Dear colleagues, alums, students, and friends,

As I write this message it’s hard to believe the summer solstice has just passed and the days ahead will get progressively shorter...what happened to Spring?!?! In Vermont we had a seemingly quick transition between the end of winter and the beginning of summer this year, but this didn't prevent some from enjoying the unusually short “mud season,” (see below). My family and I are beginning to wonder if our dog, Zoey, has a deeply-seeded desire to become a chocolate, rather than a yellow, Labrador. Anyway, knowing that it’s now summer, there are many highlights in the department that encompassed the end of the academic year to share with you in this newsletter.

Among the most notable highlights of the spring semester is the 2016 Honors Day Awards for ASCI students, which this year was planned and hosted entirely by the department at the Miller Research Center on May 4th. In all, over 30 underclassmen and graduating seniors were honored for their achievements in academics, leadership, and service, and a tasty banquet accompanied the celebration. Additionally, our own Dr. Jenny Wilkinson was honored with the prestigious North American Colleges and Teachers of Agriculture (NACTA) Award of Merit for her outstanding work in teaching. Congratulations Jenny...well-deserved! Honors Day was quickly followed by the 2016 CALS Commencement exercises, in which we had 72 students complete the ASCI degree. Many ASCI graduates have already secured spots for pursuing advanced degrees or have made inroads into the workforce. Best of luck to you all. As is typical for this time of year, the research laboratories in the department are in full-swing with projects underway for the summer, grant writing, travel to attend and present at scientific conferences, and students either initiating or completing thesis work. You are encouraged to catch up on the various activities taking place in the laboratories, and the outstanding work of our faculty and their students. On a sad note, the Charter Director of the UVM Morgan Horse Program, Dr. Donald J. Balch, passed away at age 93 in May. Dr. Balch had an immense influence on the success of the program during its infancy and touched many lives over the years, and he will be missed. Other notable news during the past few months in which you are encouraged to read about include the retirement of “Teddy”, the birth of “Violet”, the “Walk for the Animals”, and recent adventures of our ASCI students—past, present, and future. Enjoy!

Finally, please remember that June is National Dairy Month, with a 75-year history to celebrate and acknowledge the dairy industry’s contributions to our great state of Vermont, the US, and the world. You can do your part to celebrate by participating in social and educational events like Breakfast on the Farm, ice cream socials, and dairy festivals, or by simply becoming a conspicuous consumer of dairy products. Anyway you cut it, dairy is a good thing—so celebrate accordingly.

All the best, Dave
2016 Honors Day Awards presented at the Miller Research Center on May 4th

Elmer Towne Award
Presented annually by the Vermont Dairy Industry Association to that student whose work in the field of Dairy Science shows the greatest promise for providing the quality leadership exemplified by Elmer E. Towne in his life of service to the Dairy Industry.
Recipient: Sarah L. Zeger
Presenter: Dr. David Kerr

George H. Walker Award
Awarded annually by faculty vote to members of the graduating class of the College of Agriculture and Life Sciences, who have majored in Animal and Veterinary Sciences, who exhibit conspicuous merit in the studies pertaining to Dairy Science and especially in those courses relating to the production and/or processing of market milk, and who furthermore exhibit high and noble traits of leadership and character.
Recipient: Miriam R. Lipschutz
Presenter: Dr. Norman Purdie

Donald J. Balch Award
Presented annually to that student making the greatest contribution to the equine or companion animal activities of the Department of Animal and Veterinary Sciences.
Recipient: Alice V. Symington
Presenter: Dr. Jenny Wilkinson

Brian Hawley Scholarship Award
This award, in memory of Brian D. Hawley, an ASCI Graduate of UVM, is given to a deserving Vermont junior or senior in the Animal and Veterinary Sciences Department.
Recipient: Sarah Jane P. Harrington
Presenter: Dr. Jenny Wilkinson

Triona Wilder Marno-Ferree Memorial Award
Presented to the student who possesses a genuine love of horses and displays the energy and enthusiasm shown by Triona for UVM Horse Barn activities.
Recipient: Carly A. Cingolani
Presenter: Dr. Jenny Wilkinson

Animal and Veterinary Sciences Faculty Award
In recognition of scholastic performance, outstanding achievement in undergraduate research, or service to the Department.
Recipient: Laurel K. Saldinger
Presenter: Dr. Jana Kraft

Honors Day and Graduation Photos courtesy of Jane Kennedy O’Neil
The Brett Klein Memorial Scholarship
Presented to CREAM Student Herd Advisors for the Academic Year 2015-16 with a big thanks for their time and effort! The award is presented for their dedication, responsible leadership, and friendly attitude that Brett exemplified as a 1990 CREAMer as well as for their excellence in teaching and advising the CREAMers and in passing on the CREAM tradition!

