A message from the Interim Chair, Dr. David Kerr

Another glorious Vermont fall season is well underway and so is the Fall 2015 semester at UVM. This is a season of great anticipation, and I am very fortunate to be the instructor for Introductory Animal Sciences (ASCI 001) to welcome our 97 new ASCI majors and to get them started on their paths to Bachelor of Science degrees in Animal and Veterinary Sciences. Our total major count is currently 296, which is up from last year’s 278. Our students’ road to completing their degrees often involves internship opportunities with organizations and individuals in the local community and further abroad. We are grateful for this critical assistance and applaud all who have contributed to our students’ education.

If you have driven by the Miller farm on Spear Street recently you will have noticed quite a transformation. The new CREAM barn, research barn, and milking center are nearing completion. Our dedication ceremony will be held on October 29th at 3:00 pm. We will be moving our lactating CREAM cows into the new barn during the following week. Updated facilities have been in the works for quite “some time” and we are so glad that “some time” is now. This will enable expansion of the CREAM herd from 34 to 50 lactating cows that will be efficiently milked in a double-6 parlor. The larger herd will go a long way to ensure sustainability of the program. The CREAM herd will become a collaborator herd for our researchers, meaning that they will have to negotiate use of the animals with the CREAM students. The new research barn will allow for short-term housing of animals while they are on research trials. Any lactating research animals will have easy access to the CREAM milking parlor. All-in-all a great facility that clearly illustrates support of our dairy teaching and research program by the College and University.

Have a great Fall, and enjoy your animals. David

Jenny Wilkinson receives teaching award

The Joseph E. Carrigan Award for Excellence in Teaching and Undergraduate Education was presented to Dr. Jenny Wilkinson by Dr. Tom Vogelman, Dean of the College of Agriculture and Life Sciences (CALS). This annual award is created to recognize a faculty member in CALS for outstanding efforts in undergraduate teaching and advising and to emphasize that undergraduate instruction is a function of major importance. Congratulations Jenny!
Barlow Lab

The Barlow lab is coming off a productive spring and summer session. Just after final exams last semester, Dr. John Barlow and Robert Mugabi (Ph.D. student) attended the American Society of Microbiology meeting in New Orleans, Louisiana. Robert presented an abstract in the poster session for his work “Epidemiology of Coagulase Negative Staphylococci on Dairy Farms Producing Farmstead Cheese.” Earlier in the year, John and Robert also attended the National Mastitis Council (NMC) meeting in Memphis, Tennessee, where they presented a poster “Genotypes and phenotypes of Staphylococcus aureus from bulk tank milk on organic dairy farms in Vermont.” The 2015 Mastitis Researchers meeting was held in conjunction with NMC and Robert also presented his work on Staphylococcus epidemiology on farms making artisan cheese, and John presented on his collaboration developing a strain typing system for Staphylococcus chromogenes. From our work and others, it appears S. chromogenes is one of the most common species of staphylococci causing mastitis; and the goal of developing a strain typing system is to improve our understanding of the epidemiology of this species.

Mital Pandya (Ph.D. candidate) has had a few busy months traveling to several scientific meetings. In August she traveled to Washington, DC to attend the USDA-AFRI-NIFA project directors meeting. She presented her research and networked with people from the USDA and other pre- and post-doctoral grant awardees. Mital kept busy this summer with her foot-and-mouth disease (FMD) vaccine trial and collected whole blood samples to evaluate the immune response. Mital traveled to Geisel School of Medicine at Dartmouth to collaborate with Dr. Jacqueline Smith, to analyze the samples, and she is currently summarizing the results.

At the beginning of September, Mital and Dr. Tatjana Sitt (post-doctoral scientist) traveled to Vienna, Austria to attend the 5th European Veterinary Immunology Workshop (EVIW). Mital was awarded an $800 travel bursary from EVIW. She and Tatjana both presented scientific posters. The title of Mital’s abstract was “Next generation amplicon sequencing accelerates bovine leukocyte antigen class I typing and provides new insight to expressed gene diversity.” Mital’s manuscript “A modern approach for epitope prediction: identification of foot-and-mouth disease virus peptides binding bovine leukocyte antigen (BoLA) class I molecules” has been accepted for publication in the journal Immunogenetics. She is currently in the process of writing her thesis, which she plans to defend later this fall.

Tatjana’s presentation at EVIW was “Characterization of the anti-foot-and-mouth disease virus (FMDV) antibody secreting B cell response following vaccination of cattle with Ad-FMD.” Earlier this summer Tatjana spent two and a half weeks at the Plum Island Animal Disease Center (PIADC) conducting assays for the ongoing foot-and-mouth-disease (FMD) vaccine study. She will be returning to PIADC this fall to develop an assay to detect T lymphocyte responses to the FMD virus. Tatjana has also published two papers from her previous work and collaborations at the International Livestock Research Institute (ILRI) in Nairobi, Kenya: 1) “Exposure of vaccinated and naïve cattle to natural challenge from buffalo-derived Theileria parva,” and 2) “The African buffalo parasite Theileria sp. (buffalo) can infect and immortalize cattle leukocytes and encodes divergent orthologues of Theileria parva antigen genes.”

Korin Eckstrom has joined the lab as a M.S. student and her work will include the use of bioinformatics tools. Korin graduated from UVM in May and her undergraduate Honors College thesis was “Evaluating the use of cDNA amplicon next-generation sequencing in the identification of bovine major histocompatibility complex (MHC) class I molecules: a comparison of current platforms.” We are currently working to identify her research project, which will likely incorporate high-throughput sequencing technologies to advance our understanding of antimicrobial resistance prevalence and microbial ecology in farm systems.

