferred to Oklahoma State University where she completed her B.S. in food science. Conner is recently completed her M.S. degree with a focus on food safety as a Food Safety and Manufacturing Fellow, studying under Ravi Jadeja. Her research involved looking into the efficacy of different antimicrobials to improve the overall safety of fresh produce.

Conner is currently serving as chair of the Oklahoma Association of Food Protection-Student Professional Development Group and is also the Food Science Club's quiz bowl chair.

She has earned 11 professional food safety certificates and completed the FAPC Food Safety Professional program. During her time as a graduate student, Conner has actively participated in speaking events, including the Whiteman Competition and the 3MT (Three Minute Thesis). She won second in the CASNR 3MT competition in 2017 and first in 2018. In 2018, she received the Food Marketing Institute Foundation Scholarship which allowed her to attend the Safe Quality Foods Conference. Conner has served as a teaching assistant for Jadeja in two courses, Food Safety Modernization Act and Sanitation in the Food Industry.

Conner has one peer-reviewed publication in addition to 11 peer reviewed abstracts, of which she was the lead author on six. She presented her abstracts at scientific meetings. She is a member of the International Association of Food Protection - Oklahoma Chapter and the Institute of Food Technology. Her future plans are to continue her education at Oklahoma State University as a Ph.D. candidate in food safety.



Kelsy Robinson was raised in Arkansas and graduated from Monticello High School in 2011. She received her B.S. in animal science from the University of Arkansas in 2014 where she was selected as the Outstanding Senior in the department. She was recruited to Oklahoma State University in the summer of 2014 as a USDA NIFA National Needs Fellow. As such, she became the first student admitted to the Ph.D. program in animal science without a master's degree. She has continued to excel at OSU.

Kelsy has proven to be an outstanding researcher in the past five years. She first got interested in research as a summer research assistant for the cow/calf unit at the University of Arkansas Southeast Research and Extension Center in the summer of 2012. However, it was a summer internship with the Royal School of Veterinary Studies in Edinburgh, Scotland, that solidified her desire for a career in academia. At OSU, Kelsy initially studied the ability of dietary compounds to enhance animal immunity and disease resistance. Currently, her dissertation is focusing on the characterization of the chicken intestinal bacterial and fungal communities and their impact on production efficiency.

While maintaining a perfect 4.0 GPA, Kelsy has co-authored five peer-reviewed journal articles with many more publications to come. She also made nine presentations at local and national meetings, winning the Graduate Student Research Paper Certificate of Excellence Award from the Poultry Science Association in both 2016 and 2017, the People's Choice Award and 3rd place in the College 3-Minute Thesis (3MT) Competition in 2017, 2nd place at the Whiteman Oral Presentation Competition from the OSU Department of Animal and Food Sciences in 2017, and 3rd place at the 15th Annual Research Symposium in Biological Sciences at OSU in 2018.

Besides her active involvement in research, Kelsy has continuously shown herself to be an engaged member of the department and the OSU community. Kelsy is currently treasurer of the Animal Science Graduate Student Association, after serving as its president in 2017-2018. She has also been an ambassador for the OSU Graduate College since 2015, assisting with events across campus including recruiting, graduation ceremonies, and 3MT competitions. She has also mentored five undergraduate research scholars in the lab who have excelled under her guidance and won multiple prestigious awards such as the Goldwater Scholarship, Fulbright Scholarship, Senior of Significance, Niblack Research Scholarship, and Wentz Scholarship. In addition to all of these, she has spent the last three years teaching the lecture portion of ANSI 4843 - Applications of Biotechnology in Animal Science.

As a result of her outstanding accomplishments and leadership potential, Kelsy capped off her Ph.D. study by receiving a highly prestigious, nationally competitive, two-year USDA NIFA Predoctoral Fellowship worth \$90,000 in the Spring of 2018. Kelsy will graduate in December 2019 and plans to pursue further postdoctoral research or a faculty position in animal science.

