Dear Friends,

It is hard to believe we are already well into April and are nearing the end of the Spring 2016 semester. For many of our students, this summer will be filled with jobs, internships, and a chance to apply some of the knowledge they have acquired to real world situations. For our graduating seniors, I hope you have wonderful and everlasting memories of your time at the UA and as an ACBS student. We enjoyed having you in our classes and getting to know you during your time at the UA. You will continue to leave an enduring legacy of excellence and achievement for generations to come. On behalf of our Faculty, Staff, and Graduate Students, we wish you all the best in your future endeavors.

Over the past 3 weeks, we have been interviewing candidates for a number of new faculty positions, including a permanent Livestock Judging Coach/Academic Advisor. This is an exciting time as we continue to invest in our new School. As you will see from our newsletter, the contributions and activities of our faculty, staff, and students make ACBS one of the best academic units on campus. Externally, I have been elected as Secretary of the National Association for the Advancement of Animal Science (NAAAS), which is comprised of animal, dairy, poultry, and veterinary science department heads from across the country. The NAAAS was formed in 2012 to address the shortfall in federal funds for the animal sciences and to serve as a common voice for animal agricultural researchers, who play a critical role in maintaining the nation’s status as a world leader in safe, abundant, and efficiently produced animal products. The NAAAS is working closely with like-minded groups, such as the Federation of Animal Science Societies and the Animal Agriculture Coalition, to complement their activities by providing focused advocacy to increase funding for the animal sciences, and with Congress and the Administration to promote the importance of investing in animal science. Dr. Ken Odde, Head of the Department of Animal Science at Kansas State University, serves as President of the NAAAS.

Moreover, it is a great time to get a degree in animal science, microbiology, or veterinary science as we need a new generation of well-educated and motivated people in agriculture to tackle the challenges and discover opportunities to feed our growing global population. I hope you enjoy this issue, it is packed with exciting information.

To our valued stakeholders, faculty, staff, graduate students, and friends, thank you for your support. I wish you and your families all the best for a happy and safe summer.

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.
ACBS Welcomes New Faculty

**Appointments in Equine and 4-H STEM Youth Development**

ACBS is pleased to welcome Drs. Elizabeth “Betsy” Greene and Gerardo “Jerry” Lopez, two new faculty members who will be adding their expertise to the University of Arizona’s cooperative extension mission. The two newest additions to ACBS have already joined forces to visit 4-H clubs throughout the state with a “Meet the Specialists” introductions and an activity demonstrating how STEM information ties in closely to equine health issues affecting Arizonans.

Dr. Greene began her appointment as Professor and Extension Equine Specialist in December 2015. While she comes to the UA from the University of Vermont where she also served as Professor and Equine Specialist, and an earlier appointment at Washington State, Dr. Greene is no stranger to Arizona. After receiving her AAS in Veterinary Technology and BS in Animal Sciences from Morehead State University in Kentucky she came to the University of Arizona to complete an MS in Animal Science. She then went on to obtain a PhD in Animal Science and Industry from Kansas State University.

In her new position, Dr. Green’s time is dedicated to 30% teaching and 70% extension. She is responsible for equine extension education, with a heavy 4-H component throughout the state. About her new position she says, “I am excited to work with our Agriculture and 4-H agents throughout the state to bring educational programming related to equine (and human) health, management, stewardship, and safety to youth and adults alike.”

She looks forward to the many opportunities to add value to the equine program and industry in the state of Arizona, and brings a unique perspective to issues and education with her broad exposure to, and experience in, many state industries and equine programs throughout the country.

Dr. Greene’s office is located in the Shantz building room 239. She can be reached at 520-626-3673 or betsygreene@email.arizona.edu.

Dr. Jerry Lopez was born and raised in Douglas, Arizona. He attended Western New Mexico University where he double majored in Botany and Zoology with a minor in chemistry and continued on to receive a Master of Arts in Teaching. He returned to the Douglas School District, then the Catalina Foothills School District in Tucson, and finally the Tucson Unified School District to teach middle school and high school science for 12 years before deciding to pursue a PhD from the University of Arizona in Soil, Water and Environmental Science with an emphasis in Environmental Microbiology.

In his new position, Dr. Lopez serves as both Assistant Professor and Assistant Extension Specialist 4-H STEM Youth Development. With his 30% research appointment, Dr. Lopez will continue with his current research focus areas including food safety, water quality and transmission of pathogens in indoor environments, as well as collaborating with other researchers at the UA and in cooperative extension.