Barlow lab: http://asci.uvm.edu/labs/barlow/.
Kraft Lab

The summer has gone by so fast for the Kraft Lab members as the lab was a busy place throughout the summer.

Our Ph.D. students Melissa Bainbridge and Laura Cersosimo each successfully presented (oral presentation and poster, respectively) their research at the ADSA-ASAS-CSAS Joint Annual Meeting in Orlando in July. Well done to both! Melissa has been working in the lab, analyzing her data and writing manuscripts, whereas Laura spent several weeks at the University of New Hampshire carrying out her last project before she graduates next year. Congratulations to Laura for securing a Northeast SARE grant. Laura’s project, “Improvements in feed efficiency, milk yield, and components by delineating the rumen microbiome.” was among 21 proposals selected. Way to go, Laura!

As part of a National Science Foundation (NSF) funded 10-week Research Experiences for Undergraduates (REU) program (http://www.uvm.edu/~ecolab/?Page=REU2015cohort.html&SM=REUsubmenu.html), Dr. Jana Kraft mentored in collaboration with Trevor Gearhart (Ph.D. student) and his mentor Dr. Jason Stockwell (Rubenstein School), undergraduate student Teyana Adams from Central State University (Wilberforce, Ohio). Teyana’s project involved analyzing the fatty acid profile of fish which were caught in Lake Champlain and purchased at a local fish market over the course of one year. Teyana was a wonderful addition to our lab; her lively and happy nature infected everyone in the lab. We will not forget Teyana singing and dancing through lab!

In August, we welcomed the latest addition to our lab, Allison Unger. Allison graduated with a Bachelor’s degree in Animal Science at the University of Rhode Island and continues her education as a graduate student in our department. Allison’s research will be focusing on the role of bioactive lipids in diabetes prevention at different stages of life.

Dr. Kraft presented research results at the 2015 USDA NIFA Annual Project Director Meeting in Orlando, Florida in July (presentation title: Characterizing the rumen microbiome in dairy cows as a tool to improve health attributes of bovine milk fat) and at the Vermont Feed Dealers and Manufacturers Association 73rd Annual Meeting in Stowe, Vermont in September (presentation title: Enhancing the nutritional quality of milk fat through bioactive fatty acids).

Lastly, the Kraft Lab started the new semester with a miniature golf tournament (scores are undisclosed) on a crisp, but beautiful, fall day. We are all looking forward to a successful and productive fall semester!

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

The Greenwood lab would like to welcome three new students to the team:

Ricky Scuderi began his M.S. program in June, and is currently completing a project investigating the effects of dietary grape marc (the seeds and skins of grapes left after pressing) on the milk protein profile. Shelburne Vineyards of Shelburne, Vermont graciously donated the grape marc used in this trial.

Salvador Ordaz also just started his M.S. program in August. Salvador is co-supervised by Dr. Pascal Drouin of Lallemand, Inc. and he will be focusing on forages for his M.S. program.

The Greenwood lab welcomes undergraduate research student Melissa Helstein to our team, and we also welcome back undergraduate research students Sarah Zeger, Mallory Honan and Sam Driscoll this Fall.

Ph.D. student Rink Tacoma also had her first manuscript outlining work completed as part of her Ph.D. program accepted in the Journal of Proteomics. This article outlines a new combination of proteomics techniques she developed in the Greenwood lab in collaboration with The University of Vermont, Vermont Genetics Network Proteomics Facility to identify 935 low abundance proteins in bovine milk and the comparison of the Holstein and Jersey profiles of these milk protein profiles. The full citation for the article is: Tacoma, R., J. Fields, D. Ebenstein, Y-W. Lam, and S. L. Greenwood. 2015. Characterization of the bovine milk proteome in early-lactation Holstein and Jersey breeds of dairy cows. J Proteomics. DOI: 10.1016/j.jprot.2015.09.024

Dr. Sabrina Greenwood was also able to present some recent protein research completed in the Greenwood lab at the Vermont Dairy Industry Association (VDIA) 2015 Annual Conference. Sabrina and Dr. Jana Kraft (UVM) tag-teamed to deliver a presentation entitled “Improving healthfulness of milk as a functional food.”

Greenwood lab website: http://asci.uvm.edu/labs/greenwood/

Kerr Lab

Research in the Kerr lab continues to explore mechanisms behind cow-to-cow variation in resistance to mastitis. We are focusing on the innate immune system in particular that is responsible for bringing in the white blood cells (i.e. somatic cells) into the mammary gland to fight off bacteria. Genetic differences between cows are one aspect, but so are “epigenetic” differences. These epigenetic differences are thought to arise in the developing and pre-weaned calf and have life-long effects on the immune system. This past summer we enjoyed having SaraJane Harrington work in the lab on her undergraduate research project on how cells detect pathogens. The rest of the Kerr lab, (Ph.D. students, Aimee Benjamin and Filiz Korkmaz, and Dr. David Kerr) gave oral presentations of the lab’s research portfolio at the Joint Animal Science – Dairy Science meeting held in Orlando, Florida. The talks were very well received.

In early October, David presented an invited talk encompassing the lab’s work at the Association for Veterinary Teaching and Research Work (AVTRW) meeting in Dublin, Ireland. Additional time was spent meeting with colleagues at Trinity College, and at the Teagasc research facility in Grange,
**McKay Lab**

The McKay lab has been involved in an interdisciplinary collaboration at the University of Vermont with Dr. Yolanda Chen from the Department of Plant and Soil Science. This past spring, Dr. Chen and Dr. Stephanie McKay successfully secured funding from the competitive REACH program at the University of Vermont. The study, led by Dr. Chen, is entitled “How do insect pests rapidly evolve on the Pesticide Treadmill?”

