Dear Colleagues and Friends,

It is difficult to believe that we are mid-way into the fall semester. Now that we have been here one year already (time flies), and survived our first summer, anything below 70°F seems cold. On that note, let me express a warm welcome to each and every one of our new students, and wish all of our students (new and returning) a very successful semester and academic year ahead. Over the past 12 months, our school has been on an amazing journey of discovery, opportunity and rebuilding. To name a few highlights, we’ve hired three new extension faculty: Dr. Duarte Diaz (Dairy Extension Specialist), Dr. Betsy Greene (Equine Extension Specialist) and Dr. Jerry Lopez (Science, Technology, Engineering, and Math (STEM) Extension Specialist). This month, we will initiate competitive searches for two new tenure track faculty positions, one in Meat Science/Meat Food Safety/Microbiology and the other in Shrimp Disease/Crustacean Pathology. We also plan to hire a new Livestock Judging coach for the 2016 season.

This past summer has been both busy and exciting. In July, I attended the joint meeting of the American Society of Animal Science and the American Dairy Science Association (ADSA) in Orlando, FL, where we presented five papers. Later that month, I also gave a school update at the 111th annual meeting of the Arizona Cattle Growers’ Association’s Cattlemen’s College. In August, I attended the Bar V Ranch Explorers Day and celebrated 20 years of accomplishments of the V Bar V Ranch. In September, I travelled to China where I gave talks and met with Chinese academics and leaders in animal agriculture at the Chinese Academy of Agriculture Sciences in Changchun, and at the Nanjing Agricultural University in Nanjing. Last month, I presented data at the American College of Gastroenterology meeting in Honolulu, where my research received a lot of interest; and last week, I also took part in a 3-day ASDA Discover Conference on “Creating an enduring U.S. dairy production sector.”

Plans for the new Veterinary Program are coming along nicely. We are putting the finishing touches on the required documents to be submitted to the American Veterinary Medical Association (AVMA) at the end of this month, and preparing for the AVMA accreditation site visit this coming January.

I hope you enjoy our newsletter, it is packed full of exciting news and information about our amazing faculty, staff, students, and academic program. To all of our readers, thank you for your continued support and I wish you and your families a safe and Happy Thanksgiving. Bear Down!

Kindest regards,
André Wright, PhD

Support ACBS

There are many ways you can support the School of Animal and Comparative Biomedical Sciences. Gifts of any size help to propel ACBS closer to its goals and have an immediate and lasting impact on our programs. Your generosity provides outstanding educational opportunities for our students and helps to attract and retain the brightest faculty. With your support, ACBS research gives back to the state of Arizona community through our extension programs, as well as the nation and the world, through the discoveries we make and the products we develop.

Gifts may be made online at the University of Arizona Foundation website: www.uafoundation.org/give/cals Be sure to designate the funds by selecting other and typing in ACBS.

Or contact our school business office to discuss specific ways your contribution can be made or dispersed. Whether you choose to give to a specific project or program or simply donate to the school overall, we thank you.
UA Awarded DK Ranch

The Steele Foundation has awarded the 45-acre DK Ranch in Cornville to the University of Arizona, providing the university with a permanent footprint in Northern Arizona. The UA College of Agriculture and Life Sciences will use the property for the newly established Doctor of Veterinary Medicine (DVM) Program among other programs.

The University of Arizona was chosen in part because of its existing partnerships within the Verde Valley and a desire for the property to remain agriculturally focused. In addition to working with Yavapai College, the university has expressed interest in developing working relationships through programs housed at the DK Ranch with Northern Arizona wineries and the Arizona Wine Growers Association.

“Our schools and departments will utilize DK Ranch to complement existing programs at the UA and to create new ones specifically related to the region,” said Shane Burgess, Vice President of Veterinary Sciences and Cooperative Extension and Dean of the UA College of Agriculture & Life Sciences.

With the addition of the DK Ranch to the school’s property portfolio, the university has determined that every student in the DVM Program, the state’s only public program, will be able to live on the property for at least six weeks to complete rotations on ranch management, riparian ecosystems, wildlife medicine and management, sustainable land and water management practices, human resources management, community relations, ranch economics, human-animal interdependence, welfare and well-being, and public health issues.