For the cooperative extension component of his position, Dr. Lopez has already begun working with several people in developing YOUUniversity summer camps in various STEM focus areas. These summer camps focus on animal science, engineering, food safety, chemistry, and several other topics and aim at providing laboratory experiences for middle school and high school youth throughout the state. In addition to making these summer camps available to current 4-H clubs throughout the 15 counties in Arizona, the plan includes expanding the 4-H club concept into 4-H after school clubs throughout the state. The program has partnered with the 21st Century Community Learning Centers (CCLC) in offering the 4-H after school STEM clubs that culminate in the YOUUniversity summer camps.

The development of the Science YOUUniversity summer camps, along with expanding the 4-H clubs to after school clubs, will benefit youth throughout the state by providing after school STEM opportunities and STEM summer camps that will help engage middle and high school students in pursuing STEM related careers. Dr. Lopez strongly feels that “Our youth are very capable of doing well in all areas of STEM, they just need to be able to see themselves on campus and be given the opportunity”.

Dr. Lopez’s enthusiasm and belief in Arizona’s youth is evident when he talks about his appointment. “What excites me most about my new position is working with others that also want to provide opportunities to our youth that encourage them to pursue careers in STEM. I have a great opportunity to give back to our youth throughout the state by working with others to develop these summer STEM camps on campus and by expanding our 4-H clubs to 4-H after school clubs.”

Dr. Lopez’s office is located in the Veterinary Sciences Building, room 231. He can be reached at 520-834-2795 or lopezg3@email.arizona.edu.
The 100% Engagement initiative at the University of Arizona is based on “the recognition that experiences beyond the classroom provide a framework for students to enrich skills and grow in both their professional and personal life.”

This may be a new endeavor for many in the world of academia, but the concept has been a cornerstone of the Race Track Industry Program (RTIP). Since its beginning in 1973, RTIP students have been afforded opportunity to become a part of the industry they intend to enter long before they graduate. Through internships, interaction with industry professionals who are brought to campus as “guest professors” and other special projects, students are career-ready when they complete their studies.

Two current RTIP graduate students, Joe Longo and Alexa Ravit, are honing their professional skills while at the same time bringing national recognition for the RTIP through their interactions with the racing industry.

When the National Thoroughbred Racing Association announced the formation of a new #NHC Social Media Team, RTIP student Joe Longo, was on that list. The team highlighted the news, personalities and culture of the world’s richest and most prestigious handicapping tournament, the $2.75 million Daily Racing Form/NTRA National Handicapping Championship held January 28-30, 2016.

The four-person #NHC Social Media Team was comprised of award-winning turf writer Jennie Rees; Woodbine Racetrack communications manager Keith McCallmont; Breeders’ Cup social media consultant Molly McGill; and RTIP student Joe Longo.

Rees is one of the most prolific and decorated chroniclers of American racing. In 34 years with the Courier-Journal, she won five Media Eclipse Awards and for her Kentucky Derby coverage, five Red Smith awards. She also is a member of the National Museum of Racing’s prestigious Joe Hirsch Media Roll of Honor.

McCallmont has managed all of Woodbine Racetrack’s social media channels since 2011. The Toronto native was one of 12 horseracing social media elites invited to promote the Hong Kong International Races held in December of 2015.

McGill, co-founder of Grand Slam Social, a strategic social media consulting firm, has been a key part of Breeders’ Cup Ltd.’s social media strategy for more than five years and has managed social media campaigns for Santa Anita Park and HRTV.

Joe was certainly in good company and made the most of the opportunity. During the event he offered never-before-seen views of the NHC from behind the scenes, including the mandatory race selection process, media coverage and close-up looks of the Final Table.

Alexa Ravit is a regular contributor to America’s Best Racing (ABR) via her blog highlighting her experiences at the University of Arizona as an RTIP student. ABR is a multimedia fan development and awareness-building platform, created and funded by The Jockey Club, designed to increase the profile and visibility of North America’s best Thoroughbred racing events, with a primary focus on the sport’s lifestyle and competition. The following is her recent blog post highlighting the RTIP.

The conversation usually goes something like this:

Alexa: “I’m a graduate student at the University of Arizona.”

Stranger: “What are you studying?”

Alexa: “I’m in the Race Track Industry Program ... so horse racing.”

Stranger: “You can go to school for horse racing?”

