A message from the Chair

Dear colleagues and friends,

Welcome to another academic year. We are already more than mid-way through the fall semester, in which over 100 new students declared Animal Science as their major (Class of 2018). Let me express a warm welcome to each and every one of our new students, and wish all of our Animal Science majors a very successful semester and academic year ahead.

Congratulations to Ben Green (Advisor: Dr. David Kerr) and Xi Qian (Advisor: Dr. Feng-Qi Zhao) for successfully defending their doctoral theses, and to my post-doctoral associate Dr. Benoit St-Pierre who will be joining the Animal Science faculty at South Dakota State University as a new tenure-track Assistant Professor.

This past summer, the Department offered five successful courses: “You to the Zoo” (Dr. Pat Erickson), “Introductory Animal Science” (Dr. Julie Smith), “CREAM” (Dr. Norman Purdie), “The Horse” (Dr. Pat Erickson), and “Elephant Care, Handling, and Management” (in Orlando, FL with Dr. Betsy Greene). Plans are already underway for next summer’s schedule of courses. This winter semester, the Department will again be offering a course in Alpaca Husbandry (Dr. Stuart White) in Ecuador.

As some of you know, I have accepted a position as Professor and Director of the School of Animal and Comparative Biomedical Sciences at the University of Arizona. While this is a tremendous opportunity for me to lead a very large school, it is bittersweet. The Department at UVM has been like a family and I will miss working with all of the people in the Department, CALS, and UVM, as well as our stakeholders around the state. However, I am pleased to say that Dr. David Kerr will be Interim Chair. The College plans to immediately initiate a national search to find a permanent Chair for the Department. I wish David and the Department well as they continue to move forward and inspire the next generation of students.

To all of our readers, thank you for your support over the past five years. I wish you and your families a safe and Happy Thanksgiving.

Please follow us on Facebook (UVM Animal Science) and Twitter (uvmasci).

Kind regards,
André Wright, Ph.D.
Department Chair
Barlow Lab

The Barlow lab is coming off a productive summer session. Ph.D. student Robert Mugabi received a Northeast Sustainable Agriculture Research & Education (SARE) Graduate Student Grant. His project “Staphylococcus mastitis, biofilms, and antibiotic resistance: barriers to milk quality and food safety on artisanal and farmstead cheese producing farms in Vermont” builds on our Food Systems and Hatch Projects. With a focus on molecular epidemiology, Robert’s NE SARE project will include continued field sampling, extending our laboratory analysis, and an outreach component. Congratulations to Robert!

In August Dr. John Barlow traveled to Somerset, England to give a talk on “Managing subclinical mastitis in the production of high quality raw milk for cheese making” at The Science of Artisan Cheese conference. Congratulations to Mital Pandya (ASCI Ph.D. student) who married Pat Lorton on August 15, 2014. UVM Animal Science was well represented at the ceremony in Indiana.

For more information about the Barlow lab, check out their web site at http://asci.uvm.edu/labs/barlow/.

Zhao Lab

Congratulations to Xi Qian for successfully defending his thesis and receiving his Ph.D. degree. During his graduate program, Xi performed excellently and gained a lot of knowledge and skills to be a successful researcher and teacher. Xi’s research project was to study the molecular mechanisms of how endocrine hormones regulate milk protein gene expression. In addition, Xi applied this knowledge to test the feasibility of producing human insulin in milk of transgenic animals. His projects were very successful and generated three research papers in high quality scientific journals. Xi is currently taking a post-doctoral position in the Department of Pathology of UVM. We wish Xi all the best in his future endeavors.

Welcome back to Courtney Glotzer, who is doing undergraduate research in the Zhao lab with graduate student Shun Kitaoka. Shun and Courtney are studying glucose transport regulation in C. elegans model. Shun presented their new findings at the 2014 Experimental Biology Annual Conference in San Diego, CA.

Dr. Feng-Qi Zhao spent some time over the summer again this year in Hangzhou, China engaged in research collaboration with researchers at Zhejiang University. This fall, Dr. Zhao is teaching Endocrinology for the first time.

To learn more about the Zhao Lab: http://www.uvm.edu/~fzhao/
The summer has gone by way too fast for the Kraft Lab members, how is it already fall?

Our team gained a new yet familiar mate. We are happy to welcome Dr. Helen Walsh as a postdoctoral fellow. Helen is working on our clinical research trial spending the majority of her time at UVM’s Clinical Research Center.

The lab was hustling and bustling with our hard-working undergraduate students. Emily Egolf, Class of 2015, worked on her honors thesis project (Effect of increasing pasture forage diversity of bovine milk fatty acid profile); Katie Bryan, Class of 2016, analyzed the fatty acid composition of seston samples from Lake Champlain as part of the Research on Adaptation to Climate Change project (in collaboration with Dr. Jason Stockwell); and Rebekah Bowers, Class of 2016, processed numerous milk samples for a collaborative study with Dr. André Brito of the University of New Hampshire, Durham, NH.