- Reprinted from cals.arizona.edu

UA Vet Med Program in Oro Valley

Facilities Planned for Oro Valley and Tucson.

University of Arizona President, Ann Weaver Hart, announced that the new home for the UA’s Doctor of Veterinary Medicine (DVM) degree program will be its newest campus: University of Arizona Oro Valley.

“The University of Arizona Oro Valley campus will serve to integrate programs related to veterinary and human medicine, public health, social sciences, ecological and environmental sciences, all focused on addressing today’s complex health challenges,” Hart said. “With the DVM program, the University is matching degree output to state need. And with the One Health research analytics initiative, we are using UA knowledge and innovation to help address pressing new health challenges that defy traditional modes of analysis and problem solving.”

Oro Valley’s nearby Innovation Park, home to global bioscience businesses Sanofi and Ventana Medical Systems, was a significant factor in the selection of the facility.

First-year veterinary students would study at the UA’s main campus, then transfer to Oro Valley in later years before moving into the clinical rotations portion of the program where students will have 48 weeks of rotations in satellite facilities, private practices and related industries around the state.

The Oro Valley facilities will house anatomy and simulated models areas, surgery suites and clinical examination rooms where students will gain experience and clinical skills with companion animals.

In addition to the Oro Valley facility, students will gain experience with farm animals at the UA Campus Agricultural Center located 5 miles north of main campus in Tucson. The property houses the Food Product and Safety Lab, the Equine Center, and the Agricultural Research Center, as well as areas for housing and grazing livestock animals. Currently unused space, will be converted into a farm animal anatomy and simulation laboratory, animal clinical examination areas, and a collaborative teaching space. Microbiology labs will be used in the already existing Food Product and Safety Lab and outdoor animal handling facilities will provide the hands-on, practical knowledge students will need. The updated 120 seat auditorium, next door in the Food Product and Safety Lab, will be available for lectures and presentations.

“The University of Arizona veterinary medical education program promises to be rigorous and unique among American programs. Students will be able to start as soon as they have their prerequisites and attend year-round. Both translate into reduced costs and a faster time to degree, putting graduates in the workforce sooner. This is good for our students and Arizona’s economy,” said UA Vice President for Veterinary Sciences Shane Burgess, Dean of the College of Agriculture and Life Sciences.

Plans for the proposed veterinary program continue to move forward with the UA hosting accreditors from the American Veterinary Medical Association in January.

“If all goes according to plan, students will be able to matriculate next fall,” Burgess said.

Classes and clinical training will move to the Oro Valley campus in 2017, after an $8 million renovation of the facility. The site also will support UA’s participation in the One Health Initiative, a global effort to improve the health of humans and animals.

UA Oro Valley is located near the intersection of Oracle Road and Hanley Boulevard. Photo Credit: John de Dios/UA News
Over 150 participants helped the V Bar V Ranch celebrate 20 years as a unit of the University of Arizona Agricultural Experiment Station at the V Bar V Ranch Explorers Day, Saturday, August 22.

The festivities began with a welcome from University of Arizona President, Dr. Ann Weaver Hart, who also spoke about research projects currently in progress at the Ranch.

Presentation topics during the day included the purpose and importance of the Ranch, a look back at accomplishments at the Ranch over the past 20 years, the impact working on the Ranch can make on the careers of student interns, and the important relationships the Ranch has established with organizations in the cattle industry.

Demonstrations included the use of the ranch’s new ultrasound equipment to determine pregnancy in cattle, and the use of near infrared spectroscopy equipment to determine if a livestock brand has been altered.

Exhibits and displays outlined advances that have been made in agricultural tools, techniques and technology at the Ranch over the past two decades.

Guests from the state legislature included Senator Sylvia Allen, Speaker of the House Representative David Gowan, and Representative Bob Thorpe.

All in attendance enjoyed a pit barbeque beef lunch prepared by Bopper Cannon and family. They also had the opportunity to visit a petting zoo, have their brand or name branded on a board to take home, and enjoy Dutch oven peach cobbler with a big bowl (or two!) of homemade ice cream.