Recipients:  
Summer ‘15:  
Kathryn A. Abisla  
Courtney B. Glotzer  
Emma Hurley  
Fall ‘15:  
Petty Kim  
Spring ‘16:  
Jessica S. Bachmann  
Delaney N. Douglas  

Presenter:  
Dr. Norman Purdie

American Society of Animal Science Award
Presented annually to sophomores, juniors, and seniors whose academic record, scholastic efforts and character warrants recognition as the future leaders in the field of Animal Science:  
Presenter:  
Dr. David Townson

Recipients:

Seniors
Sara R. Friedman
Melissa A. McCoile
Lexie N. Merguerian
Laurel K. Saldinger
Taylor M. Schoonover
Ken B. Wesley
Sarah L. Zeger

Juniors:
Delaney N. Douglas
Miriam R. Lipschutz
Brooke Madnick
Katie L. Molind
Sarah N. Scott
Jen Jen A. Yu

Sophomores:
Ellie R. Beltran
Kelsey L. Bullock
Emily H. Dillon
Ashley K. Heaney
Willa C. Richmond
Sarah E. Scocozza
Addison G. Spitzer

Dr. Wilkinson presented with NACTA Teaching Award

The Dean of the College of Agriculture and Life Sciences, Dr. Tom Vogelmann, presented the North American Colleges and Teachers of Agriculture (NACTA) Teaching Award of Merit to ASCI Senior Lecturer, Dr. Jenny Wilkinson. This award is presented to one individual; who demonstrates excellence in post-secondary instruction in agriculture. Dr. Wilkinson received her B.A. from the University of Virginia and her D.V.M. from Cornell University. She is a senior lecturer in the department teaching equine-related courses.
The University of Vermont’s 215th Commencement Ceremony was held on Sunday, May 22nd at 8:20 am on the University Green. The College of Agriculture and Life Sciences’ (CALS) ceremony was held later that day in the Multipurpose Facility at the Athletic Complex. A reception was held prior to the ceremony in Redstone Dining. Seventy-two Animal and Veterinary Sciences majors received their Bachelor of Science degrees. Congratulations to all our graduates.

Abisla, Kathryn A.
Balionis, Julia G.
Beattie, Jillian Avery
Berteau, Mishy Renee Louise
Betancourt, Fernando Javier
Boucher, Katherine E.
Bowers, Rebekah E.
Burris, Rheannon Elizabeth
Chalek, Lucia E.
Couture, Shelby J.
Culupa, Ariel Sarah
Doiron, Elizabeth Ann
Earle, Abbey Katherine
Everett, Hailey May
Fano, Theresa Marie
Faulkner-Filosa, Chad Alexander
Fauver, Sarah Elizabeth
Flournoy, Lauren A.
Friedman, Sara Rose
Friedman, Sydney Rachel
Glotzer, Courtney Blair
Greenberg, Caroline Elizabeth
Greenwald, Audria C.
Houston, Elizabeth Pearl
Hurley, Emma Elizabeth
Jacoby, Emma Rose
Jennings, Matt Ian
Kelley, Carrie Jean
Kim, Petty
Kirsh, Michelle Bloch
Koshak, Johanna Sarah
Manning, Abigail L.
Marini, Jackie A.
Mau, Alyssa Michelle
Maulding, Stephanie Nicole
McPhail, Ava J.
Merguerian, Lexie N.
Miller, Cameron E.
Minkin, Audrey P.
Morancy, Kali R.
Morancy, Stephanie C.
Mount, Zoe S.
Nally, John R.
Neilligan, Katy L.
Paritz, David Maurice
Piergentili, Cristina J.
Polner, Erika Yale
Radley, Chelsea Ann
Rayvid, Melissa Nicole
Saldinger, Laurel K.
Schoonover, Taylor Marie
Silber, Katy M.
Solcz, Dana Rose
Sosis, Leah J.
Spain, Kerry E.
Spitzer, A.J. J.
Stuart, Megan M.
Summers, Morgan L.
Symington, Alice V.
Tauberman, Jackie Anna
Tocco, Natalie S.
Toledano, Emile Critchley
Touhey, Shannon Rae
Traficante, Samantha Jo
Tuthill, Amanda D.
Urie, Meg
Waterman, Jessica
Wesley, Ken B.
Williams, Mackenzie Grace
Yu, Jason S.
Zeger, Sarah L.
Zolty, Hailey E.