Graduates of Distinction



B.T. Ferguson received a B.S. in animal science from Oklahoma State University in 1969. He was hired as the herdsman for the OSU Purebred Swine Center in 1971 by Charles Maxwell and J. C. Hillier. Over the next seven years, the quality of the purebred swine population increased dramatically. The initiation of a specific pathogen free herd at OSU in 1977 was a major milestone in the development and reputation of the OSU swine program. His swine expertise and his ability to inspire young people helped B.T. become a leading youth and open show swine judge throughout the country. Due to his father's health, B.T. left OSU in 1978 to return to the family farm which he managed and operated over the next 21 years.

B.T. accepted an offer to join the Murray State College faculty in 1999 as an instructor and student advisor while also supervising the college livestock herds and coaching the livestock judging team. A gifted teacher and coach, B.T. expanded the college Angus program, initiated the Annual Beef Production Sale, repopulated the college swine herd with gilts purchased from OSU, developed an annual swine judging workout for all Junior and Senior Livestock Judging Teams across the U.S., and started the Texoma Show Pig Sale. His commitment to excellence as a teacher, advisor, coach, and farm supervisor have been well recognized.



Eddie Fields received a B.S. in animal science from Oklahoma State University in 1990. A third-generation Osage County cattle rancher and businessman, Eddie is president of Fields Ranch, Inc., a family ranch established in 1952. Eddie has served on the Osage County Farm Bureau Board, as president of the Osage County Cattlemen's Association, and as a director of the Oklahoma Cattlemen's Association. He also served on the school board for Wynona Public Schools for 14 years. Eddie is a member of the Osage County Farm Bureau, a life-time member of the Oklahoma Cattlemen's Association, the American Quarter Horse Association, and the Oklahoma Quality Beef Network.

After serving two years in the Oklahoma House of Representatives from 2008 to 2010, Eddie was encouraged to run for the Oklahoma State Senate. He was elected to his first Senate term in 2010 and is proud to serve the citizens of Osage County and portions of Kay County. During his tenure in the House, Eddie Fields served on the Agriculture, Transportation, Wildlife, and Education Appropriation Committees. In 2011, he was named chairman of the Senate Agriculture and Rural Development Committee and vice chair of the Appropriations Subcommittee on Natural Resources and Regulatory Services. In 2014 and 2016, Senator

Fields was selected assistant majority floor leader. In 2017-2018, Eddie served as vice chairman of Appropriations, chairman of the Appropriations Subcommittee on Natural Resources and Regulatory Services, and as chairman of Rules. He also served on the Agriculture and Wildlife, Education, and Energy Committees.



Pam Gill graduated with a B.S. in animal science from Oklahoma State University in May 1986. After graduation she continued her education at OSU and received an M.S. in business administration in December 1988.

After receiving her MBA, Pam went to work for Stillwater Milling Company in Stillwater, Oklahoma. Stillwater Milling Company is the largest independently owned feed mill in the state of Oklahoma. They have retail stores in Stillwater, Perry, Davis, and Claremore, as well as about 130 dealers across the region. Their annual sales have tripled in the almost 30 years she has been employed there. They currently employ about 165 employees, including many Oklahoma State University students and graduates. Pam and Stillwater Milling Company have worked with the OSU Department of Animal and Food Sciences, Noble Foundation, Oklahoma Cattlemen's Association, and County Extension Educators in providing educational programs for producers.

Pam has formulated all of Stillwater Milling Company's feed for the last 25 years. She spends a lot of time advising livestock producers across the region as to what feed would be most cost effective for their operation. They manufacture feed for beef cattle, dairy cattle, pigs, horses, goats, sheep, poultry, deer, and rabbits. Pam has been on the Board of Directors of Stillwater Milling since 2002 and has served as secretary. She has been executive vice president since 2012. On January 1, 2019, she stepped into a new role as president and CEO of Stillwater Milling Company.