Melissa Bainbridge, Ph.D. student, presented her research entitled “Feeding rumen-protected echium oil increases the omega-3 content of bovine milk” as a poster at the Collaboration and Innovation Across the Food Systems conference at UVM and as an oral presentation at the ADSA-ASAS Joint Annual Meeting in Kansas City, Missouri. She has also been on-farm participating in a collaborative research trial on a commercial organic dairy herd in Highgate, Vermont evaluating the effects of grazing a diverse pasture versus a monoculture on cow rumen microbiome and milk components.

Dr. Jana Kraft mentored, in collaboration with Dr. Jason Stockwell (Rubenstein School), Evan Nathan, an undergraduate student from Skidmore College (Saratoga Springs, New York), conducting research on the effects of cyanobacteria blooms on fish essential fatty acid levels in freshwater ecosystems as part of a NSF-funded ten-week Research Experiences for Undergraduates (REU) program (http://www.uvm.edu/~ecolab/?Page=REU.html). In July, Dr. Kraft gave a presentation at the ADSA-ASAS Joint Annual Meeting in Kansas City, Missouri. Otherwise she was occupied running her collaborative study (with Dr. Thomas Jetton, College of Medicine) on differential effects of dairy-derived fats on the development of obesity and diabetes in an animal model. Dr. Kraft received a $297,000 continuation grant (Co-PI: Dr. Lawrence Kien, College of Medicine) from the New England Dairy Promotion Board (NEDPB)/Vermont Dairy Promotion Council (VDPC)/ Dairy Research Institute (DRI) to examine the effects of consuming a diet comprising of milk fat on metabolic health.

The Kraft lab mates celebrated the accomplishments of the summer with a mini-golf outing in Essex, Vermont (everybody won at having fun).

For more information about our lab, please visit our website at: http://asci.uvm.edu/labs/kraft/
Wright Lab

Summer and Fall 2014 semesters have been a busy time for the members of the Wright Lab. With the news of my departure, we have been finishing up various studies. Doctoral candidate Sue Ishaq finished her six month long probiotic study on newborn lambs and is now analyzing the data to determine whether the probiotic she designed positively impacted the rumen microbial environment and improved live weight or wool growth. Sue also published her third manuscript on the design and validation of primers for next-generation sequencing of ciliates in the gastrointestinal tract of herbivores.

Doctoral candidate Laura Cersosimo successfully completed her Ph.D. comprehensive exam and is busy analyzing rumen methanogen and rumen protozoa sequence data from her year-long study on three different dairy cattle breeds. Laura also published her first paper on the examination of the rumen bacteria and methanogenic archaea of wild Impalas from South Africa. In July, both Sue and Laura presented their work at the Joint Annual Meeting of the American Dairy Science Association® (ADSA), the American Society of Animal Science (ASAS), and the Canadian Society of Animal Science (CSAS) in Kansas City.

Research Associate Dr. Benoit St-Pierre is finishing up a project, with the Vermont Agency of Agriculture, Food and Markets, investigating sulfate-reducing bacteria and production of hydrogen sulfide in anaerobic manure digesters. Dr. St-Pierre has accepted a tenure-track Assistant Professor position at South Dakota State University and will make the move in January to Brookings, SD.

Kerr Lab

This Fall the Kerr lab is having great fun with a new research project looking into the development of the calf immune system. We have brought in groups of six to eight one-week old bull calves from our collaborator farm, Green Mountain Dairy, and have been monitoring their growth rate to four weeks of age and how that affects their immune response to an experimental vaccine. The fun part of the project has been feeding the calves their milk twice a day. This has been facilitated by Ph.D. students Aimee Benjamin, and Filiz Korkmaz, with great support from a host of ASCI undergrads including Alyssa Knight, Rachel Lundsted, Ava McPhail, Samantha Monck, Caroline Ricardo, and Morgan Summers. So far the project is working out very well. We hope to submit abstracts of the data in February for presentation at next summer’s Animal and Dairy Science meetings in Orlando, Florida.

For more information about our lab, please visit our website at: http://asci.uvm.edu/labs/kerr/

Last, but definitely not least, a huge thanks to Christina Kim (ASCI 2013) for completing our project, with the USDA-ARS at Plum Island, collecting data from dairy cattle using a thermal-imaging camera.
**McKay Lab**