Biochemistry major, Hira Haq, played an integral part of Dr. Kraft’s clinical trials.

Dr. Townson presents Emile Toledano with his diploma during the CALS graduation ceremony.

Sydney Friedman checks off one degree, one more to go!
Dr. Dave Townson, his first year as Chair of the Department, applauds the graduating class.

A bittersweet graduation for Dr. Josie Davis, who retired after 32 years at UVM, as MHF trainer, ASCI Lecturer, and CALS Associate Dean.

Fernando Betancourt celebrates with his family and close friends, including his delighted grandmother, who came from Puerto Rico to witness his graduation.

A.J. Spitzer will be working towards his Master’s Degree under the direction of Dr. Feng-Qi Zhao.

ASCI graduates Katy Nelligan, Fernando Betancourt, Courtney Glotzer, Rebekah Bowers and Abbey Earle gather for a picture.

Dr. Townson congratulates Leah Sosis at the CALS graduation.

Fernando Betancourt celebrates with his family and close friends, including his delighted grandmother, who came from Puerto Rico to witness his graduation.
The spring semester has gone by quite fast. We find ourselves welcoming new lab members and saying goodbye to other lab members. Stefano Frattini, a visiting Ph.D. student from the University of Milan, will be going back to Italy at the end of June. Fernando Betancourt and Sydney Friedman have both graduated from UVM and will both be attending veterinary school in the fall. Fernando graduated Cum Laude and Sydney graduated with honors. Fernando will have a poster presented at the International Society of Animal Genetics (ISAG) in Salt Lake City, Utah this July. The work resulting from Sydney’s Honor’s College thesis will be submitted to a peer-reviewed journal later this summer. We wish Stefano, Sydney and Fernando well on their future adventures and look forward to working with them in the future.

Darla Quijada is currently undertaking a summer internship with the Institute of Infectious Animal Disease (IIAD) where she is working with the National Agricultural Biosecurity Center (NABC) at Kansas State University. More information about her summer internship can be found at: http://iiad.tamu.edu/2016/05/iiad-selects-veterinary-and-undergraduate-students-for-summer-internships/.

Bonnie Cantrell has been working in collaboration with Nathan Jebbett from the College of Medicine at the University of Vermont to continue her study of the bovine brain. She will be presenting a poster at the ISAG meeting entitled “Novel Analysis of Global DNA Methylation in the Limbic System of the Bovine Brain.” Her travel to Salt Lake City, Utah is supported by a nationally competitive travel bursary. Travel bursaries for US graduate students and early career investigators for ISAG 2016 were possible through generous support received as a conference grant from NIFA-AFRI (2016-67015-24536).

Stephanie McKay will also be attending the ISAG meeting in July where she will be presenting Fernando’s poster entitled “Examining Conserved DNA Methylation in the Bovine 5’ AMPK Gene Family.” In the fall, we look forward to welcoming Darla back and having James Kelley, a new undergraduate researcher join the lab. Finally, the McKay lab is looking for a Master’s student to start in August, 2016. Information about this position can be found at: https://asci.uvm.edu/employment/bovine_epigenomics.pdf.

McKay lab website: http://asci.uvm.edu/labs/mckay
A great BIG congratulations to Dr. Aimee Benjamin who successfully completed her Ph.D. program with an excellent dissertation presentation on May 20th. Former lab alums Ben Green and Amanda Ochoa were also present at the talk. Many ASCI friends and family then gathered at a local establishment and raised a toast. Well done, Aimee!