Advanced Degree Graduates of Distinction



Richard Coffey received his B.S. in animal science in 1986 and an M.S. in swine nutrition in 1990, both from Oklahoma State University. He completed his Ph.D. in swine nutrition (minor in biochemistry) at the University of Kentucky in 1994. Following receipt of his doctoral degree, he joined the faculty at the University of Kentucky's Department of Animal and Food Sciences as an assistant professor and Extension swine specialist. He was promoted to associate professor with tenure in 2000 and was promoted to professor in 2007.

As Extension swine specialist, Richard worked extensively with pork producers and supported industry personnel dealing with all facets of pork production, including manure and environmental management, nutritional management, reproductive management, swine production systems, housing systems, health and disease prevention, and marketing alternatives. From 2003-2012, Richard also served as coordinator of the department's Youth Livestock program where he provided overall coordination and leadership for youth livestock programs and projects in Kentucky, served as co-coordinator of the Kentucky 4-H Livestock and Horse Volunteer Certification programs, and coached the Kentucky 4-H All-Star Livestock Judging Team.

In 2012, Richard assumed duties as director of the University of Kentucky Research and Education Center in Princeton, a 50% administrative appointment while also maintaining responsibilities as an Extension swine specialist. As director, he supported and coordinated multidisciplinary activities of on-site faculty and professional staff representing most academic departments from the College of Agriculture, Food, and Environment.

On February 1, 2015, Richard became chair of the Department of Animal and Food Sciences at the University of Kentucky. In this role, Richard provides budgetary oversight and leadership for approximately 35 faculty and 75 staff, as well as approximately 750 undergraduate students, 60 graduate students, and 10 post-doctoral scholars. Richard has management and fiscal oversight responsibilities for the department's seven animal units, meats laboratory, and on-campus animal laboratory. Richard serves as an advocate for the department with college and university administration and as a conduit for interaction with industry, external stakeholders, and alumni.



Brenda De Rodas earned a B.S. in agriculture engineering from the National University of Honduras in 1981. Postgraduation, she completed 10 months of social work with the Agriculture Department of Honduras where she provided technical and financial services in crop and animal production to local and regional farmer cooperatives. She received her M.S. in animal science (1989) and Ph.D. in animal nutrition (1994) from Oklahoma State University.

After completing her doctorate, Brenda worked as a research associate in swine nutrition at Oklahoma State University and the University of Arkansas. Brenda's specific areas of research included evaluation of alternative protein and carbohydrate sources for early-weaned pigs; effects of diet and management on immune function of weaned pigs; and effect of feed additives on performance and health of swine. She also mentored graduate students in designing and conducting research and reporting their research results in thesis and other publications.

Brenda began her career in the feed industry in 1999 with Land O'Lakes in Fort Dodge, Iowa. In 2003, she was relocated to Purina Animal Nutrition Center in Gray Summit, Missouri. She served as swine research scientist, manager of swine R&D, and director of research and product development. In these positions, she provided leadership to the swine business unit in the development of proprietary feeding products and programs for young pigs, growing/finishing swine, and the breeding herd. She successfully managed the swine research program including personnel, facilities, and the financial aspects of the program. Research locations included internal research facilities, universities, USDA, global industrial partners, and field commercial facilities. She led a cross-functional new product development team that included members from marketing, sales, technical service, manufacturing, and research and development.

In 2018, Brenda was promoted to director of swine technical innovation. She currently leads the technical service and feed and additive research teams for the development and deployment of swine feeding products and programs. In addition, her team facilitates and drives key market insights and sales training. Over the years, Brenda has either authored or co-authored over 100 peer reviewed research papers, abstracts, and conference proceedings, and over 20 patents globally. Brenda remains active in her industry by attending and presenting at animal and veterinary science conferences and corporations worldwide.

Master Breeder



The **Griswold Family** own Griswold Cattle Company, based out of Stillwater, Oklahoma. The company was the dream of Joe Griswold. His pride of excellence and his love for agriculture and Angus cattle were established early in life by his parents and professors in the Department of Animal Husbandry at Oklahoma State.

In the early 1980's, Joe and Elaine moved their family and livestock to Oklahoma because he knew cattle had the hearts of his boys and there would be more opportunity in Oklahoma. John and Greg, the oldest of the six children, both attended OSU, and along with their dad provided the majority of the future input in the development of the present-day Griswold Cattle Company.