Congratulations, V Bar V Ranch!
New Storefront for Weekly UA Meat Sale

The UA Food Product and Safety Laboratory has been hard at work this summer creating a dedicated meat sale space for their weekly meat sale. With new signage and a separate entrance, the sale is now easier to find and more welcoming for customers. The transformation includes an overhead color monitor with information on different types of meat, recipes and specials. Products available for purchase include traditional favorites such as grain finished and grass fed beef, lamb, pork and pet treat products, along with a new selection of sausages and bratwurst. Sale hours have been expanded to Mondays from 1pm to 4pm and Fridays from 8am to 6pm. The facility is located at 4181 N. Campbell Avenue, and the store entrance is on the northeast corner of the building. For questions regarding the meat sale contact 520-318-7021 or FPSL@email.arizona.edu.
Introducing the Innovators’ Circle

Innovation Contest Headlines 2015 Annual Global Symposium on Racing & Gaming

The plan for a “Shark Tank” style pitch contest for the 2015 Symposium started last year with presenting the initial idea to the Race Track Industry Program (RTIP) Advisory Council in December 2014. The Advisory Council, which is comprised of racing industry leaders embraced the idea, so the RTIP faculty and its partners began developing the framework for the contest.

Innovation and technology touch every part of the racing industry—from wagering platforms, to video distribution on multiple devices, to data collection of all forms. Developing innovative ideas is time consuming and costly and nurturing new concepts in a sport steeped in tradition is difficult at best. Other industries facing similar issues have encouraged and embraced innovation with pitch competitions like Shark Tank.

The RTIP, in conjunction with its partners Hai Ng and Vin Narayanan, developed a logo, website, contest entry forms, rules and a promotional video. The event, named the Innovators’ Circle, will be held at this year’s annual Global Symposium on Racing & Gaming. Participants will pitch their ideas and/or products to top executives in the racing and gaming world. The event is open to everyone, not just those already involved in the industry. The contest’s website, www.innovateracing.com, provides a background on racing and educational tools to help educate the racing newcomers who wish to participate.

Response to the competition has been strong with a steady stream of entries. Due to the overwhelming support from racing industry sponsors USTA, Daily Racing Form, Keeneland and BAM Software, the grand prize for the competition has been raised from $10,000 to $15,000. All finalists will also receive $1,000 to cover travel expenses to the contest.

“We knew that the move back to Loews Ventana Canyon Resort would generate interest in this year’s Symposium, but we really wanted to make this conference different. The Symposium has showcased new ideas embraced by racing throughout the years. As racing strives to grow in an increasingly competitive gambling environment, we believe that inviting entrepreneurs – who may or may not be involved in horse racing – to pitch their ideas will create tremendous excitement and potentially some new visions for our industry,” said RTIP Director Doug Reed.

“We know there are thousands of entrepreneurs, inventors and innovators out there who have great products and ideas that could change the horse racing industry,” said Hai Ng, event producer/partner, Neomancer LLC. “We want to create a platform that will let the best concepts rise to the top. Having worked with many start-ups in a wide variety of industries, we have discovered that some of the best innovations come from outside the target vertical; once that breakthrough idea takes hold, the industry latches on and blossoms with it.”

The 42nd Annual Global Symposium on Racing & Gaming will be held from December 7-9, 2015 at Loews Ventana Canyon Resort. The Innovators’ Circle will be held in a morning session on Wednesday, December 9. The contestants will present a ten minute pitch to the judges, followed by a Q & A session. Besides the cash prize, the finalists will exhibit at the event and have the ability to make deals directly with investors.

ACBS Offers Animal Toxicology Class

Students learn how animals are affected by toxic substances.

New for this Fall Semester, ACBS is offering a course in Animal Toxicology. The course is available to both undergraduate and graduate students and focuses specifically on the toxicity of substances relevant to small and large domestic animals.

Toxicology combines the elements of many scientific disciplines to help understand the detrimental effects of substances on biological systems. It involves observing and reporting symptoms, mechanisms of toxicity, detection and treatments of toxic substances. During the duration of the course students will learn more about what a toxicologist is and the different areas toxicologists can specialize in. The class focuses on the principles of toxicology including the factors affecting the response to chemicals, the common mechanisms of toxicity and the importance of dose or concentration related to the ability of a chemical to induce toxicity. Students will learn what happens to a chemical when it enters a living organism, the potential mechanisms by which a chemical may cause toxicity, what characteristics make an organ susceptible to toxicity, and identify poisons that affect animals.