Filiz Korkmaz is right in the midst of a 12 cow research trial in the brand new facilities at the Miller teaching and research farm. This is the first time that lactating cows have been housed in the new research barn. The state-of-the-art ventilation system was certainly put to the test during a recent hot-spell and kept the cows feelin’ the breeze. The cows are being milked in the CREAM parlor with part-time help from current and former ASCI undergraduates: Ally Eardley, SaraJane Harrington, Ava McPhail, Carolyne Ricardo, Ruth Snow, and Sarah Zeger. The cows are on a much appreciated loan from Audet’s Blue Spruce Farm.

Filiz and Dr. David Kerr will be traveling to the International Society for Animal Genetics in Salt Lake City in July where Filiz will be presenting an abstract from another of her experiments: “Identifying DNA Methylation Differences That Contribute to an Age-Dependent Increase in Bovine Innate Immunity Using Reduced Representation Bisulfite Sequencing and the Dermal Fibroblast Model.”

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, which 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.

Kerr lab website: http://asci.uvm.edu/labs/kerr
Mital Pandya successfully completed her Ph.D., “Definition of bovine Leukocyte antigen diversity and peptide binding profiles for epitope discovery.” Mital has taken a post-doctoral position with BD, a global medical technology company. She and her husband Pat have a new apartment, and it is apparent from Facebook that they have a much loved puppy, Disco. Congratulations to Mital!

This past spring, Abbey Earle and Colleen Cataldo completed their undergraduate honors research projects. Abbey completed a study of “Cryptosporidium species diversity and temporal infection patterns in a teaching and research dairy herd,” for which she also received CALS Distinguished Undergraduate Research recognition. Abbey will be attending the University of Pennsylvania School of Veterinary Medicine in the fall. Colleen completed her study of “Epidemiology of Staphylococci on Artisan Cheese Dairy Farms in Vermont: Evidence of host-specificity among strain types.” Colleen plans to apply to medical school.

We recently vaccinated the last cohort of cattle for our USDA-ARS collaborative project “Determination of Duration of Immunity Conferred by Ad5FMDV Vaccination in Cattle.” When we complete evaluating the immune response of these cattle in six months, we will also be wrapping up this project. This last group of vaccinated cattle are being housed in the new research barn at the Miller Farm; the new barn has been working out great. Tatjana Sitt, post-doctoral scientist, is the lead on the immune response assays in this study. She is developing an assay to detect different populations of cattle T cells that induce an immune response to the foot and mouth disease virus post vaccination. Tatjana recently published a paper from her previous research, "Longitudinal evaluation of leukocyte transcripts in killer whales (Orcinus Orca)," in Veterinary Immunology and Immunopathology. Tatjana will be attending the International Veterinary Immunology Symposium in Australia this August to present "Monoclonal antibodies for the analysis of bovine CD4+ helper T cell subsets." This represents collaborative work with Dr. Bill Golde and Dr. Bill Church at Green Mountain Antibodies, Inc.

Korin Eckstrom (M.S. candidate) is making progress with our research on typing bovine major histocompatibility genes using high-throughput Illumina MiSeq technology. Korin recently submitted a graduate student research grant to explore application of high-throughput next generation sequencing to address emerging problems such as antimicrobial resistance in food animal production systems.

Robert Mugabi (Ph.D. candidate) and Dr. John Barlow will be attending the American Society of Microbiology Microbe 2016 meeting in Boston. Robert will present his research “Biofilm Formation is Clonally Specific Among Staphylococcus aureus Isolates From Selected Vermont Dairy Farms.” Robert has some novel findings regarding biofilms formation among cattle associat-
Submitted by Dr. John Barlow

ed S. aureus strains and we are finishing up a manuscript to publish this work.

Undergraduate students working on undergraduate research or honors research projects this summer include Muriel Enders, Helen Keen, Amber Davis and Addison Spitzer. Muriel received an undergraduate research grant for her honors college project. In addition, Katy Nelligan (Class of 2016) and Melissa McCole are assisting with our vaccine studies, and we will welcome a visiting undergraduate research scholar, Gabriella Hetesy from Hunter College for two months this summer.

Dr. Barlow is co-teaching an on-line graduate course “One Health: Zoonosis” cross-listed between Public Health and Animal and Veterinary Sciences. The other instructor is Lynn Blevins, MD MPH, who had previously worked at the Center for Disease Control. The intensive three credit course is being taught in 12 modules presented over eight weeks. Each module explores a driver of zoonotic disease emergence such as land use, anthropogenic change, global travel and trade, agricultural intensification, biodiversity, antimicrobial use, and climate and weather; within each module a number of zoonotic pathogens are reviewed by linking them to one or more drivers as “case studies.”