Today, Griswold Cattle Company is based in Stillwater, with an additional herd in Poteau, Oklahoma. The patriarch of the family, Joe Griswold, passed away early this year due to leukemia. John and Greg, along with their families and ranch crew, have developed a truly unique genetic breeding program that is well respected by cattle producers throughout the country.

John attributes the success of their program to persistence and hard work. John states, "It's not what happens to you in life, it's what you do with it when it does," which means that no matter if it's good or bad keep your feet on the ground and keep going. The good fortune to be in the right place at the right time to find the right cattle to add to the breeding program has been extremely important to their success. Their parents instilled in them the importance of responsibility, work ethic and people. Joe always told them that people were the key to success. They feel that the people that they have met, the people that have done business with them and the many friends that they have made over the years are responsible for their achievements. Their employees and people associated with their program have been and will continue to be vital to their success and accomplishments.

But, at the end of the day, family is the most important factor to John and Greg. Just as they were reared, they are extremely proud of their children. For their role in the genetic improvement of livestock, Griswold Cattle Company is very deserving of the title, Master Breeder.

Distinguished Service Award



Mike and Martha Armitage both grew up in the cattle business. Mike's first partner was a great aunt from whom he leased land to graze his cows. Today, like 97 percent of the cattle ranchers in Oklahoma, A Bar Ranch is a family business with Martha managing customer lists, building sales catalogs, and running the office. Oldest son, Merritt, oversees one of the ranches and handles all advertising, layout design, and video marketing while the youngest son, Turner, does most of the photography and helps manage the second ranch.

A Bar Ranch is actually two ranches, one in Pryor and the other in Claremore, which is also the company headquarters. Combined, the two ranches have a capacity of approximately 1,000 cows. A Bar Ranch also utilizes 18,000 acres of leased property.

The cow herd business involves marketing steer calves direct to backgrounders who purchase young cattle for feeding or to send to feedlots when they are weaned from their mothers. The heifer calves are retained for breeding.

"Armitage livestock incorporates several value-added options to the bred stock we market," Mike says. "Those include everything from genetics to technological advances, one of which is ultrasounding pregnancies. This aging of embryos enables us to market and offer the public tighter calving periods as an added-value item."

The family hosts a popular sales event, the Fall Gathering, the first Saturday of each November. The success of the Fall Gathering inspired the Armitages to develop other sales including seven auctions each year of bred replacement females, and they market privately and through direct sales to other ranches.

The Armitage's respect for horses led them to develop their own lineage of quarter horses, and that commitment has grown into a significant business. Now hosting two horse sales a year, Mike and Martha have graciously allowed the OSU Department of Animal and Food Sciences to sell five young horses per year in their past two Fathers' Day sales. This act of kindness has allowed students in the OSU Equine Marketing class to hone their skills at presenting our horses in a successful venue. Thank you Mike and Martha for your distinguished service to our department!

Tyler Award - Ranjith Ramanathan

Ranjith Ramanathan, affectionately known as Ram by his students, received the Tyler Award at the 2019 Animal and Food Sciences Banquet. This award recognizes professional achievement in research, teaching, or public service by faculty members within the OSU Department of Animal and Food Sciences.

Ranjith is an associate professor with a 65% teaching and 35% research appointment. In 2019, he received the Leo and Kathy Noltensmeyer Endowed Research Professorship. He earned his bachelor's degree in veterinary and animal science in 2004 from Kerala Agricultural University, India.

Ranjith received his M.S. and Ph.D. degrees in animal science from the University of Connecticut before joining OSU as a faculty member in 2012. He teaches several undergraduate and graduate food science courses in the department, including Fundamentals of Food Science, Food Chemistry I, Food Chemistry II, Analysis of Food Products, and Advanced Meat Science.