Over the summer, the McKay Lab hosted Rex Yee, a high school student from Poteet, Texas. While Rex was here, he worked on a project involving the examination of global methylation in the liver of Vermont Fisher (Martes pennanti). Rex presented his work in an oral presentation to the Department of Animal Science in August. These data will be very beneficial for impending funding opportunities. This summer we also welcomed a new graduate student, Bonnie Cantrell. Bonnie graduated from Washington State University with a B.S. in Animal Science. Her undergraduate research involved working with both Johne’s disease and Bovine Respiratory Disease in beef cattle. Bonnie is off to a great start in the McKay Lab and is diligently working on her project to explore the bovine brain epigenome. Currently, she has extracted DNA from nine functionally distinct regions of six cow brains and is investigating global methylation of each tissue. This fall we welcomed a new undergraduate research student, Sarah Perlee. We now have a total of three awesome undergraduate researchers in the McKay lab each working on their own substantial project. Sarah Perlee and Fernando Betancourt are working on epigenetically characterizing the bovine AMPK gene family in various breeds of beef cattle. Sydney Friedman is working on extracting DNA and will be analyzing the variation in global DNA methylation among the Vermont Bobcat population. Ms. Hannah Lachance, our research technician has been quite busy working on collecting tissue samples for current and future research, facilitating the AMPK project and is focusing on extracting RNA and investigating RNA methylation across various tissue types and breeds of cattle.

**McKay lab website: [http://asci.uvm.edu/labs/mckay/](http://asci.uvm.edu/labs/mckay/)**

**National and international presentations by Dr. Greene**

Dr. Greene had a very busy travel schedule with several national and international presentations covering all aspects of her faculty role. She collaborates with her colleagues from all over the country on teaching and extension projects and research opportunities. Below are some of the meetings and the titles of the abstracts that she either presented or authored.

**2014 International Society of Equitation Sciences Meetings in Denmark**

**Assessing the Impact and Viewpoints of Attendees of the 2013 International Society for Equitation Science Conference**

Elizabeth Greene, UVM; Carissa Wickens, University of Florida, Camie Heleski, Michigan State University; and Colleen Brady, Purdue University

**National Association of Equine Affiliated Academics Meetings in Louisville, KY**

**Flipping Your Classroom with eXtension HorseQuest**

Colleen Brady, Purdue University, West Lafayette, IN; Kathy Anderson, University of Nebraska-Lincoln, Lincoln, NE, and Betsy Greene, University of Vermont, Burlington, VT

**National eXtension Meetings in Sacramento, CA**

**Digging Into HorseQuest Social Media Stats: What drives our clientele to activity?**

Taylor Fabus (MI), Ashley Griffin (KY), Betsy Greene (VT), Jennifer Whittle (KY) and Colleen Brady (IN)

**Establishing Credibility, Continuity and Recognition of eXtension-Horses as “The” Land Grant University Equine Resource - Web-Streamed**

Betsy Greene (VT), Kathy Anderson (NE), Jennifer Whittle (KY) and Ashley Griffin (KY)
Extension pasture management workshops

The annual UVM Extension Fall Workshop (Improving Pasture, Footing and Stewardship at Your Facility and Choosing Supplements for Your Horse) was held on September 9th at Arbrook Farm in Ferrisburgh, Vermont and the following day at The Center for America’s First Horse in Johnson, Vermont. This year’s topics were targeted to address statewide efforts to begin enforcing Best Management Practices at all farms (business or hobby) housing livestock and horses. Dr. Carey Williams from Rutgers joined us to share information on their farm efforts to decrease run off and to share her expertise on equine supplements. John Roberts (VT Agency of Agriculture) was able to join us at Arbrook Farm, and provided materials for me to share in Johnson. We had excellent discussion by attendees at both locations, and I brought John Roberts on Across the Fence to share these valuable updates and information to a broader Vermont audience. Our presentations/discussions included:

- Strategies for improving mud/grazing/runoff issues at your facility.

This workshop provided an excellent venue for open discussion, and we focused on how individuals could take small steps to reduce their potential contribution to non-point source pollution of our lake and waterways and improve their pasture quality at the same time.

Green and Qian pass defenses

On June 18th doctoral candidate Benjamin Green defended his Ph.D. thesis, “An investigation of epigenetic contributions to inter-animal and age dependent variation in the bovine innate immune response.” Dr. Green received his Bachelors Degree in Biology from Colby College. He is currently a post-doc in the Marsit Epigenetics Laboratory at Dartmouth College in Hanover, NH where he continues to work on the developmental origins of health and disease.

Xi Qian defended his Ph.D. thesis on August 19th, “Regulation of B-Casein gene expression by octamer transcription factors and utilization of B-casein gene promoter to produce recombinant human proinsulin in the transgenic milk.” Dr. Qian received both his Bachelor Degree in Biotechnology and Masters Degree in Animal Nutrition from Shanghai Ocean University. He recently accepted a post-doctoral position in the Department of Pathology at UVM.
**VDIA fall conference highlights ASCI research**

The Vermont Dairy Industry Association (VDIA) fall conference program September 16th included presentations on the market for whey proteins generated by cheese production, the nutritional value of milk components, especially lipids, and pivotal events in the history of genetically modified crops in the United States. On the business side, speakers discussed the new dairy producer margin protection program, Efficiency Vermont programs for dairies, and adapting coaching techniques to running a business. The Doloffs of Springfield, Vermont were recognized for their selection as Vermont’s Dairy Farm of the Year.