Dr. Zelieann Craig, Assistant Professor in the School of Animal and Comparative Biomedical Sciences developed and is teaching the course. Dr. Craig is a reproductive toxicologist whose research focuses on chemical and environmental factors that could influence both human and animal reproduction.
In January 2014, I began searching for internships that would give me an up close and realistic view of the marine mammal training field. Working with dolphins had been a childhood dream of mine and I decided to go for it. I googled ‘marine mammal training internships’ and of the many that turned up the Navy’s program located in San Diego, California caught my eye the most. Apart from the programs website I found a couple of blogs written by previous interns stating that the Navy’s program was the most hands on program by previous interns stating that the Navy’s program was the most hands on program. I mailed in the usual resume, letters of recommendation, cover letter and a few other documents and heard back in a couple of weeks about a phone interview. After the interview, and another week or so of nail biting, I finally received the phone call that I had been accepted for the Spring 2015 semester.

In January, I headed off to San Diego to begin my internship. The first week was all orientation where we got a crash course on what our jobs were to be, the facility, and proper conduct while interning. Amongst the overload of information, I was also getting to know the other twenty-one interns. We were assigned to different crews and cycled through three crews total during our sixteen week stay.

Each crew specialized in different work so I got a wide view of different training methods and animals. The program was excellent in giving hands-on experience. I had never worked with dolphins before and learned more about the animal and its training than I believe I would have at any other facility. All day was spent with the trainers so any question I had could be answered. The point of the internship was to teach the fundamentals of conditioning and training, as well as care of dolphins and sea lions, but the techniques learned could easily translate to any other animal.

My area of interest is to break into the animal training field for the film/entertainment industry. There were multiple people at the facility that had worked in that field and they were always available to talk to and offered useful advice on how to break into the field.

In addition to the fellow interns I worked with every day, I answered to two internship coordinators who were always available and were in charge of scheduling our morning duties and which crews we were assigned to. At the end of our crew rotation we sat down with the coordinators and discussed how we were feeling about the program and if we had any suggestions.

The other people I worked with closely were the trainers themselves. Some crews had more welcoming trainers that would “hand hold”, meaning they made sure to let you know what they needed to have done. Other crews expected the interns to know the routine and jump in when needed. Personally, these were the crews I enjoyed the most. It provided for a better experience and made me feel like a more pivotal part of the team.

Interns were allowed to assist in training sessions, meaning we sat with trainers and observed some of the various husbandry and play behaviors the dolphins knew. Interns also had opportunities to assist in medical exams and practice blood draws. All these things helped to show what the marine mammal field entailed. All the dirty work like dealing with fish and scrubbing bird poop was all made worth it for just five minutes with one of the animals.

This internship really hammered home my desire to work in the training field. While I don’t see myself staying in the marine mammal field, what I learned in the Navy Program will stay with me through my career and I will call back on that information in the future. It has also given me great connections and resources to stay in touch with others in the field. I would eagerly recommend this internship to anyone interested in the animal field in any capacity whether it be training, research or veterinary science.

For more information on the Navy’s Marine Mammal Program Internships go to www.nmmf.org/internship-opportunities/.

- Casey Rau

ACBS Undergraduate Student
Improving the Safety of Leafy Greens

Natural plant antimicrobials and organic sanitizers proving effective in killing bacteria and extending shelf life.

Food safety is a top priority for consumers, especially when it comes to the leafy greens in salads. Researchers at the University of Arizona have discovered natural methods to sanitize these vegetables using ingredients commonly found in the kitchen, such as oregano, cinnamon, and vinegar.

Plant extracts, essential oils, and organic sanitizers have all proved effective in killing bacteria on leafy greens and extending their shelf life. When emulsified in the water used to wash these leaves, the approach compares to (and sometimes even works better than) bleach or hydrogen peroxide.

“Plant antimicrobials can be used by consumers at home,” said Sadhana Ravishankar, Associate Professor at the University of Arizona’s School of Animal and Comparative Biomedical Sciences. “Plant extracts and essential oils can be added in the wash water by themselves or combined with vinegar in the wash water for treatment.”