Dr. McKay traveled to Milan, Italy in July where she was invited to participate in the Veterinary and Animal Science Days at the University of Milan. Dr. McKay presented a research talk entitled, “To What Extent Does DNA Methylation Affect Phenotypic Variation in Cattle?” This was an excellent opportunity to learn more about the exciting work being performed in the Veterinary and Animal Science disciplines and the McKay lab looks forward to future collaborations with the University of Milan.

This summer, Dr. McKay also volunteered at the first Vermont Breakfast on the Farm. It was a beautiful day and a great opportunity to interact with the public.

Sydney Friedman and Fernando Betancourt, our senior undergraduate students, have been hard at work over the summer and this fall generating and analyzing data for their respective projects. We look forward to presentations of their research early next year.

The McKay lab welcomes a new member to the lab, Darla Quijada. At the moment, Darla is learning fundamental laboratory techniques. In the near future, she will be extracting DNA from the skin of snakes who have shed, to be used for future research.

Our Ph.D. student, Bonnie Cantrell, is hard at work on her first manuscript involving the work she has performed with global DNA methylation and functionally distinct regions of the bovine brain. It is an exciting and busy time in the McKay lab so stay tuned for new information about publications, presentations and funding.

McKay lab website: [http://asci.uvm.edu/labs/mckay/](http://asci.uvm.edu/labs/mckay/)
Zhao travels to China

This summer, Dr. Feng–Qi Zhao spent nearly a month driving more than 12,000 km (7,500 miles) through Xinjiang province, the largest and one of the most beautiful provinces in western China. Besides absolutely breathtaking deserts, mountains, and waters, while on the road, Dr. Zhao visited many vast grasslands and observed animals. It was an experience of a lifetime.

Greene Recognized as Extension Professional of the Year

Dr. Betsy Greene, ASCI professor and Extension equine specialist, was honored with the Joint Council of Extension Professionals Professional of the Year award at the National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conference.

Approximately 1,100 Extension professionals and family members from across the nation participated in the association’s 100th conference, which took place July 12-16 in Sioux Falls, South Dakota.

The Joint Council of Extension Professionals (JCEP), created in 1989, is a partnership of professional Extension organizations that focuses on strengthening the efforts of the member organizations and does what each cannot do individually. The Professional of the Year award recognizes individuals who have demonstrated successful interdisciplinary teamwork and partnerships across program areas with colleagues and stakeholders for program excellence throughout a significant part of their extension career.

During the award presentation Greene was recognized as an innovative educator, willing collaborator, and critical thinker. She was also recognized for her ability to forge partnerships among groups such as University of Vermont Extension, Vermont Farm Bureau, Vermont Agriculture Agency, and the Extension HorseQuest Community of Practice.

As an Extension professional for more than 20 years, Greene has effectively garnered financial resources to find solutions to problems, amassing more than $2 million in grant and gift support for field-based research and Extension programming.

Greene understands Extension, particularly horses, and her work has encompassed areas from equine muscle satellite cell biology to whole biological systems, of which horses are a part. She recognizes the intricacies involved in problem solving in the real world of Extension, and represents the Cooperative Extension Service as a superb professional, the National Association of County Agricultural Agents said.

JCEP National Officers Kim Gressley, president (right), and Ann Berry, secretary (left) presented the award to Greene.
Equine Extension and Equine Studies

Dr. Betsy Greene had a very busy summer presenting workshops and seminars on programs at several national meetings this summer, including the Equine Science Society and National Association of Equine Affiliated Academics (St. Petersburg, Florida), the National Association of County Agricultural Agents (Sioux Falls, South Dakota), the International Society of Equitation Sciences (British Columbia, Canada), and the National Animal Interest Alliance (NAIA) meetings (Las Vegas, Nevada). Dr. Greene will be presenting as part of a national equine panel at the NAIA Annual Meeting in Orlando, Florida in early November.

At the state level, she organized and presented her annual horse and land stewardship workshops covering the new legislation on Small Farm Certification, Pasture Fertility Management, and manure storage, composting and land application. Invited presenter Dr. Ann Swinker (Penn State) and Betsy teamed up for the workshops at East Hill Farm (Plainfield) and Hitching Post Farm (South Royalton). She also participated in the Road Safety Rally at the Vermont State House, handing out copies of the Horse Safety on the Road Public Service Announcement to the press and sharing information with Lieutenant Governor Phil Scott and others.

Students in Dr. Greene’s Introduction to Equine Studies enjoyed the annual “4-lab” pilgrimage to the UVM Morgan Horse Farm in Weybridge, Vermont, where they gained hands-on experience with the UVM Morgan foal crop, farrier work, judging, and observed veterinary procedures up close.

Students get hands-on instruction in equine hoof care.

Introduction to Equine Studies (ASCI 115) students at the Morgan Horse Farm in Weybridge, VT.

Dr. Betsy Greene conducting a pasture workshop at East Hill Farm in Plainfield, VT with Dr. Ann Swinker.

Submitted by Dr. Betsy Greene
Members of UVM Horse Barn Cooperative, Equus, and UVM Dressage Team hosted a fabulous Open Barn for UVM’s Homecoming, Alumni, Family and Friends Weekend on Saturday, October 3rd. Thank you to our dedicated students who made this such a wonderful event.

Members are pictured below. Top row, left to right: Hannah Hill, Gelsey Lee, Erin Hall, Katie Berkelhamer, Meghan Egan, Taylor Schoonover, Kacey Clougher. 3rd row up: Nikki Silverstein, Cara Bollinger, Sam Driscoll, Kayla Irwin, Abby Brown, Serena Pedane, Lizzie Morris. 2nd row up: Olivia Gamsu, Sarah Proulx, Katey Urbin, Katie Jamer, Abby Szatrowski, Ilana Cramer. Bottom row: Mei Huang, Bryanna Beveryridge, Kate Daly, Michelle Tatum, Theresa Fano, and Amber Burger.