Barlow lab website:
http://asci.uvm.edu/labs/barlow

Townson Lab News

Over the past few months, the Townson lab has been preparing the new lab space in Terrill for a research-filled summer. Through the spring Nicole Jaskiewicz (Ph.D. candidate, inset far right) was busy developing her dissertation proposal and studying for her comprehensive exam. She successfully passed her exam and was advanced to candidacy at the end of May. Congratulations Nicole! She is now working in the lab with a new endometrial cancer cell line (Ishikawa cells) that she will be using to investigate the role of the nutrient driven, post-translational modification, O-GlcNAcylation, in metastasis. Her dissertation work will focus on the relative impact of diabetes on the progression of endometrial cancer, and whether O-GlcNAcylation status influences the effectiveness of fertility-sparing steroid treatment.

The Townson lab is also looking forward to welcoming new M.S. degree student, Allie Lundberg, to the lab group in August. Allie will be working on a project related to infertility in dairy cows. Originally from Highlands Ranch, Colorado, she is ecstatic to be joining the Townson lab and the Department of Animal and Veterinary Sciences this fall. Allie graduated in May with her B.S. in Animal Science from Iowa State University and is ready to see what adventures await her in Vermont. In her free time, Allie enjoys playing outside, coloring, eating, and going on adventures to new places.

Lastly, plans are underway to have three UVM undergraduate students join us in the fall (Eleni Casseri, Dan Rogers, and Lauren Spendley) to assist with work and possibly conduct research projects of their own at some point. We’re all looking forward to an exciting, and productive summer and fall semester.

Photo by Jane Kennedy O’Neil

Allie Lundberg, M.S. degree student, will be working in the Townson lab on a project related to dairy cow infertility.

Ph.D. candidate, Nicole Jaskiewicz, conducts her cancer research in the Townson lab.
To kick off the second year of the USDA NIFA Coordinated Agricultural Project, “A human behavioral approach to reducing the impact of livestock pest or disease incursions of socioeconomic importance,” the project team recently convened for a very productive meeting in Fort Collins, Colorado. In addition to sharing our progress and plans, we visited a modernized beef cattle feed yard in Kersey, heard updates from several veterinary experts, and interacted with several industry stakeholders.

The second project newsletter can be found via a link on Dr. Julie Smith’s blog: http://blog.uvm.edu/jmsmith/smith-leads-usda-nifa-cap-protecting-animal-health/

While in Fort Collins, Julie took this picture on the campus of Colorado State University.

If you are engaged in agriculture you are probably bombarded with requests to tell your story. This is a very important way to help consumers, corporate leaders and policy-makers have a better understanding of the motivations and constraints underlying the animal care, labor and environmental practices you follow on your farm. But there are others dedicated to making it hard for you to tell your story. At the Animal Agriculture Alliance Stakeholders Summit in May, Andrew Campbell, a dairy farmer from Ontario, presented “the good, the bad and the ugly” of engaging in consumer outreach. You can request a copy of his cautionary tale of an ultimately successful social media campaign from info@AnimalAgAlliance.org. Then take #ActionPlease!
Vermont Breakfast on the Farm plans two events in 2016—Saturday June 25 and August 27

This year’s Vermont Breakfast on the Farm events will be held June 25 at Nea-Tocht Farm in Ferrisburgh, hosted by the Vander Wey family, and August 27 at Green Mountain Dairy in Sheldon, hosted by the Rowell family. If you would like to volunteer, please sign up at http://goo.gl/forms/glFHn53x03. More information and details about reserving seats for breakfast can be found at http://vermontbreakfastonthefarm.com.

Julie Smith, Jeff Cater, and Kirsten Workman were recognized for their involvement in the 2015 event as state winners of the National Association of County agricultural Agents (NACAA) Agriculture Awareness and Appreciation Award.

The West Is Calling

Julie is headed to Colorado Springs for vacation with her family in June. Later in July she will visit Salt Lake City for the Joint Annual Meetings of the American Dairy Science Association and American Society of Animal Science.

What is Julie talking about now?