Ranjith's research focuses on both fundamental and applied factors that influence fresh meat quality, more specifically on the postmortem biochemistry and meat color. Some of his research interests include the

application of metabolomics to better understand meat quality changes; understanding the mechanism of failure to bloom in dark-cutting beef; myoglobin chemistry to understand metmyoglobin reducing activity and bloom; cooked color defect; role of mitochondria in beef color; myoglobin and lipid oxidation; and antioxidants on mitochondrial function.

He secured a total of \$1.6 million as a PI and Co-PI from federal agencies, commodity groups, and the industry. In addition, he has published 57 peer-reviewed journal articles, 95-refereed abstracts, three book chapters, and five full-paper conference proceedings. Ranjith has served on 48 graduate student committees as a chair or as a committee member.

Ranjith recently became the research coordinator for the OSU Department of Animal and Food Sciences, and also serves as coordinator for the Undergraduate Research Scholars program within the department. The program engages promising undergraduates and provides a solid foundation in research methods to better prepare them for industry and academic careers in the fields of animal and/or food sciences.

Ranjith has received numerous awards for excellence in teaching, research, and mentoring. He recently received the prestigious 2018

USDA New Teacher Award from the Association of Public and Land Grant Universities. Nominees for this award are evaluated on the basis of their ability as classroom teachers, use of innovative teaching methodology, service to students and their profession, and scholarship.

Ranjith has also received the following awards: 2018 North American College Teachers Association Educator Award, 2018 Alpha-Zeta Award for Outstanding OSU College of Agriculture and Natural Resources Teacher, 2017 Southern Section American Society of Animal Science Outstanding Young Researcher Award, 2016 Southern Section American Society of Animal Science Outstanding Young Educator Award, 2017 Leave the Ladder Down Award, and the 2015 Early Career Award for Excellence in Teaching from the College of Agricultural Sciences and Natural Resources at Oklahoma State University.

Ranjith has been an active member of the American Meat Science Association, the American Society of Animal Science, and the Institute of Food Technologists and has served on several university, college, and department committees. He has delivered more than 20 invited talks on his innovative research at professional meetings and research institutions.

A mediocre teacher tells.

The good teacher explains.

The superior teacher demonstrates.

The great teacher inspires.

- William Arthur Ward



PHOTO / TODD JOHNSON

Faculty and Student Recognition

Animal Science Senior Leadership Award

Emily Bechtold
Sage Becker
Andrew Bontrager
Keegan Cassady
Wyatt Catron
Haden Comstock
Kayleigh Crane
Clay Daily
Katelyn Gillum
Kathryn Hearn
Samantha Howe
Brittany Lippy
Taylor Price
Charley Rayfield

CASNR Dean's Award of Excellence

Sage Becker
Samantha Howe
Charley Rayfield

CASNR Seniors of Distinction

Sage Becker
Haden Comstock
Clay Daily
Samantha Howe
Brittany Lippy
Jessie Payne
Charley Rayfield

OSU Seniors of Significance

Sage Becker
Kayleigh Crane
Clay Daily
Samantha Howe
Brittany Lippy

CASNR Outstanding Senior

Sage Becker

Charles & Magda Browning Outstanding Freshman Award

Cathy Mapes

Top Ten Freshmen Men & Women

Ryan Callahan
Cathy Mapes

Top Twenty Freshmen Men & Women

Ryan Callahan
Alyssa Hoyle
Nyla Maere
Cathy Mapes

AMSA Distinguished Teaching Award

Gretchen Mafi

AMSA Distinguished Achievement Award

Ranjith Ramanathan

AMSA Cleaver Award - Ph.D. Teaching

Morgan Pfeiffer

AMSA Undergraduate Scholastic Achievement Award

Kathryn Hearn
Charley Rayfield

Newly Elected Director of the AMSA Student Board

Laura Yoder

Student Organizations

DEPARTMENT OF ANIMAL AND FOOD SCIENCES

The OSU Department of Animal and Food Sciences is home to nine student organizations. These organizations are led by students, for students, and are advised by faculty or staff mentors in the department. Joining a student organization allows students to develop leadership skills, volunteer in the community and network with peers and industry professionals.