Sarah Proulx, Sam Driscoll and Sam Williams, all members of the UVM Horse Barn Cooperative, talk to alumni, families and friends during the UVM Horse Barn’s Open House held on October 3rd.
**UVM Farm Halloween Barn to be held October 26th**

Young kids and their friends and family are invited to the UVM Horse Barn for a fun-filled evening of Halloween activities and trick-or-treating on Monday, October 26th from 5 p.m. until 6:30 p.m. Students and horses will be dressed up for the event, so please wear your costumes and bring a bucket for candy! We are asking for a $3 donation per child to help with the cost of running this popular event.

Parking will be at Gutterson Fieldhouse (on the west side of Spear Street just north of the farm) with a shuttle bus bringing attendees to and from the farm. Handicap parking will be available at the farm. Any questions, please email Jenny.Wilkinson@uvm.edu

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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
“If your horse could be any sandwich, what would it be?” This question hung in the air at the first meeting of UVM’s Cooperative Horse Barn. Laughter broke out in the room, and conversation started to flow between the twenty-something girls that crowded the table. I had never been to a co-op meeting before — while a returning member of the UVM Dressage Team, this was my first year boarding my horse at the barn.

My freshman year, I wasn’t even sure that I wanted to ride in college. My horse went to live in semi-retirement, and I began thinking that I would never smell like hay and sport green slobber stains again. But, of course, I ended up being lured back into the barn (and found myself covered in mysterious substances, once again). I made the Dressage Team and found friendship in my teammates and in the always-positive barn members that I bumped into multiple times a week. So, when my sophomore year rolled around, I didn’t hesitate to return to the barn — with an extra thousand-pound friend tagging along. And I found myself immediately surrounded by the people that I had gotten to know so well in the dusty barn aisles.

I love being in the co-op because there is a consistent positive atmosphere. Anyone can walk through the doors and feel welcomed. Both welcomed into the community and welcomed to be your genuine self. Typically, acting ourselves includes a lot of goofy antics and a lot of eating (see sandwich quotation above for reference to our dedication to food). I look forward to continuing this year with my horse and with the girls who I, quite honestly, think are the best group of people to be condensed into one little happy barn.

Submitted by Olivia Gamsu, Class of 2018 Horse Barn Coop and Dressage Team Member

Olivia Gamsu and her horse, Toby. According to Olivia, “if Toby were a sandwich, he would be one of those little candy hamburgers, ’cause he’s sweet!”

Members and their horses

Submitted by Somer Brown, Class of 2016 Horse Barn Coop and Executive Committee Member

In late August, the UVM Horse Barn’s Executive Committee had its first meeting. I sat around the table with my friends and our advisor while we expressed our joy to be back at the barn and our hopes that the new members would love this place just as much as we do. Weeks later, almost every horse has arrived and everyone has settled in nicely.

I notice certain parallels between the horses and their owners — the returning students and horses are confident and relaxed, the newcomers are fueled by a kind of anxious excitement. In the paddocks, horses are making new friendships: Charlie and Dalton already have a strong bond; James and Vito are usually either grooming each other or playfully sparring; Belle immediately adhered herself to Molly. In the barn, the new Dressage Team and Horse Barn Coop members sit around the table making jokes and swapping stories with the returning members. We are a diverse group of girls, coming from different places and different disciplines, but everyone has a funny anecdote to share about her horse.

This time last year, I was new to the barn and still waiting for my horse to arrive. In the meantime, I was worried sick that I might not be able to take care of him on my own. Now, I know that my friends love my horse as much as I do (well, almost as much), and I know that they would do anything for him. I can already see new relationships developing between horses and students; often, a conversation in the barn will start along the lines of, “Your horse did the cutest thing yesterday...” I can already see that this will be a fun year for the UVM Horse Barn, and I know that all of the new members will fit right in with the returning members.

Submitted by Somer Brown, Class of 2016 Horse Barn Coop and Executive Committee Member

Somer Brown with her horse, Toby.
News from the UVM Morgan Horse Farm

Dr. Betsy Greene’s ASCI 115 (Introduction to Equine Studies) class visited the Farm for the annual production and management lab. MHF staff, Dr. Mary Donovan of Meadowbrook Equine, and Sean Reising Horseshoeing provided instruction for the group. Farm staff bid farewell to a stalwart supporter Kenneth Estey, UVM ‘41. Ken gave many hours of volunteer service as an outstanding tour guide and grounds-keeping consultant. As per his obituary (Burlington Free Press), special thanks and contributions in his memory can be made to the UVM Morgan Horse Farm Program.

“Senior Visit,” Kenneth and senior stallion UVM Tennyson reconnect in May 2013. “Tenny” was Ken’s favorite UVM Morgan.

Remember the drawing for this year’s awesome raffle colt is October 31st. Call the farm for more information. 802-388-2011

A successful exhibition season culminated with the Farm’s annual entry at the New York Regional Championship show in Syracuse.

Apprentice Jamie Maguire, Lowell, MA, is enjoying a successful internship at Weybridge. She has assisted with foaling and neo-natal care through the summer months, and is now involved with the care of ten pregnant brood mares due February through May 2016.

The Farm received an enthusiastic response from the historic piece on the Weybridge Morgan Farm, “Hoofprints of History” written by admin staff Margot Smithson.