All states within plume and ingestion pathway zones around nuclear power plants have emergency preparedness materials for all residents, including those engaged in agriculture. However, the risk of a radiological emergency isn’t limited to nuclear plant disasters. Radioactive materials are routinely transported to hospitals for use in specific types of medical imaging. They have also been used in crimes involving radiation poisoning and could be incorporated into explosive devices.

To find out more about how to prepare for radiological emergencies affecting agricultural animals, watch this 60 minute session hosted by the Extension Disaster Education Network, which took place on June 14, 2016: https://learn.extension.org/events/2446.
The spring semester was an exciting time for three of our undergraduate students who successfully defended their Honor’s thesis: Petty Kim, “Delineating the incorporation of dietary fatty acids into liver tissue”; Michael McLane, “Bioactive plant lipids affect pancreatic beta cell physiology” (in collaboration with the Department of Medicine, Division of Endocrinology, Diabetes and Metabolism; primary mentor: Dr. Tom Jetton); and Laurel Saldinger, “Characterizing the change in the rumen microbial communities as cows move from indoor feeding to a pasture-based diet.” Laurel also received the CALS Distinguished Undergraduate Research award for her project. Petty and Laurel will be attending veterinary school at Tufts and UC Davis, respectively, and Michael will be joining the pharmaceutical school beginning this fall. Congratulations to our students on their outstanding achievements!

In April, our lab welcomed a new lab team member, a well-known face to the ASCI family, Hannah Lachance (2013 ASCI graduate). Hannah will be analyzing and characterizing the rumen microbiota community structure and their cell membrane fatty acids from two of our previously completed trials.

The middle of May saw the successful completion of the active participation of volunteers in the food study after two and a half years of recruiting. The CRC, the IRB and the volunteers themselves have all been invaluable in the success of the volunteer recruitment. Dr. Helen Walsh and Dr. Jana Kraft are in the process of analyzing remaining samples and we have begun the data analysis stage of the project. A poster of preliminary data was presented at the Experimental Biology conference in San Diego.

Melissa Bainbridge (Ph.D. candidate) has had three abstracts accepted for presentation at the Joint Annual Meeting of the American Dairy Science Association (ADSA®)/American Society of Animal Science (ASAS) this July in Salt Lake City, Utah and she has also received a Graduate Student Travel Mini-Grant and the Graduate Student Enhancement Fund to support her travels. This March she co-presented at the Vermont Organic Dairy Producers Conference in Randolph, Vermont with Caleb Goossen (Ph.D. candidate, Plant and Soil Science) as part of a research panel from next-generation scientist and in April she presented her research, “Breed and stage of lactation affect the content of bioactive fatty ac-
ids in milk.” at the UVM Student Research Conference. Lastly, Melissa received a Lab Safety Partner Award from The Department of Risk Management and Safety for her exceptional dedication to creating a safe work environment and for creating novel methods to achieve safety in her lab. Along with receiving this award she was asked to speak at the lab safety officer’s meeting to share her perspective and ideas on being a lab safety officer.

Laura Cersosimo is at the final stages of her Ph.D. She has had two papers accepted and has submitted another manuscript this spring. Laura will be attending two conferences this summer. In June, she will be attending the American Society for Microbiology in Boston, Massachusetts and is excited to hear Bill Gates speak during the opening ceremony. In July, she will be presenting two posters and give an oral presentation at the ASAS-ADSA Joint Annual Meeting in Salt Lake City, Utah. Currently, Laura is finishing two manuscripts and will be going to a Graduate Thesis Writing Workshop in June.

Allison Unger (Ph.D. candidate) is five months into her first trial with ten more months to go. She has been spending much of her time at the Colchester Research Facility analyzing samples and data and is excited to be learning many new lab techniques over the summer.

Lastly, on a sportive and competitive note, the Kraft lab (Team name: The lickety split lipids) was challenged by the McKay lab to the UVM WE 4.20 5K Wellness Fun Run on April 20 and won by a few strides on the overall average time. In addition, in May, our lab squeaked out a win over the Barlow lab at the trivia night challenge. The Kraft lab (Team name: Caleb and the lipid ladies) is still waiting for their token…. quick reminder: Geldoc imager.

Laura Cersosimo discusses her research.

Caleb and the lipid ladies.

Dr. Dave Townson with Abbey Earle, Sydney Friedman, Laurel Saldinger, and Sarah Zeger.