The Board of VDIA recognized Julie Smith for her six years as President. Although she will officially hold the position of past-President, she is stepping off the Board to focus on her teaching responsibilities.

**What does research with an Extension faculty member look like?**

Senior ASCI major Mia Cosentino and biology major Stephanie Bronsther appeared with Dr. Julie Smith on Across the Fence on September 30th to share their experiences working with Dr. Smith on calf management-related projects. Mia is collating the results of a statewide survey of calf management practices. Stephanie is collating calf health data as part of a project looking at the relationship between ventilation and respiratory disease in group-housed calves. The episode can be viewed here: [http://www.uvm.edu/extension/atfence/?m=201409](http://www.uvm.edu/extension/atfence/?m=201409).

**National Leadership Roles Take Smith to Kansas City (Again)**

Having just been in Kansas City for the Joint Annual Meetings of the American Dairy Science Association and American Society of Animal Science, Dr. Julie Smith will be heading back twice this fall. First, she will attend part of the US Animal Health Association conference. While there Dr. Smith will give a presentation to the Mycobacterial Diseases of Animals multi-state initiative conference, attend the Applied Animal Health, Public Health Research and Extension Veterinarians Symposium, and lead the business meeting of the American Association of Extension Veterinarians. In November she is off to Kansas City for a third time. She will be representing education as a Board member of the Dairy Practices Council and attending the organization’s annual meeting.
Internship

I interned at Stone Barns Center for Food and Agriculture in Pocantico Hills, New York. Stone Barns is a working not-for-profit farm established in 2004, with the aim to improve how America farms and eats. The farm is on the Rockefeller Estate and houses a vegetable field, greenhouse, sheep, pigs, chickens, geese, turkeys, and cows. The working farm also houses a poultry-processing center. Stone Barns has an exclusive partnership with Blue Hill at Stone Barns, the well-known restaurant on the premises. Blue Hill and Stone Barns Center collaborate intensively beginning with the farmers conversing with chefs to decide what to grow in the field and greenhouse. 80% of Blue Hill’s products come from Stone Barns, from the decorative flowers, vegetables, herbs, eggs, pork, and poultry.

The internship began on June 8th and ended on August 20th. I interned in the public programs department which facilitates events for the community members. Throughout my internship, I worked with the farmers in the field, greenhouse, gardening and landscaping areas, and with our livestock. Twice a week I volunteered with livestock, collecting eggs, performing daily cores, and assisting with regular farm maintenance and projects. During my time with public programs, I conducted farmer’s market tastings every Sunday to assist in selling Stone Barns vegetables, ran the egg-collecting program for young children, ran ‘meet the animals’ programs, and organized and staffed events, such as workshops with local breweries, ‘cookbook clubs’ with chefs from various restaurants in New York City, and ‘grow your own’ programs, including popsicle making, building the BLT, and ‘how to pickle.’

From my time at Stone Barns, I learned a tremendous amount about farming operations, starting with the need for a crop-rotation system, how to sustainably farm, how to ward off pests without the use of any pesticides or chemicals, how to identify when a vegetable is ready for harvest, how to care for laying hens, broiler chickens, sheep, and pigs. I helped construct the ‘Stone Barns’ application for the iPhone/iPad, increasing my knowledge of how applications work and the mechanism behind them. Through the internship I also learned how much I enjoy working on farms and with livestock. I wish to keep farming a part of my life!

For future interns, I recommend seeking out opportunities if you are interested in them. For example, I heard about Stone Barns and actively pursued the opportunity, even though they were reworking their internship program at the time. My persistence allowed me to prove my dedication and interest in the center. Thus, when the program department was ready to begin thinking about accepting interns, they already knew of my interest and welcomed me into their group. Additionally, be proactive at the farm or anywhere else you intern — a lot of opportunities and experiences I had came from me expressing an interest in the events and a desire to participate. The enthusiasm opened multiple doors for me.

For more information about participating in a Stone Barns internship, check out their web site at: http://www.stonebarnscenter.org/about-us/opportunities/index.html
Internship

This past summer I was lucky enough to have the opportunity to intern at the Evelyn Alexander Wildlife Rescue Center of the Hamptons. The Evelyn Alexander Wildlife Rescue Center is a not-for-profit rehabilitation clinic for the native wildlife of eastern Long Island, New York. The Center is dedicated to preserving and protecting the region’s wildlife through rehabilitation and public awareness. The center cares for over 200 animal patients at any given time and takes pride in their community outreach programs to help educate the public.

During my three-month-long internship, I was able to work hands-on with many of the animals. From hand feeding the baby nestlings to medicating the turtles, I was given a vast array of responsibilities. Undoubtedly, many of these responsibilities included a lot of cleaning cages, mopping, washing dishes and laundry. However, these necessary chores were made worth it by the amazing hands-on experiences every day.