Benefits of using plant antimicrobials and organic sanitizers are that they are natural, environmentally friendly, and less energy intensive since they are effective at both room and cold temperatures. They also continue to kill bacteria during storage; their effectiveness is not reduced in the presence of organic matter; and they have added health benefits linked to a reduction in the occurrence of cancer, diabetes, and high cholesterol. The wash water containing plant compounds and organic sanitizers can also be recycled and reused without a loss in effectiveness.

“We have also researched a new way of applying plant antimicrobials to improve salad safety,” said Ravishankar. “We have incorporated plant essential oils into edible films that are added into salad bags and the vapors from the oils kill the bacteria in the salad bags during storage. Edible films are also plant-based sources such as apples, carrots, hibiscus, or spinach pulp.”

The team has been using social media as an educational tool for the benefit of growers and other stakeholders. The social media campaign includes YouTube videos, Facebook, and Twitter.

The outcomes of this project will benefit consumers by reducing and preventing contamination of the leafy greens by foodborne pathogens at the production and harvesting levels, providing a safer product in stores and on their tables.

Moving forward, Dr. Ravishankar and her team are testing combinations of plant antimicrobials and the effectiveness of them when the wash water is recycled. USDA’s National Institute of Food and Agriculture (NIFA) is funding this new research, a four-year, $2.9 million Organic Agriculture Research and Extension Initiative (OREI) grant.

OREI seeks to solve critical organic agriculture issues, priorities, or problems by integrating research, education, and extension activities. OREI funds projects that will enhance the ability of producers and processors who have already adopted organic standards to grow and market their high quality organic agricultural products.

NIFA invests in and advances agricultural research, education, and extension and seeks to make transformative discoveries that solve societal challenges.


- Kelly Flynn, National Institute of Food and Agriculture

Green and Clean Produce Workshops

Dr. Ravishankar’s team conducted produce safety workshops for UA students, produce industry professionals and students from Yuma on August 26, August 28 and September 18, respectively. The workshops, entitled “The Green and Clean Produce Workshop - Food Safety from Farm to Fork,” offered attendees the opportunity to participate in hands on activities and work in groups to answer food safety questions. Participants received a certificate for attending at the conclusion of the workshop.

Photo Credit: Ravishankar Lab
Congratulations to 2015 40 Under 40 Award Winner

Dr. Michael Mallozzi, Postdoctoral Fellow under the mentorship of Dr. Gayatri Vedantam in the School of Animal and Comparative Biomedical Sciences, has been named as one of Tucson’s 40 under 40 for 2015. The award is co-hosted by the Tucson Hispanic Chamber of Commerce and the Arizona Daily Star and recognizes young leaders who are making an impact in the Tucson community with their professional and charitable work.

Dr. Mallozzi is one of the co-founders of Borderlands Brewery which he took, with his partners, from dabbling in home brewing to a successful feature of downtown Tucson. He serves on the boards of 3 non-profits and continues to work in the Vedantam lab. His love of Tucson is clear when he says “It’s been a blast living and learning in such a vibrant community and I look forward to many more years brewing and advancing scientific discovery.”

Summer in the Czech Republic

Dr. Chuck Sterling assesses student research progress; Retiring after 32 1/2 years of service

Dr. Chuck Sterling has been a member of a unique program on the University of Arizona campus, Biomedical Research Abroad - Vistas Open (BRAVO), since its inception in 1992. Another component of this program is the Minority Health Disparity International Research Program, for which he and Dr. Carol Bender, Program Director in the Department of Molecular and Cellular Biology, are Co-PIs. This summer 10 students from this UA program had the opportunity to participate in research dealing with parasites at the Institute of Parasitology located at the University of Southern Bohemia in Ceske Budejovice, Czech Republic. Drs. Sterling and Bender both traveled to the Czech Republic to visit with the students and to help assess their research progress.

At the end of December, Dr. Sterling will be retiring from the University of Arizona after 32 1/2 years. He rose to the rank of Professor, was Head of Veterinary Science and then Veterinary Science and Microbiology (VSM) from 1990-1999, was called upon once again to Head VSM in 2010 and became interim Director of ACBS in 2013 until replaced by the current director, Dr. André Wright. He has mentored many undergraduate and graduate students during his tenure at the UA and published more than 140 peer reviewed articles, numerous book chapters, and co-edited 3 books. Development of an immunofluorescent diagnostic assay for the parasites Cryptosporidium and Giardia, and identification of a new human parasite, Cyclospora cayetanensis, are among the highlights of his scientific career at the UA. He has also instructed more than 3,000 students in several courses focused on parasitic diseases.