Visit the link to the online version of the article below:
http://www.burlingtonfreepress.com/story/news/local/2015/06/05/hoofprints-history-veybridge/28504085/
Internship at White Pegasus in Greece

In looking for internships for the summer of 2015, I searched a lot of places in the United States. Some offered pay, some housing, some beautiful locations in states I’d never been to, but none had the lure of international travel. I found several international providers, but one that caught my eye was located in northwestern mainland Greece. When I got the email saying that I had made it, the excitement really set in. A few short months later, I was on my flight to Athens, my first time traveling out of the country on my own. My internship was located in Papigo, Greece, a small village of about 150 people located in the northwestern mountains of the Zagoriou region. The barn was different from what I was used to – instead of stalls, arenas, and grassy paddocks, the stable was a simple two-roomed shelter of concrete, with wire barriers dividing the two groups of horses that lived there. Daily chores included stable maintenance and cleaning, general horse care such as grooming and feeding, assisting with training, and tacking up horses for trail rides that I would help guide.

Part of working at White Pegasus involves day-to-day management and business practices. Everything was run by Daphne Dimou, the owner of White Pegasus. She has places for two volunteers or interns, so everyone had the opportunity to be involved in decision making. The closest veterinarian was also over an hour away, so I was usually able to help with giving shots or holding horses for simple medical issues.

During the day the horses were turned out into fields surrounding the village. There were no fences restricting their movements, so they were free to wander the area. While they were out, the majority of my job was to check on them every few hours or so. The intent was to make sure they were all together and make sure they weren’t wandering into the village, but through watching them in the field I was able to learn about natural horsemanship in a herd environment. The hierarchy of the herd slowly became clearer to me once I learned what to look for – dominant horses tend to be less aggressive and pushy where subordinate horses are insecure and show it with a snap of teeth or pinned ears. This translates into the business in a very important way in that certain horses don’t go well in line with each other and must be separated by another horse.

Trail riding in a tourist location, despite its remote nature, gives the opportunity to meet people from all over the world. I learned how to talk to people of many different backgrounds, teaching them about horses and the general information of Papigo. This was one of the biggest challenges for me on multiple levels. I tend to be a fairly quiet person, and this internship forced me to be more talkative and open with people in order to make them comfortable. I had dealt with similar situations back home before, but in Greece this had an additional challenge because of the frequency that I didn’t share a common language with the clients. For the most part we managed to get by on hand gestures between the few words we both understood.

The most important tip I have for people interested in interning at White Pegasus is this: have an open approach to new things, and be able to adapt. The way most barns are run in the United States would simply not work in Papigo. Daphne has spent ten years building and expanding on her business, developing practices that work well for her, but wouldn’t be manageable in the states. Being able to accept the differences and work through them is one of the most valuable skills you can have. The wonderful thing about Daphne is that she will talk to you about absolutely any problem you have while living there. She knows a lot, but is open to new ideas and opinions about horse life in different parts of the world.

I had an incredible experience in Greece, and would recommend the internship to anyone looking for an adventure unlike anything they have done before.

To learn more about this internship, go to: http://asci.uvm.edu/intern/?Page=equine/white_pegasus.html&SM=internmenu.html

Michelle Tatum on Paraskevoula, standing beneath the Papigo Towers. Behind Michelle is a two-month old foal, Myrcine.
Internship at Tufts Wildlife Clinic

I spent the summer of 2015 doing something that most people never get the chance to do. I worked at the Tufts Wildlife Clinic on the Veterinary Campus in North Grafton, Massachusetts, where I spent 40 hours a week dedicated to the health and rehabilitation of ill or injured wild animals. The Wildlife Clinic aims to help animals in need with the resources available and contribute to the conservation of wildlife. The Clinic also tries to educate the public on some conservation issues and inform them about animals and how to act appropriately if presented with a creature in distress. Some of the animals I had the opportunity to work with included reptiles like snakes and turtles, to avian species like songbirds, owls and hawks, to mammals such as foxes and eastern cottontails.

Some of the primary tasks associated with the interns were certainly the cleaning and maintaining of the clinic, running radiographs, preparing food, and managing the nursery. There were two different shifts that each intern had, either an 8:00 a.m.-5:00 p.m. or 12:00 p.m.-8:00 p.m. shift. During the morning hours the clinic was very chaotic because daily treatments needed to be prepared and administered. Some of the common medications we administered in morning treatments were meloxicam (mild pain), clavamox (antibiotic) and tramadol (more intense pain). One of the most common things we all did was use scissors to snip mice into little bits for raptors. Sometimes I would be alone in the evening for the later shift, and that could be stressful if there were a lot of animals to give treatments to, however, it was a great experience to have that responsibility.

Feeding the raptors was one of my favorite things to do in the clinic. I usually fed juvenile screech owls, barred owls and hawks. In order to feed a juvenile raptor, I had to put on a hunting mask because the camouflage would break up the image of my face so they would not recognize me as another being and therefore no imprinting occurs. Many of the raptors that came in would not eat on their own, leaving us to force feed them small mouse bits.

Advice I have for future interns is get to know the staff really quickly because they are a great resource, and take advantage of every opportunity you get. Be sure to take lessons from the work and let it improve your communication and time management skills and use the responsibilities you have to boost your confidence as a young adult in the real world. Be sure to always pay attention to what the vets are asking of you; it is easy to forget something when the environment is so hectic and you want to make sure you do not make a mistake during a critical time when it could compromise the health of an animal. Never forget that an internship is there for you to learn and that should always be a top priority.

Submitted by Caroline Conley  
Class of 2018

Students interested in internship opportunities should check out the department’s Internships & Careers web site:  
http://asci.uvm.edu/intern/  
and contact our Internship Coordinator, Fran.Kinghorn@uvm.edu, 107C Terrill Building
Animal and Veterinary Science students were able to enroll in two department offerings this summer, “You to the Zoo” and “The Horse” both led by senior faculty member Pat Erickson, DVM.