Interning at the center taught me about teamwork and collaboration in order to get all of the daily work done quickly and efficiently. Beyond that, I also learned how to properly and safely handle different species of animals from baby birds to seagulls to woodchucks. I also learned how to administer both oral and intramuscular medications to birds and turtles, clean and wrap wounds, nurse baby animals, and hand feed the birds and owls.

Anyone interested in learning about wildlife and animal medicine would be lucky to have this internship opportunity. While it may be a ton of work and very tiring mentally and physically, the hands-on learning is very worth it. Any future intern should come ready to work hard and learn a lot, although you should also be prepared to have to work under some considerably smelly conditions! 😊

To learn more about the Evelyn Alexander Wildlife Rescue Center, check out their website at: http://www.wildliferescuecenter.org/

Students interested in internship opportunities should check out the department’s Internships & Careers web site: http://asci.uvm.edu/intern/

If you would like help or additional information, you are encouraged to make an appointment with:

Fran Kinghorn
ASCI Internship Coordinator
Room 107C Terrill Building
Fran.Kinghorn@uvm.edu

Submitted by Cameron Miller
Class of 2016

Cameron Miller holds a opossum brought to the center for rehabilitation.

Cameron Miller hand feeds birds at the Evelyn Alexander Wildlife Rescue Center in the Hamptons.
UVM CREAMers show at Addison County Fair

This summer a group of CREAMers from CREAM 2013 and 2014 and Summer CREAM 2013 and 2014 took eight Holstein heifers to the open dairy show at Addison County Fair and Field Days. CREAM had their best Holstein showing ever taking home six blue ribbons and having UVM CREAM Meteor Maribelle named reserve champion junior heifer. CREAM’s first place cows were in the following classes, Winter Heifer Calf, Spring Yearling Heifer, Winter Yearling Heifer, Fall Yearling Heifer, Junior Best 3, and Produce of Dam. CREAM cows also placed 2nd in Fall Heifer Calf and 4th for Fall Heifer Calf and Winter Yearling Heifer.

The opening of the UVM CREAM “closed herd”

Last financial year CREAM was in the fortunate position at the beginning of May to be in profit.

With the new CREAM barn becoming a reality, it was decided to invest in the future of the CREAM program; we would buy some Holstein heifers with great pedigrees and look to breed a champion of the future. On May 23, 2014 a number of CREAMers attended the dispersal of Lylehaven herd of East Montpelier, Vermont. For those unaware, the Lylehaven stud bred Lylehaven Lila previously sold at auction for over a $1 000 000.

Armed with a budget and the knowledge that the new barn should be operational late in the summer of 2015 we set our sights on the future. We were looking for heifers that looked good, had a pedigree and that would produce. We were fortunate enough to pick up five new additions to the CREAM herd. Lylehaven Bradnick Leyna-ET comes from the Lili Starbuck family and has three generations of excellent cows behind her. Lylehaven Brokaw Lavista-ET also comes from the Lili Starbuck family and has five generations of excellent cows behind her. Lylehaven Atwood Celia has four generations of excellent cows behind her and her sire is thought to be the next bull to produce multiple winners in the show ring, Atwood. Four-Hills Aft Cara now has five generations of excellent cows behind her, her Dam also sold at the auction, like begets like: at least we hope. Lylehaven Atwood Dee Dee has six generations of Excellent or Very Good behind her and is the daughter of Atwood, the same sire as Celia. We came home from the sale very satisfied and going forward we hope this investment in new genetics for the CREAM herd pays dividends.

New CREAM Barn

Plans have been finalized for a new CREAM barn and they are currently out to bid by builders as this is being written. The CREAM barn is planned to have the capacity for 56 stalls, of which CREAM can use 46, the other 10 are slated for other teaching use. We will have a 6 a side herring bone dairy, to make our milking more efficient. In a new facility like this who really knows what the future holds, maybe back to three times a day milking, but that, like all decisions in CREAM, with be up to the “owners/managers,” the CREAMers.
Summer CREAM

For the first time, the Summer CREAM experience had students from outside UVM. Three external students took up the challenge of coming to Vermont for the summer to complete the program. The addition of the external students was a great success. One of the projects over the summer was to take pictures of the Lucerne family. Lucerne is one of CREAMs highest producing cows and perhaps one of our most represented across our herd. All of Lucerne’s living female relatives are pictured below with the 2014 Summer CREAMers.

Summer CREAM also took part in a little barn maintenance, replacing some broken boards and painting the heat lot at the farm.

Holstein Classification—Excellent!