Indeed, you can! While few people outside of racing have heard of the University of Arizona’s Race Track Industry Program (RTIP), it is well known and respected within the racing industry. Since its inception in 1974, the program has churned out hundreds of successful industry leaders in all facets of racing. RTIP’s most famous graduate is none other than Bob Baffert, trainer of racing’s 12th Triple Crown winner, American Pharoah.

RTIP was created to train young men and women to enter the racing industry. What started as a trial program has grown to become known in the racing industry as a developer of top young talent through its undergraduate and graduate programs. It is also the host of the yearly Global Symposium on Racing and Gaming, the largest horse racing conference in North America. The symposium brings together hundreds of industry leaders each year, thus facilitating networking opportunities for both students and professionals.

One of many things that is great about RTIP is that the curriculum is flexible enough that students can easily transfer into the undergraduate program from other majors, universities, or even other careers. Several students in the program had success in prior careers before they made the decision to apply to RTIP. Some students begin RTIP during their first semesters as freshmen at the University of Arizona, but many transfer in later. The graduate program, instituted in 2006, is a two-year master’s degree program.

RTIP’s flexibility is also apparent in its academic offerings. Undergraduate students have the option to follow one of two paths. Some students choose to be on the equine management path, which includes classes such as Equine Nutrition and Management and Training/Management of the Weanling. Other students follow the business path, which includes classes like Managerial Accounting and Business Writing. Graduate students are committed to the business path.
Innovators’ Circle and 2015 Global Symposium on Racing & Gaming Attract International Attention

Submissions to the inaugural Innovators’ Circle, a pitch contest created to drive innovation in horse racing, came from five continents. The contest, which is based on the TV show “Shark Tank,” was developed by gaming author Vin Narayan and Hai Ng, partner of Neomancer LLC, in conjunction with the Race Track Industry Program was showcased at the 2015 Global Symposium on Racing & Gaming.

SwoopStakes, a racing jackpot based on multiple race outcomes, received the $15,000 first place cash prize for winning the 2015 event. The winning concept was developed in Australia by Shaun Pyrah, Director of Strategy for Six Faces, an interactive wagering company. The three-judge panel deemed it the most promising of the four finalists.

Judges of the Innovators’ Circle were John Ford, CEO of BAM Software & Services, LLC; John Hartig, Chairman and CEO of the Daily Racing Form; and Mike Tanner, executive vice-president and CEO of U.S. Trotting Association.

The judges asked the presenters extensive questions after they finished their pitches. Members of the audience were also given the chance to quiz Innovators’ Circle speakers.

Audience members also had a chance to pick their favorite pitch. The winner was the Equine Standing 3D CT Scanner, which has the potential to prevent catastrophic breakdowns by pinpointing horses most susceptible to injuries while racing. The project was given $1,000 for being the audience favorite.

The Race Track Industry Program announced that the Innovators’ Circle contest will be offered again in 2016 and the final leg of the competition will be center stage at the 2016 Global Symposium on Racing & Gaming.

Regardless of what concentration you have, all students in RTIP take classes such as Racing Law and Organization and Administration of the Racing Department. I truly enjoy going to every one of my racing classes! I am interested in the regulatory side of racing, but I am finding that classes on topics such as daily racetrack operations and marketing to be equally valuable to my racing education. It helps that our classes are taught by faculty with extensive prior experience working in racing, thus ensuring that we are learning applicable knowledge and skills for our future careers.

The diversity of the RTIP student body can be seen in the array of internships that students complete each summer. Students take advantage of the faculty’s contacts as well as contacts they make from networking in the program so that they can intern in the part(s) of the racing and breeding industries that are most interesting to them. Students can spend their summers working anywhere from a Kentucky breeding farm to the front office of a racetrack.

During this past summer, student internships included working at racetracks from Del Mar in California to Charles Town in West Virginia. One student was fortunate to intern at Monmouth Park when American Pharoah came to the Jersey Shore to romp in the Haskell Invitational last August, while other students who spent the summer interning in Southern California were able to watch Pharoah’s daily gallops and workouts at Santa Anita and Del Mar.

Although RTIP students come from a wide range of backgrounds, one thing we all share is a passion for horse racing. On any given day, one can frequently find several of us relaxing in the RTIP office and watching horse racing on TVG. It is this enthusiasm for racing, as well as an excellent curriculum, experienced faculty, and numerous networking opportunities that allows the Race Track Industry Program to consistently produce successful trainers, farm managers, racetrack executives, regulatory officials, and countless other leaders in the racing industry.