Get Involved

BLOCK AND BRIDLE

- Students interested in animal agriculture
- The club hosts many educational events:
 - Invited speakers, community service projects and a youth showmanship clinic in addition to the annual Winter Bonanza cattle show.

DAIRY SCIENCE CLUB

- Students interested in the dairy industry
- The club hosts a silent auction at the Southern Spring National Holstein Show in Stillwater and is very involved in Homecoming activities

FOOD SCIENCE CLUB

- Students interested in a deeper understanding of food science and technology
- Students participate in product development, quiz bowl and attend national meetings

HORSEMAN'S ASSOCIATION

- Students interested in the equine industry
- The club travels to the National Horseman's Convention each spring to experience equine endeavors in different parts of the United States

MEAT SCIENCE ASSOCIATION

- Students interested in the area of meat science
- The club participates in the Meat Science Leadership Conference and attends the Reciprocal Meats conference
 - Poster competitions, quiz bowl, iron chef



OKLAHOMA COLLEGIATE CATTLEMEN'S ASSOCIATION

- Students involved in the cattle industry, agriculture or other livestock industries
- Members work together to promote agriculture throughout the state and across the nation

OKLAHOMA COLLEGIATE CATTLEWOMEN'S ASSOCIATION

- Women involved in the cattle industry, agriculture or other livestock industries
- Members work together to promote agriculture throughout the state and across the nation

PRE-VETERINARY MEDICINE CLUB

- Students interested in veterinary medicine
- The club hosts workshops and activities to increase their knowledge of veterinary medicine

SWINE CLUB

- Students interested in the swine industry
- Members are involved in the industry, educate on campus and serve the community
- The club hosts a jackpot show each spring



DEPARTMENT OF ANIMAL AND FOOD SCIENCES

Oklahoma University

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In Memorium



Recently, the OSU Department of Animal and Food Sciences had three alumni pass away. Their families have organized gift opportunities to honor their memory.

Walter Hackney

Walther Hackney attended Northwestern Oklahoma State University in Alva for two years before transferring to Oklahoma State University in Stillwater, Oklahoma. He took great pride in being a member of the 1958 OSU National Championship Livestock Judging Team and has continued to be actively involved in their alumni program in the years since. Walter graduated with a bachelor's degree in animal science.

The family of Walter Hackney has set up The Walter Hackney Memorial Endowed Scholarship. This will support an animal science student who is a member of the OSU Livestock Judging Team that has exemplified academic and extracurricular success. To donate to The Walter Hackney Memorial Scholarship, please visit <https://bit.ly/2yu2EFQ>.

Mike Vache

Mike Vache attended Oklahoma State University, receiving a bachelor's degree in animal science in 1974. Mike was the Top Senior in animal science and also a member of the Meats Judging Team, where he earned the Top Individual in Meat Judging his junior year at the national competition. He served as Block and Bridal President for two years, as well as other campus achievements.

The family of Mike Vache has requested memorial support be directed to the OSU Foundation in order to establish a scholarship in his memory. To donate to the Mike Vache Memorial Scholarship, please visit <https://bit.ly/2LTfgPz>.

Mariela Lachmann

Mariela Lachmann's passion for swine nutrition was a force to be reckoned with. Among other things, she worked to develop feed formulas that minimized phosphorus and nitrogen excretion and cut ammonia emissions in swine manure. Her drive and her positive attitude left a mark on all the industry and her colleagues at Land O'Lakes.

Please join us in remembering Mariela through a scholarship at Oklahoma State University. The scholarship will help continue Mariela's work as it will be awarded to a graduate student pursuing a degree related to swine nutrition with a focus on environmental impact, reproduction or animal health. To donate to the Dr. Mariela Lachmann Memorial Scholarship, please visit <https://bit.ly/2yocyJh>.

For more information or to make a contribution, please contact the OSU Foundation:

Heidi Griswold
405.385.5656 | hgriswold@osugiving.com

Thank You!

To the following sponsors of the OSU Department of Animal and Food Sciences





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