Over the summer all of our milking Holsteins were classified by the Holstein Association, USA. UVM CREAM Toystory Sweet Pea was classified Excellent 90, the 7th UVM CREAM cow to go excellent and the first UVM CREAM cow to go excellent for 10 years. Sweet Pea is the progeny of Summer, a gift from the Cowtown Holstein Stud. CREAM was also fortunate enough to have UVM CREAM Braxton Infinity, a first time heifer, classified 85.
The Horse — a summer travel course

Animal Science students participated in the first offering of “The Horse,” a new upper level travel course this past summer. Students spent time in New York at SUNY Morrisville in the Equine Rehabilitation Clinic, at Beezie Madden’s farm in Cazenovia, and at the Saratoga Race Track. In Vermont they went to the Green Mountain Horse Association and to Tamarack Hill Farm to spend time with the incomparable Denny Emerson. The course will be offered again in the summer 2015, with a new portion to be added, a day riding at Hitching Post Farm with Eric Smiley.

You to the Zoo — a summer travel course

"You to the Zoo," a summer course during which students learn and work at the Rosamond Gifford Zoo in Syracuse, New York, had another successful summer! Students learned to care for a large variety of animals including elephants, tigers, lemurs, and sloths, to name a few. For more information on how you can participate in the summer of 2015, please contact Dr. Pat Erickson directly at: pfericks@uvm.edu.

UVM Horse Club, Horse Barn Coop & Equus—lets stay in touch

If you are a past member of the UVM Horse Club, UVM Horse Barn Cooperative, or Equus and would like to stay in touch and hear about upcoming events, please email Jenny Wilkinson at Jenny.Wilkinson@uvm.edu.
Lots of changes at the UVM Horse Barn this year! First, we have five returning Horse Barn Cooperative members, which means there are a lot of new faces (students and horses) in the barn. The students are bonding over chores while enjoying the new energy and enthusiasm.

Second, the UVM Dressage Team has moved into the barn. This is the first time that one of the University’s club teams has called the Spear Street farm home. The team brought three team horses with them and will be working with returning Coach Bonnie Timmerman. They hope to host several educational clinics at the farm this year.

Our popular Fall events were back! UVM Homecoming and Family Weekend included an open barn on Saturday, October 11th, from 11:30am-1:30pm. Students gave tours and demonstrated different riding disciplines. Halloween Barn was held on Monday, October 27th, from 5:00-6:30pm. Kids dressed in costumes and trick-or-treated from stall to stall visiting students and horses, also dressed in costumes. Over 1,200 parents and children attended this popular event which also had a bake sale, craft table to make goody bags, and an obstacle course for the children to enjoy. Check out our Facebook page to view more pictures from this event. [https://www.facebook.com/media/set/?set=a.10152558118254615.1073741829.123795709614&type=1&l=b1e573e606](https://www.facebook.com/media/set/?set=a.10152558118254615.1073741829.123795709614&type=1&l=b1e573e606)

Please stop by and visit the UVM Horse Barn any day between 9am and 5pm.

Stephanie Lockhart, founder and director of The Center for America’s First Horse located in Johnson, Vermont talks to Horse Health and Disease students about the Colonial Spanish Mustang rare breed.

Equus students practice natural horsemanship skills with Stephanie Lockhart.

Halloween photos courtesy of Jane Kennedy O’Neil.

Butterflies and engineers fly over the rails on the obstacle course at the Halloween Barn.

Moe, and owner of nine years, senior Maddie Hassett from Rollinsford, NH have been Horse Barn Coop members for three years.

Molly (Zebra) and Skye Elkins, a Sophomore from New Jersey, receive a visit from The Queen and her royal skunk (aka Dr. Betsy Greene and her dog Greta)
ASCI 115 Morgan Horse Farm Laboratories

When students sign up for ASCI 115: Introduction to Equine Studies, they have to commit to attending a “Full-day Laboratory” at the end of September in lieu of some of the late semester laboratories at the UVM farm. Inevitably, I get asked if they can make it up...rather than go (no); and it always ends up being the highlight of their semester. This year was no different. During this four labs in one day, the students got hands on time learning about farrier work and breaking Morgan foals to halters, handling and tying. They also were able to apply earlier conformation lectures and laboratories to judging a Morgan Horse class, as well as observing a veterinarian describe and perform a castration. These four labs all take place at one of the most beautiful old farms (I may be a bit biased), in Vermont, and really add to the experiential learning aspect of the course.

Submitted by Dr. Betsy Greene

Introduction to Equine Studies students at the Morgan Horse Farm in Weybridge, VT.

ASCI 115 students evaluate a young Morgan foal.

Director of the Morgan Horse Farm, Steve Davis, talks with students.
This fall several free-lance journalists and photographers have taken advantage of the University of Vermont's “Home of the Morgan.” Of particular note, Vermonter Corey Hendrickson from Yankee Magazine snapped various early morning shots for a “Best of Vermont” piece. While Nan Clouter of The Dallas Morning News traveled all the way from Texas to capture her artistic view of Vermont.

Cyclists are regular charter group customers these days. Vermont Bicycle Touring and Sojourn Bike Tours have scheduled several appointments through-out the season.

Splendid color appeared in Weybridge this fall.