Dr. Sterling has also spent several weeks each year for the last 30 years doing infectious disease research in Peru along with his colleague Dr. Robert Gilman of the Johns Hopkins University. Even though he will be retiring, Dr. Sterling plans to continue going to Peru to assist and consult on research projects. The rest of his time will be devoted to traveling with his wife and taking lots of pictures, one of his passions outside of work.

While he will miss the daily grind of academia, he plans on staying on board, doing what he can to help ACBS achieve its goal of being a leading academic force at the University of Arizona.

Retiring ACBS Professor Receives Emeritus Status

In recognition of his contributions to the University of Arizona and in honor of over 40 years of exemplary service, Dr. Donald Lightner has been granted emeritus status. Dr. Lightner is known around the world for his work as a shrimp and finfish pathologist. He has been instrumental in the prevention of disease through nutrition, immunology and development of specific pathogen-free stocks of Pacific white shrimp and black tiger shrimp. Dr. Lightner has also played an instrumental role in identifying the elusive pathogen causing early mortality syndrome (EMS), which has significantly impacted global shrimp production. Throughout his distinguished career at the UA he has instructed and mentored countless students in the area of aquapathology. His official date of retirement was October 9th, 2015.
Conductive Cooling For Dairy Cows

Potential to provide huge savings in summertime energy costs for dairy producers.

Dr. Robert Collier, Professor in the School of Animal and Comparative Biomedical Sciences at the University of Arizona College of Agriculture and Life Sciences, and graduate student Xavier Ortiz are attempting to answer the question of cost-effective cooling for heat-stressed dairy cows.

As the climate gradually warms, issues related to heat stress in cattle increase demand for new and more efficient approaches to cooling as the hot summer months cost the U.S. dairy industry close to $900 million each year.

Once cattle surpass their comfortable thermo-neutral zones, they alter their behavior and physiology in order to maintain a stable core temperature. This response to the stresses of heat directly and indirectly affects their ability to produce milk, to grow, and to reproduce.

The considerable slump in productivity and revenue during this period is further exacerbated by the wasted feed that results from heat-induced appetite loss and the large expenses incurred with current methods of cooling. The widely used fan and mist cooling systems currently used are regarded as effective, but costly to purchase, maintain, and use. These cooling systems not only drain resources but also contribute to the dairy industry’s carbon footprint.

Dr. Collier has been leading the forefront on conductive cooling systems, which could dramatically help reduce energy requirements if used to augment current cooling strategies.

A thermal conductive cooling system is a heat exchanger ‘system’ that is installed beneath the cows’ bedding area in dairy barns. According to Dr. Collier, heat from the cows passes through the heat exchanger ‘panels’ with approximately a 30 to 35 degree differential between the internal temperature of the cow and the temperature of the earth-cooled well water.

The colder temperature of the water cools the cows naturally via conduction by transferring heat from a warm source, the cow, to a colder source, the heat exchanger with the colder water. Working in close collaboration with Conco Technologies of Chandler, AZ, with GEA Farm Technologies, one of the world’s largest suppliers of dairy equipment, and with his own laboratory at the University of Arizona, Dr. Collier has demonstrated the benefits of a conductive cooling system for the dairy industry’s profits, for animal welfare and for the environment.

Dr. Collier, Ortiz, and their team of scientists continue to work on the cooling system to improve and increase the efficiency of this cooling approach in terms of improving the health and welfare of dairy cows. Their research was accepted for publication in the Journal of Dairy Science, and their paper was selected as the “Featured Article of the Month” by the editor-in-chief for the month of March.

Titled “Evaluation of conductive cooling of lactating dairy cows under controlled environmental conditions,” the article discusses the benefits of conductive cooling in reducing the dairy industry’s carbon footprint while maximizing quality milk yields.

If thermal conduction cooling is proven to effectively cool cows within profitable physiological parameters (101 degrees F to 103 degrees F) and implemented on dairies, the potential exists to significantly reduce or shift the peak load of energy required to cool dairy cows and provide huge savings in summertime energy costs for dairy producers.