- UA Race Track Industry Program

RTIP student Amy Euler with American Pharoah. Photo courtesy of Tom Euler

RTIP student Julia Depugh works the ATBA yearling and mixed sale. Photo courtesy of Penny Penman-Wright

Judges listen to contestants pitch ideas during the inaugural Innovators Circle at the 2015 Global Symposium on Racing & Gaming. Photo provided by UA RTIP
UA Scientists Challenge Conventions of Irrigation

According to the Arizona Department of Water Resources, irrigated agriculture is the largest use of water in the state, taking up nearly 70 percent of the available water supply. Moreover, there are 46 million cases of food poisoning in the United States every year, and irrigation water has been implicated in many of those cases.

With a four-year, $10 million grant from the USDA National Institute of Food and Agriculture, the CONSERVE Center of Excellence connects experts from the Mid-Atlantic and Southwest to investigate. The UA’s component of CONSERVE (which stands for Coordinating Nontraditional Sustainable Water Use in Variable Climates) includes $1.7 million to research unconventional water sources for growing and sustaining crops.

To begin, the UA team will collect various sources of water from across Arizona. Although the words “reclaimed,” “grey,” and “saline” don’t traditionally appear in front of “irrigation water,” these are just a few of the alternative waters that UA scientists will test for real-world use.

Charles Gerba, a professor in UA’s Department of Soil Water and Environmental Science, joined by Channah Rock, an associate professor in the same department, and Sadhana Ravishankar, an associate professor in the School of Animal and Comparative Biomedical Sciences and a member of the BIOS Institute, make up the UA research team.

- Edited for length, Originally published in UA News, 3/4/16
Emily Litvack, UA Office of Research & Discovery

Students Participate in Regional IFT Meeting

Dr. Ravishankar’s lab group hosted the Regional Meeting of the Cactus-Institute of Food Technologists (The Cactus IFT Food Safety Event: From Farm to Fork) on October 28, 2015. Several food industry professionals from Arizona and Mexico were given a lab tour with demonstrations of various food safety projects in the Ravishankar lab. A student poster competition was held and prizes were given to the top three places. Mr. Jesse Leal, a food safety expert at AIB International gave a presentation entitled “Food Defense: Raising the Bar, from Farmer’s Gate to Consumer’s Plate.” AIB International’s mission is to empower the global food industry to elevate their food safety and grain based production capabilities. The company was founded in 1919 as a technology and information transfer center for bakers and food processors. Their original mission was to “put science to work for the baker”, a theme that has expanded yet remains central to their programs, products, and services.

About having the opportunity to address the IFT group and meet the University of Arizona students, Mr. Leal said “I was so impressed with the students and it was so neat to see their excitement in their presentations and body of work they have all worked so very hard on. I have to tell you it was one of my favorite presentations for the location U of A (Go Cats) and the Students. If you cannot tell I have a passion for what I do and to see others that have the same passion really makes me feel great about our future Food Safety professionals. Dr. Sadhana should be very proud of her students.”

ACBS Graduate Students Kamini Joshi (top) and Gustavo Pinoargote (bottom) conduct lab tours for the Cactus IFT Meeting. Photos provided by the Ravishankar Lab

Renquist Lab Receives Additional Funding

Dr. Benjamin Renquist’s lab has been awarded two USDA NIFA grants. The first is to study the ability to select tilapia broodstock by measuring metabolic rate with co-investigator Dr. Ron Allen. The second grant is to study the role of histamine signaling and vascular dynamics on the hypophagia and hypogalactia of heat stress. Along with these new projects the Renquist lab will continue their work focused on Type II diabetes, with funding from the Arizona Biomedical Research Commission, and hypertension, with funding from the American Heart Association.

In addition to the above projects Dr. Renquist was awarded a grant to focus on a single dose injectable sterilant in dogs and cats from the Found Animals Foundation. This is the second grant the lab has been awarded from the Found Animals Foundation. The project entitled “Enhancing the toxicity of GnRH- and bivalent-targeted RIP conjugates to induce sterility” will continue the lab’s investigation of how to safely destroy gonadotropes, which are cells in the pituitary gland that produce hormones required for sperm production and ovulation in males and females, respectively. Complete gonadotrope destruction results in sterility. Because all gonadotropes express GnRH receptors, the Renquist lab is delivering toxins to gonadotropes by attaching toxins to GnRH. However, initial findings by this research group have shown that gonadotropes are resistant to targeted toxins. In this project, the researchers will focus on enhancing the efficacy of internalized toxins. Authors envision having an optimized cytotoxin for application in mice by the end of the study.