The winning ticket for the 2014 Foal Raffle has been drawn and we are in communication with the lucky individual. Please check out our website for updated information regarding the winner of UVM Whimsical by going to http://asci.uvm.edu/morgan/?Page=raffle14.html

The UVM MHF staff would like to thank all participants for the tremendous interest and support in the Raffle Foal Program. If you would like to try for the 2015 Raffle Foal, please call (802) 388-2011 for more information.

Winner of 2014 Raffle Foal

The UVM Morgan show string had a successful outing at the New York Regional Championship Morgan Event Sept. 10-13. Farm Friend and Tour Guide Sue Ford drove UVM Sentinel to the Junior Classic Pleasure Driving championship. UVM horses will next be on exhibit with the New England Morgan Horse Association’s promotional event for the Equine Affaire at the Big E, November 13-16, 2014.

The UVM MHF staff would like to thank all participants for the tremendous interest and support in the Raffle Foal Program. If you would like to try for the 2015 Raffle Foal, please call (802) 388-2011 for more information.
ASCI alum selected as Fulbright Scholar

Dr. Peter Krawczel, an assistant professor with The University of Tennessee Institute of Agriculture (UTIA), has been selected as a Fulbright Scholar for 2014-15. Peter is a faculty member focused on dairy research and extension in the UTIA Department of Animal Science, a unit of the University of Tennessee College of Agricultural Sciences and Natural Resources.

The prestigious honor will fund Peter for five months of research and teaching focused on dairy welfare assessment and applied dairy research in Croatia.

Peter received his undergraduate degree from the University of Maryland, College Park and his Masters from Texas A&M University. He received his Ph.D. from the University of Vermont, Department of Animal Science in 2011.

Alums receive VVMAF scholarships

The Vermont Veterinary Medical Association Foundation, Inc. (VVMAF) is a non-profit charitable organization whose main mission is to award scholarships to deserving Vermont veterinary students in their senior year who plan to return to Vermont to practice. The VVMAF announced five deserving recipients; including the following Animal Science majors from UVM.

Rebecca Calder of Shelburne is a junior at the Cornell University College of Veterinary Medicine and a 2012 graduate of UVM.

Kathleen Gill of Middlebury is a junior at Ross University School of Veterinary Medicine and a 2012 graduate of UVM.

Adrienne Snider of Essex Junction is a senior at Western University of Health Sciences and a 2006 graduate of UVM.

Feed Dealer Seminars

The Feed Dealer Seminars have been conducted annually as a road show with multiple sites to provide opportunities for educational programming with networking in the local regions.

ASCI alum Brittany Sweeney presented “Impacts and Evaluation of Subclinical Hypocalcemia in Dairy Cattle” during this year’s seminars. Brittany received her M.S. in Quantitative Genetics from McGill University in Montreal and her B.S. in Animal Science from UVM in 2011. She is currently enrolled in the Doctorate Program at Cornell University.

Congratulations to Drs. Greenwood and Purdie

Congratulations to Assistant Professor Dr. Sabrina Greenwood and Lecturer and CREAM advisor Dr. Norman Purdie, on the birth of their son, Edwin Knox Purdie who arrived on July 9, 2014 at 11:19 PM. “Eddie” weighed in at a healthy 10 pounds, 13 ounces. We welcome Eddie to the ASCI family.
Welcome to Animal Science

Helen Walsh was born in England, but lived in Ireland for most of her life. Her home is in Waterford (where the crystal comes from), a town on the south coast of Ireland. She did her undergraduate degree in Industrial Food Technology at the University of Humberside, which is in the North of England. After graduation she worked in quality assurance for food manufacturing. She then had the opportunity to do both a Masters and Ph.D. in Nutrition and Food Sciences at UVM with Dr. Mingruo Guo. Her Ph.D. involved the practical applications of whey protein both as a foodstuff in a carbonated yogurt drink and as a raw material in a plastic coating for food packaging. She is now very happy to be doing a post-doctoral fellowship with Dr. Jana Kraft and is involved as project coordinator with her clinical study into the metabolic effects of bioactive milk fats. She will also be involved with many aspects of Dr. Kraft’s research work, particularly as it relates to the health effects of bioactive fatty acids and trans-fats.

Bonnie Cantrell is originally from Caldwell, Idaho. She graduated from Washington State University in 2014 with a B.S. in Animal Science. During her time there, she worked for the Animal Science Department in a bovine genetics laboratory. She worked on projects in the laboratory to help decrease disease susceptibility of Johne’s disease and Bovine Respiratory Disease in bovine. Bonnie will be working on her Ph.D. in Animal, Nutrition and Food Sciences with Dr. Stephanie McKay. Her research will focus on finding methylation in multiple regions of the bovine brain that correlate with docility. Bonnie also enjoys crafting in her spare time.