During the “Zoo’s” course, students travelled to Syracuse, New York to work at the Rosamond Gifford Zoo. Working alongside zookeepers, curators and veterinarians (from neighboring Cornell University’s Veterinary College) UVM students participated in the successes of a fully accredited Association of Zoos and Aquariums (AZA) institution.

As a rare treat, students were in house directly following the birth of the zoo’s newest elephant. The calf’s birth was recommended by the Association of Zoos & Aquariums’ Species Survival Plan (SSP) for Asian Elephants to maintain a high level of genetic diversity in the North American population of this endangered species. Only about 35,000 elephants remain in the wild.

The three travel components of “The Horse” course began with a trip to SUNY Morrisville. The majority of our time was spent learning equine rehabi-...
“You to the Zoo and “The Horse” — continued

...itation techniques at the new Equine Rehabilitation Center (ERC); however, we also had classes at the Draft Horse Facility, Standardbred Breeding Facility, and finally a morning at John and Beezie Madden’s farm in beautiful Cazenovia, New York.

Later in the summer students travelled to After the Track in Hinesburg, Vermont to meet Ginny Iverson and learn about the Thoroughbred Retraining Program located on her farm. Later we travelled to Tamarack Hill Farm in Strafford, Vermont to learn from the incomparable Denny Emerson. “One of the 50 most influential horsemen of the Twentieth Century...” (The Chronicle of the Horse, 2000). Denny, the only rider to have ever won both a gold medal in eventing and a Tevis buckle in endurance, and his wife May hosted a day of training at their beautiful farm. Students were able to watch Denny ride and observe him teaching his high level competing students, both in the stadium and out on the cross country course.

Finally, students travelled to Saratoga, New York to better understand the world of Thoroughbred racing. Our hosts, the New York State Horseman’s Association (NYSHA), rolled out the red carpet! We were able to travel on the backside with Rick Violette, Jr., President of the NYSHA and better understand the challenges of the racing life. Students also had a behind the scenes tour at the Fasig-Tipton Sales barns on the day of the yearling sales, which they also attended that evening, watching horses sell well into seven figures. And as a special unexpected treat, we were able to watch Bob Baffert (American Pharoah’s trainer) evaluating a horse!
Breakfast on the Farm

Vermont's first Breakfast on the Farm took place on a beautiful summer day at the Nea-Tocht Farm in Ferrisburgh. Over 500 attendees enjoyed a free breakfast followed by a self-guided farm tour, stopping at educational stations along the way. Dr. Julie Smith coordinated the educational stations and event evaluation and was interviewed by a Seven Days blogger: http://www.sevendaysvt.com/BiteClub/archives/2015/08/24/seconds-of-summer-first-annual-breakfast-on-the-farm

Several colleagues and students from Animal and Veterinary Sciences volunteered to make the event a success: Dr. David Kerr, Dr. Stephanie McKay, Dr. Betsy Greene, graduate students Melissa Woolpert and Mac Campbell, and undergraduate Sarah Zeger. The event was made possible by sponsors and volunteers from many businesses, agencies, and farms in Vermont.

Submitted by Dr. Julie Smith
Extension Dairy Specialist

This participant enjoyed pancakes and chocolate milk at the “Vermont Breakfast on the Farm” event held in Ferrisburgh.

Grad student Mac Campbell, Dr. David Kerr, Dr. Betsy Greene, Dr. Stephanie McKay, and Dr. Julie Smith show off their stylish “biosecurity boots.”

Dr. Stephanie McKay, Dr. Betsy Greene, and Dr. Julie Smith volunteer at Nea-Tocht Farm’s Vermont Breakfast on the Farm in Ferrisburgh.

Over 500 people attended the first Vermont Breakfast on the Farm at Nea-Tocht Farm.
Dairy Club

Stephanie Maulding, Natalie Tocco, Mollie Curtis, Sarah Zeger, Haley Macomber, and Maureen Whitney, members of the Dairy Club, visited dairy and maple farms in the Northeast Kingdom on a beautiful fall day. One of the farms they visited, Maple Grove Farm, is owned by Sarah and Andy Birch. Andy is a graduate of the FARMS 2 + 2 program. They stopped by Hillside Homestead, owned by Renee and Chet Baker. Renee is also a graduate of the FARMS 2 + 2 program. Their last stop was Jed’s Maple Products, a sugar house which was holding an open house. Steve and Amy Wheeler, who own the sugar house, are both UVM grads as well.

Construction nears completion

Construction is nearing completion of our new instructional barn, research barn, and milking center at the Paul R. Miller Research and Educational Center (a.k.a. “Spear Street Farm in South Burlington, Vermont. Look for more details in our February newsletter. See photos of the demolition of the old barns and construction of the new facilities on our Flicker page at:

https://www.flickr.com/photos/67694220@N07/

A panoramic view of the new facilities as of September 15, 2015. (Photo courtesy of Jane Kennedy O’Neil who was hoisted in a lift to get this great shot.)
Laura Cersosimo awarded NE-SARE grant

Ph.D. candidate, Laura Cersosimo was one of 21 graduate students to be awarded a Northeast Sustainable Agriculture Research and Education (NE-SARE) Graduate Student grant to support her research project, “Improvements in feed efficiency, milk yield, and components by delineating the rumen microbiome.”

Northeast SARE serves Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia, and Washington, D.C. The NE-SARE grants fund graduate students who are researching topics in sustainable agriculture that serve the interests of farmers and others in the agricultural community. There were a total of 56 grant proposals submitted.

Congratulations to Laura and her advisor, Dr. Jana Kraft, for this accomplishment.