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Emily Litvack, UA Office of Research & Discovery
Recent or Upcoming ACBS Abstract Presentations


Recent ACBS Publications


VIDA at the University of Arizona

Students gain clinical and practical experience in the field of Veterinary Medicine through volunteer work.

Volunteers for Intercultural and Definitive Adventures (VIDA) is a University of Arizona club that works with the national VIDA organization to spend two weeks of the summer working alongside local health care professionals and other volunteers from around the world to provide free medical, dental, and veterinary care to impoverished regions in Central America.

To prepare for the annual volunteer trip, the UA VIDA club provides numerous opportunities for members to participate in trainings where they learn to take vitals, suture, properly restrain animals, and educate themselves on common diseases that may be encountered in Central America. VIDA also spends quite a lot of time fundraising for their trip by having a booth at Spring Fling, participating in Dogtoberfest by providing toenail trims for dogs in exchange for donations, having various percentage nights at local establishments, having their unique dog and car washes, and they can be seen participating every Friday with the meat sales at the UA Food Products and Safety Lab selling baked goods out front.

This year’s volunteer trip, consisting of three teams (veterinary, medical, and dental), will be held from May 19 to June 2. Members will travel to both Costa Rica and Nicaragua, where they will practice administering their skills. During the two week trip there will be a total of eight clinics for each team. The veterinary team holds six clinics where they perform spays and neuters to smaller animals that wander the streets of these two countries in order to aid in reducing overpopulation. They will also hold general consultations on pet health for the public. The remaining two veterinary team clinics are for deworming and administering vitamins to large animals.

The medical team holds six clinics where they review case studies for multiple patients and administer any medication or aid that may be needed. The final two clinics for the medical team involve visiting a nursing home and a clinic for children to provide information on how to live a healthy lifestyle.

The dental team’s eight clinics include performing routine scaling and polishing, and reviewing case studies for any conditions found in their patients.

Along with assisting and learning with their designated volunteer team students are also provided multiple days of recreation during the trip to give the members time to explore the countries outside of their clinics and to allow them to experience the different cultures found in Central America.

For more information on the UA VIDA Club go to our Facebook page https://www.facebook.com/uavidaclub/.

Hannah Porter
Vice President, UA VIDA Club

UA Equestrian Team has Stellar Year

Congratulations to the UA Western Equestrian Team for their hard work this season. The team won High Point Team in their region and went on to compete at the IHSA Western Semi-Finals in Murfreesboro, Tennessee March 19 - 20. Additionally, in the individual division, Bridget Grobosky qualified for the advanced horsemanship, Anna Hilker qualified for the novice horsemanship and Mickey Bagley qualified for the open reining and horsemanship. While the UA team has qualified individuals for the semi-finals competition in prior years this is the first year they have placed high enough, collectively, throughout the show season to field a team at semi-finals.

At the semi-finals competition for the UA team, Mickey Bagley placed 7th in the team reining, Marlena Long placed 7th in the Intermediate Horsemanship, Emma Koprowski placed 2nd in the Novice Horsemanship, Bridget Grobosky placed 5th in the Open Horsemanship, and Brook Grobosky placed 5th in the Advanced Horsemanship. This put the team in 6th place overall.

Individually, Mickey Bagley placed 8th in the Individual Open Reining and Bridget Grobosky placed 7th in the Individual Advanced Horsemanship. Both riders will be headed to Lexington, Kentucky, in May to compete at the IHSA Nationals.
April 30
Year-end Banquet
Collegiate Livestock Growers’ Association and Livestock Judging Team
Tucson, Arizona

May 5 - 8
2016 IHSA National Championships
The Kentucky Horse Park
Lexington, Kentucky

May 13
Commencement
The University of Arizona
Arizona Stadium
Tucson, Arizona
commencement.arizona.edu/

May 14
College Convocation
College of Agriculture and Life Sciences
McKale Center
Tucson, Arizona
commencement.arizona.edu/

June 12 - 18
Collegiate National Finals Rodeo
National Intercollegiate Rodeo Association
Casper, Wyoming
www.cnfr.com

June 16 - 20
Annual Meeting
American Society for Microbiology
Boston, MA
asmmicrobe.org

July 16 - 20
49th Annual Meeting
Systems Biology of Reproduction
Society for the Study of Reproduction
San Diego, California
www.ssr.org/16Meeting

July 19 - 23
ADSA-ASAS Joint Annual Meeting
American Dairy Sciences Association and American Society of Animal Science
Salt Lake City, UT
asas.org/meetings/jam-2016

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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