Dr. Robert Collier’s connection with the dairy industry began as a child growing up near family farms in Illinois. Although he earned his degrees (BS ’69, MS ’73) at Eastern Illinois University (EIU) in Zoology his MS advisor, Eugene Krehbiehl, directed him towards a PhD at the University of Illinois and a career in Dairy Science. After earning his doctorate degree, he began a distinguished career as a renowned environmental physiologist focused on several areas, including global food security, environmental health, and animal welfare. That focus led to professorships at the University of Florida and the University of Arizona, where he additionally served as head of the Department of Animal Sciences. He’s also served Eastern Illinois University as chair of the College of Science advisory board from 1999-2000. Collier’s career in the industry includes roles as the dairy research director for the Monsanto Company in St. Louis, and co-founder of the Amelgo Corporation in Covington, Kentucky. He was named the 2013 Outstanding Dairy Industry Educator/Researcher of the Year by the Western Dairy Management Conference and a Fellow of the American Dairy Science Association and the Endocrine Society. He is an Honorary Fellow of the University of Glasgow and an Erasmus Fellow of the University of Copenhagen in 2011. He and his wife Jayne (EIU - BS ’71, MS ’82) reside in Tucson, Arizona, and have two children and six grandchildren.
Recent ACBS Faculty Publications


Henderson G, Wright A-DG, et al. 2015. Rumen microbial community composition varies with diet and host, but a core microbiome is found across a wide geographical range. Nature's Scientific Reports. 5:14567 DOI:10.1038/srep14567.


ACBS Awards and Recognitions

Dr. Sean Limesand has been awarded the CALS Research Faculty of the Year Award for 2015. This award is presented annually at the CALS Fall Faculty and Staff Meeting. Dr. Limesand received a $1,000 check and award plaque.

Andrew Clark, currently working on his PhD with the Viswanathan and Vedantam labs, received recognition from the journal Clinical Microbiology Reviews. His review article, “Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry: a Fundamental Shift in the Routine Practice of Clinical Microbiology” was cited 31 times in 2014, well above the average of 17 cites of other articles during that time period.

Undergraduate student Jahaira Vera was awarded a Burroughs Wellcome Travel Fellowship to attend and present work done in Dr. Zelieann Craig’s Laboratory at the 48th Annual Meeting of the Society for the Study of Reproduction (SSR). This award recognizes students from underrepresented groups in reproductive biology and enables their participation in the SSR annual meeting. The award provides travel funds and fellow-specific events at the conference.

Nizigiyimana Ernest (Molecular and Cellular Biology) and Shade Rodriguez (Biochemistry) are two undergraduate students participating in the Environmental Health Sciences Transformative Research Undergraduate Experience (EHS-TRUE) program. The goal of EHS-TRUE is to prepare undergraduates from under-represented backgrounds to enter graduate programs in the environmental health sciences. Ernest and Rodriguez have been working on a pilot project investigating the role of IGF1 and PPARgamma on ovarian follicle maturation in Dr. Zelieann Craig’s Laboratory.

Dr. David Schafer, Resident Director of the V Bar V Ranch, received Second Place for his photography entry in the intermediate category of the University of Arizona “On Your Own Time” art exhibit. This annual exhibition includes University of Arizona employees, retirees, and their immediate family members.
Dr. Duarte Diaz
Dairy Extension Specialist and Associate Professor

Dr. Duarte Diaz joined the School of Animal and Comparative Biomedical Sciences as Dairy Extension Specialist and Associate Professor in August 2015. Prior to joining the University of Arizona, he worked in the private sector in several roles including research and development and technical service. He also served as Assistant Professor and Extension Specialist at Utah State University. He received his BA from Jacksonville University and his MS and Ph.D from North Carolina State University.

As the Dairy Extension Specialist, Dr. Diaz will provide relevant and current extension programs to the dairy producers of the state. This includes educational activities that are broad-based in nature, but specifically impact decision-making ability at the farm level. It also includes research and graduate programs that help answer relevant questions in the industry.

In addition to dairy extension, Dr. Diaz will continue his research in nutritional toxicology which focuses on the effects of mycotoxins on major agricultural species, their occurrence and mitigation strategies. Dr. Diaz’s office is located at the Agricultural Research Center and he can be reached at duartediaz@email.arizona.edu or 520-626-1221.