Alternative Forage Study at the University of New Hampshire

Ph.D. students, Laura Cersosimo (Kraft lab) and Rink Tacoma (Greenwood lab) are currently conducting a pasture-based study at the University of New Hampshire’s organic research farm in collaboration with Dr. Andre Brito. The project takes place over periods with reduced pasture growth on farms in the Northeast (typically May, July, and October). In order to overcome this issue, alternative forage crops, or AFCS (e.g., small grains, brassicas) are fed. The overall goal of the study is to determine if AFC are a suitable substitute for a typical legume-based pasture. Laura will be quantifying feed efficiency, milk components, and identifying the rumen microbiome (bacteria and protozoa) while Rink will be focusing on the characterization of the bovine milk protein profile in response to the different pasture-based diets, identifying over 900 milk proteins, many known to have positive effects on human health.
ASCI 272 students plan exhibit at the Echo Center

Dr. Pat Erickson’s Zoo’s, Exotics, and Endangered Species (ASCI 272) students will take kids on a conservation trip around the globe! Young students will learn about bees, bats, birds, cats, mammals and elephants in this interactive student-made, student–run exhibit. Kids will learn how they can make a difference for these animals that need our help the most.

The ASCI 272 student’s exhibit, “Conserve Vermont, Conserve the World: Love Without Borders” will be at the Echo Lake Aquarium and Science Center on the Burlington waterfront on Saturday, November 21st from 10:00 a.m. to 2:00 p.m.

Glasgow

The University of Glasgow (UoG) located in Glasgow, Scotland, has an agreement with UVM whereby students can complete a joint B.S./BVMS degree attending UoG in their fourth year at UVM. A UVM student who has successfully completed three years of study at UVM Animal and Veterinary Sciences Bachelor of Science (B.S.) can apply to the Bachelor of Veterinary Medicine and Surgery program (BVMS) program at the University of Glasgow. Credits for subjects taken at UoG will be transferred to UVM to fulfill the requirements for a B.S. degree in Animal and Veterinary Sciences at UVM at the end of their fourth year. Students successfully completing Year 1 of the BVMS program at the University of Glasgow will be offered a direct entry place in Year 2 of the BVMS program. The following undergraduates have completed their first year of vet school through Glasgow’s 3+1+4 program and have been granted their undergraduate degrees by UVM. Sean Blouin, Lauren Brown, Nicole Gruszcynski, Ashley McCoy, Maria Watko, and Sam Rosenbaum.
Alums Megan Haughy and Rebecca Calder receive scholarships

Since 2012, the Vermont Veterinary Medical Association Foundation, Inc. (VVMAF) has contributed $39,000 to Vermonters attending veterinary school to help defray their high veterinarian student loan debt. Congratulations to two ASCI graduates who are recipients of VVMAF’s 2015 scholarships:

**Megan Haughy** of Richford is a senior at Oklahoma State University and a 2010 graduate of UVM. She has returned home every school break to work as a veterinary technician. Megan would like to work in a general, mixed animal practice in Vermont.

**Rebecca Calder** of Shelburne is a senior at the Cornell University College of Veterinary Medicine and a 2012 graduate of UVM. She is a three-time VVMAF scholarship recipient and is grateful for the continued financial support from VVMAF. Upon graduation, Rebecca plans to return to Vermont to work in the dairy industry, and would also like to incorporate small ruminant into her practice, support organic farms, and help farms increase efficiencies and be sustainable, successful businesses.

Rebecca was also the recipient of two scholarships from the American Association of Bovine Practitioners (AABP) Foundation. She was one of 17 fourth-year veterinary students to receive a $5,000 AABP Foundation-Zoetis scholarship, and one of five veterinary students to receive a $2,000 AABP Foundation-Cargill scholarship.

Congratulations to our beautiful UVM alums

**Jennie Scudder** married **DJ D’Amico** on May 30, 2015. Jennie received her B.S. from UVM in 2005, her M.S. in 2009 and her DVM from Western University of Health Sciences. Dr. D’Amico is a veterinarian at Hyannis Animal Hospital.

**ASCi Alum, Ashlie Hirtle.** celebrated her marriage to **Arlen Flynn** on August 29, 2015. Mrs. Flynn received her B.A. from UVM in 2010. She is a veterinary technician at Vermont Veterinary Eye Care.
UVM alumni attend veterinary scholars symposium

Three former UVM ASCI students travelled to Davis, California in July to present their research at the 2015 Merial-NIH National Veterinary Scholars Symposium hosted by UC Davis College of Veterinary Medicine. The Veterinary Research Scholars Program allows current veterinary students to work with mentors within their college to perform veterinary biomedical research throughout the summer. The three-day symposium consisted of veterinary students from all over the country gathering to present their research, building connections and sharing ideas among hundreds of professional peers and leading experts in the areas of veterinary medicine and public health. The three UVM (and CREAM) alumni who presented were Rebecca McBride (UVM’13), who is entering her third year at Cornell University College of Veterinary Medicine, Hagan Dooley (UVM’14) who is entering his second year at the University of Missouri College of Veterinary Medicine, and Chantal Girard (UVM ’14), who is entering her second year at Kansas State University College of Veterinary Medicine.

Dr. Greene appears 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 appeared on the following episode:

• July 20th: Water Quality Education: New Certification Requirements for Small Farms—Dr. Betsy Greene and Dr. Ann Swinker, Penn State Extension
**ASCI welcomes four new graduate students**

**Korin Eckstrom** is from Tioga Center, New York. She graduated from the University of Vermont in 2015 with a B.S. in Animal Science. During her undergraduate career, she worked in Dr. John Barlow’s Lab where she will continue with her graduate studies working towards a M.S. in Animal, Nutrition, and Food Science. Her work so far has focused on next generation sequencing technologies for the bovine MHC Class I molecule, and she will continue to expand this project, as well as work on other related projects in the lab. Outside of school she loves baking, hiking, and attempting to stay upright while skiing.