ASCI professors selected as top 26 favorite teachers

Drs. André-Denis Wright and Patricia Erickson have been chosen by UVM students as the top 26 favorite UVM professors. What students said about Dr. Erickson: “She cares so much about her students and their success! She’s hilarious and always wants to help her students.” Dr. Wright’s students said, “He’s the coolest guy ever and is also an awesome advisor, he doesn’t teach many classes but the ones that he does are incredibly interesting and are always fun.” View all the favorite professors at: http://www.buzzfeed.com/uvmbored/top-26-favorite-uvm-professors-10cj2
ASCI 297 Care, Handling & Management of Elephants

Submitted by Dr. Betsy Greene
ASCI Professor

What started from my “internship” question at a tour of the Center for Elephant Conservation (CEC) during the National Animal Interest Alliance annual meeting in November; worked into an amazing opportunity for ten UVM students during this past summer. I worked with Janice Aria, Director of Animal Stewardship at CEC to create an online hybrid course which included a week of hands-on experience with the elephants and lectures on health, training, management, welfare, conservation, etc. presented by professionals and veterinarians who have been internationally recognized for their elephant work. One of my goals was to see if student attitudes and perceptions regarding "controversial" issues surrounding the elephants changed after students were able to see and participate in the actual care and handling of the elephants.

Quote from one student’s final reflection: “Being there and experiencing it firsthand has opened my eyes to the CEC’s real goals concerning elephant welfare. They not only provide a place for the elephants to retire, but they provide a sort of sanctuary for them, where they can do research and focus on reproduction and increasing the numbers of this endangered species. I now know how the elephants are fed, washed, taken care of medically, and so on. And it was really reassuring to see that the “bull hook” (guide) isn’t used nearly as much as the public claims.”

Drs. Greene and Smith appear on Across the Fence

Across the Fence is the longest running daily farm and home television program in the country, airing Monday-Friday, 12:10-12:30 p.m. on WCAX TV Channel 3. UVM Extension Equine Specialist, Dr. Betsy Greene, and UVM Extension Dairy Specialist, Dr. Julie Smith, appeared on the following episodes:

- October 28: Colic in Horses and Other Seasonal Horse Health Issues—Dr. Betsy Greene and Dr. Phil van Harreveld, Vermont Large Animal Clinic in Milton
- October 8: Advancing Land and Animal Stewardship through Education — Dr. Betsy Greene and John Roberts, Vermont Agency of Agriculture, Food and Markets
- September 30: UVM Extension and undergraduate research: A partnership in learning—Dr. Julie Smith; Mia Cosentino, Class of 2015; and Stephanie Bronsther, Class of 2016
- September 16: The Science of Horse Supplements—Dr. Betsy Greene and Dr. Carey Williams, Rutgers University Equine Specialist
Recent Peer-reviewed Publications


Xi Qian, Jana Kraft, Yingdong Ni, and Feng-Qi Zhao. (2014). Production of recombinant human proinsulin in the milk of transgenic mice. *Scientific Reports* 4, 6465; doi:10.1038/srep06465


Support UVM Animal Science

The Department of Animal Science is home to some of the best and brightest students, high quality research, and outstanding outreach activities at the University of Vermont. Your donation will help the Department continue to deliver first-rate service in these areas. Annual gifts from alumni and friends at all levels do make a difference. Please consider supporting the Department with a donation of any size.

Gifts may be made online at the UVM Foundation’s secure website:

https://alumni.uvm.edu/foundation/giving/online/

Please specify Animal Science Department in the “Other” category.

Calendar of Events

2014

November

December
Dec. 3, 2014. Last Day of Classes
Dec. 5, 8, 9, 11, 12, 2014. Exam Days

2015

January
Jan. 1, 2015. New Year’s Holiday
Jan. 12, 2015. First Day of Classes
Jan. 19, 2015. Martin Luther King, Jr. Holiday

February
Feb. 16, 2015. Presidents’ Day

March
Mar. 2-6, 2015. Spring Recess

April
Apr. 17, 2015. Honors Day
Apr. 29, 2015. Last Day of Classes

May
May 1, 4, 5, 7, 8, 2015. Exam Days
May 17, 2015. Commencement
May 16-19, 2015. Digestive Disease Week (DDW) Annual Meeting; Washington, DC
May 25, 2015. Memorial Day
May 30-June 2, 2015. 115th General Meeting of the American Society for Microbiology; New Orleans, LA

June
Jun. 7-12, 2015. Gordon Conference of the Mammary Gland Biology; West Dover, VT

July
Jul. 12-16, 2015. The 2014 Joint Annual Meetings of the American Dairy Science Association (ADSA), American Society of Animal Science (ASAS), and the Canadian Society of Animal Science (CSAS) will be held together in Orlando, FL

ASCI 298: Primer in Alpaca Husbandry
Twelve students will be studying alpaca husbandry in Ecuador during the winter session. Don’t miss the next issue of our newsletter to hear all about their exciting educational travel experience.