Dr. Titia Luise King
Instructor

Dr. Luise King was born in South Africa and raised on a small dairy farm outside of Johannesburg. Her family immigrated to the US when she was a teenager where she spent the next few years in a small town in Missouri. Dr. King received her BS in Animal Science, DVM, and PhD in Biomedical Sciences, all from the University of Missouri, Columbia.

Prior to coming to the University of Arizona, Dr. King worked briefly as a veterinarian in a mixed animal practice in Missouri before going back to school to obtain her PhD. Since graduating, she has worked at Pima Community College and Central Arizona College where she taught in the Veterinary Technology and Science Departments, respectively.

As an Instructor at the University of Arizona, Dr. King is currently teaching Diseases of Wildlife. Next semester she will begin teaching Anatomy and Physiology, as well as Diseases of Domestic Animals. Dr. King is excited about teaching for the School of Animal and Comparative Biomedical Sciences and meeting new people at the UA. Dr. King can be reached at tluiseking@email.arizona.edu.

Kyle Knetch
Research Technician

Kyle Knetch was born and raised in Wellsville, Pennsylvania. He received his BS in Biomedical Engineering, from the University of Rochester and went on to receive his M.Eng, also in Biomedical Engineering, from Cornell University.

As a research technician in Dr. Benjamin Renquist’s lab, Kyle assists with experiments and works to advance the research of the lab. Kyle began his position in August. He is new to the Southwest and excited to learn more about the area and local culture.

Kyle’s office is located at the Agricultural Research Center, and he can be reached at kknetch@email.arizona.edu or 520-626-8970.

Brandon Watkins
Farm Manager

As Farm Manager for the UA Campus Agricultural Center, Brandon Watkins manages the animals housed at the Agricultural Research Center (ARC), the university feed lot, and the university farm.

He received his BS in Biology, with a minor in Chemistry, from Northern Arizona University and his MS in Agricultural Education, from the University of Arizona. Prior to working for the UA, Brandon served as an Agricultural Education teacher at Chino Valley High School outside of Prescott, AZ.

Brandon began his new position with ACBS at the beginning of September. He is excited to be back at the UA and says “I am a wildcat at heart and I love this amazing university.”

Brandon’s office is located at the Agricultural Research Center, and he can be contacted at abpwatkins@email.arizona.edu.
New Websites

Check out the new School of Animal and Comparative Biomedical Sciences website! Find information for future or current students, the latest ACBS news, and faculty and staff contact information.

acbs.cals.arizona.edu

Learn more about microbiology programs at the University of Arizona:

microbiology.arizona.edu

UPCOMING EVENTS

December 7 - 9
Global Symposium on Racing and Gaming
Race Track Industry Program
Lowes Ventana Canyon Resort
Tucson, Arizona
https://ua-rtip.org/symposium/

December 8 - 10
Extension Administration Retreat

December 19
Convocation
College of Agriculture and Life Sciences
Centennial Hall
Tucson, Arizona

December 27 - January 1
Arizona National Livestock Show
Phoenix, Arizona
www.anls.org

January 13
Classes Begin
The University of Arizona

January 24 - 28
AVMA Council on Education Site Visit
Tucson, Arizona

January 27 - 30
Annual Convention and Trade Show
National Cattlemen’s Beef Association
San Diego, California

February 20 - 21
UA Collegiate Livestock Growers
Annual Jackpot Show
Campbell Ave. Farm
Tucson, AZ

February 24 - 25
Southwest Ag Summit
Arizona Western College
Yuma, Arizona

March 12 - 13
Tucson Festival of Books
The University of Arizona
tucsonfestivalofbooks.org

Connect With ACBS:

Get all the latest news and information about the University of Arizona School of Animal and Comparative Biomedical Sciences.

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ACBS EMAIL NEWSLETTER
acbs.cals.arizona.edu/news

The ACBS Newsletter is published three times a year for alumni and friends of the University of Arizona School of Animal and Comparative Biomedical Sciences.

Stories in this print edition have been edited for length. Visit the ACBS Newsletter online at acbs.cals.arizona.edu/news for past issues.

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