**Salvador Ordaz** is from La Laguna located in northern Mexico where two states merge, Durango and Coahuila. This area is well known as Mexico’s largest milk production region. Salvador received his Bachelor’s degree majoring in Veterinary Sciences then interned at Lallemand Animal Nutrition’s “Silage Center of Excellence” at Miner Institute in Chazy, New York where he participated in several research projects linked to silage quality and microbiology. He returned to La Laguna and worked at Beta Santa Monica, one of Mexico’s biggest dairy farms, where he supervised the feeding area and oversaw intern research projects related to heat stress, cow comfort, and a trial feeding sugar beet silage to cows. Salvador will be working towards his Master’s Degree doing research at Miner Institute. He loves the microbiology related to silage, the forage topics and how it affects rumen milk production. He is interested in learning more about animal nutrition, and forage quality and preservation. Salvador enjoys photography, listening to good music, and drinking coffee.

**Richard “Ricky” Scuderi** was born and raised in the Pacific Northwest, spending most of his time in Northern Idaho. Prior to starting his college education, Ricky volunteered and worked as a veterinary assistant at a local practice. He now has 11 years’ experience in the industry. Ricky graduated in May 2015 from the University of Idaho with a Bachelor’s Degree in Animal and Veterinary Science and with minors in Business and Marketing. He has conducted research in lipid metabolism in dairy cattle and assisted with forage research. In June 2015 he started working on his Master’s Degree in Animal Science with Dr. Sabrina Greenwood. His focus will be on nutrition and health, specifically looking at how dietary manipulations can alter milk proteins which play important roles in human and animal health. In his spare time, Ricky enjoys being in good company, traveling, photography, skiing, and being outdoors with his dog Spot.

**Allison Leigh Unger** was born and raised in the Providence, Rhode Island area. She graduated from the University of Rhode Island in 2015 with a B.S. in Animal Science. During her time there, she worked in a laboratory that sought to find sustainable alternatives to chemical anthelmintics in sheep and goats. She came to visit Vermont for the first time last summer and fell in love with the area. Her interest in the connection between agriculture and human nutrition led her to Dr. Jana Kraft’s lab. As part of Allison’s M.S. in Animal Science, she will be a project coordinator at the Clinical Research Center for a study that is looking at the effects of bioactive fats in milk on metabolic health markers, as well as utilizing mice models. She enjoys hiking, baking, coffee, trying new restaurants, and going to the theatre. Her favorite farm animal are sheep.
Eileen Kristiansen joins ASCI as Grant Project Coordinator

Eileen Kristiansen is a native Vermonter, born in St. Albans and growing up in Milton. She graduated from the University of Vermont with a B.S. in Elementary Education in 1978, from Trinity College with a B.S. in Accounting in 1997, and from the University of Vermont with an M.Ed. in Educational Leadership in 2011. She is currently a doctoral candidate at the University of Vermont in the Education Leadership and Policies Studies program and is planning to graduate in May 2017. She is currently working for Dr. Julie Smith as the Grant Project Coordinator for the ADB-CAP grant, the goal of which is to “facilitate the development and adoption of practices and policies that collectively reduce the impact of new, emerging and foreign pests and diseases of the major and minor species of cloven-hoofed food producing animals - cattle (dairy and beef), pigs and small ruminants (sheep and goats) - in the United States.”

ASCI raises $1,400 for the Humane Society of Chittenden County

ASCI Team “Paws for a Cause” raised nearly $1,400 for the Humane Society of Chittenden County (HSCC) at the 21st Annual Walk for the Animals event held on June 14th at Battery Park in Burlington. Thank you to everyone who supported our team, which was the second highest fundraising team and the most the team has raised in the last 13 years in which we have participated. This year's event raised over $60,000 for HSCC. Great job team “Paws for a Cause.” We look forward to walking with our dogs again next year!

Recent Peer-reviewed Publications

Bainbridge, Melissa L., Adam L. Lock, Jana Kraft. 2015. Lipid-Encapsulated Echium Oil (Echium plantagineum) Increases the Content of Stearidonic Acid in Plasma Lipid Fractions and Milk Fat of Dairy Cows, Journal of Agricultural and Food Chemistry. 2015. 63:29,4827-4835


Support UVM Animal & Veterinary Sciences

The Department of Animal & Veterinary Sciences 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 Dept. of Animal & Veterinary Sciences in the “Other” category.

Calendar of Events

2015

November
Nov. 2-5, 2015. 30th American Dairy Science Association (ADSA) Conference on Food Animal Agriculture; Itasca, IL
Nov. 3-6, 2015. The Dairy Practices Council 46th Annual Conference; Burlington, VT
Nov. 21, 2015. ASCI 272 Exhibit at Echo Science Center.

December
Dec. 9, 2015. Last Day of Classes
Dec. 11, 14, 15, 17, 18, 2015. Exam Days

2016

January
Jan. 1, 2016. New Year’s Holiday
Jan. 18, 2016. Martin Luther King, Jr. Holiday
Jan. 19, 2015. First Day of Classes

February
Feb. 15, 2016. Presidents’ Day Holiday

March
Mar. 1, 2016. Town Meeting Day Recess
Mar. 7-11, 2016. Spring Recess

April
Apr. 22, 2016. Honors Day

May
May 4, 2016. Last Day of Classes
May 6, 9, 10, 12, 13, 2016. Exam Days
May 22, 2016. Commencement
May 30, 2016. Memorial Day

July
Jul. 4, 2016. Independence Day Holiday
Jul. 19-23, 2016. The 2014 Joint Annual Meetings of the American Dairy Science Association (ADSA), American Society of Animal Science (ASAS), Western Section of the American Society of Animal Science (WSASAS), and the Canadian Society of Animal Science (CSAS) will be held together in Salt Lake City, UT