Distinguished Undergraduate Research
The Distinguished Undergraduate Research Program of the College of Agriculture and Life Sciences recognizes students who, in addition to pursuing their regular course of study, conduct original research. This research is done under the immediate supervision of a faculty member. Undergraduate research is an introduction to the methods involved in the advancement of knowledge that is fundamental to the goals of a university. It is with pleasure and pride that the College of Agriculture and Life Science honors the students who participated in this program:

Presenter: Dr. David H. Townson

Recipients and Projects:

Abbey Earle -- “Cryptosporidium Diversity of Species Infections and Temporal Infection Patterns on a Teaching and Research Herd.”
Mentor: John W. Barlow, Ph.D.

Sydney Friedman -- “Global DNA Methylation in the Liver of Vermont Bobcat (Lynx rufus).”
Mentor: Stephanie D. McKay, Ph.D.

Laurel Saldinger -- “Delineating the changes in rumen microbial communities as cows go from indoor feeding to a pasture-based diet.”
Mentor: Jana Kraft, Ph.D.

Sarah Zeger -- “The Effects of Feeding Coffee Grounds to Dairy Cattle on the Bovine Milk Protein Profile.”
Mentor: Sabrina L. Greenwood, Ph.D.
This summer is very bittersweet for the UVM Morgan Horse Farm Community. We are deeply saddened by the loss of Charter Director of the UVM Morgan Program, Dr. Donald J. Balch, who died peacefully at the University of Vermont Medical Center on May 13th at the age of 93.

Dr. Balch’s influence on the UVM MHF is immeasurable, and without his work and dedication the farm and its herd may not be the one we cherish today. He will be greatly missed. Dr. Balch’s obituary can be found on the Burlington Free Press website.

Last fall, internationally known Morgan trainer Cheryl Pratt Rivers; Stockbridge, Vermont, purchased 2011 mare UVM Tirzah for long-time breeder Clara Hendin as a carriage driving prospect. Congratulations are due for the team’s auspicious competition debut at this spring’s Green Mountain Horse Association Arena Driving Trial in South Woodstock, Vermont.

The 2016 foal crop will be featured in an upcoming summer edition of The Morgan Horse Magazine. Saratoga, New York based equine photographer Tracey Buyce visited the farm in late April for a photo shoot. She was able to capture other stellar UVM Morgans such as UVM QuirroI, under saddle with Apprentice Jamie Maguire (pictured to the right).

As members of the Addison County Chamber of Commerce, the UVM MHF hosted an after-hours business mixer on May 19th, below. These monthly events provide networking opportunities for Chamber members, and helps to educate the community on area business and resources.

The spring breeding/foaling and tourism season are well underway at the UVM Morgan Horse Farm. All nine expected foals are on the ground, including this year’s Raffle Colt, UVM Yankee, (sired by UVM Unchallenged) pictured below with his dam UVM Integrity.

Apprentice Intern Jamie Maguire and Horse Specialist Kim Demars work with MHF herd vet Dr. Mary O’Donovan with an attempted embryo flush.
Congratulations to our ASCI Class of 2012, many of whom graduated this year from veterinary school. **Rebecca Calder**, who attended Cornell University College of Veterinary Medicine, will be working at Northwoods Veterinary Service, predominantly a dairy general practice (plus a little small animal) located in Birnamwood, Wisconsin. **Matt Sammons** who attended Washington State University College of Veterinary Medicine, is working as a small animal veterinarian in Tucson, Arizona with plans of starting a Ph.D. program in a few years. Some other updates from classmates in the 2012 Animal Science class who graduated from veterinary school this spring include **Nick Drolet** who is working at Stowe Veterinary Clinic in Stowe, Vermont; **Amanda Grieco** who also went to Washington State University, is working as a large animal veterinarian at Great Basin Equine in Gardnerville, Nevada; **Pamela Rooney** who went to Cornell is working in a small animal general practice in Oneonta, New York; and **Hannah Facey Belcher-Timme** who is working in small animal general practice in East Springfield, Massachusetts.
Teddy retires from UVM

Teddy has officially retired from the Animal and Veterinary Sciences Department and has gone to live out the rest of her life with Dr. Jenny Wilkinson and her family. Teddy has been an ASCI horse for at least 15 years and has been owned by the department since 2008. She is the only horse the department has ever owned and one who has taught many students how to ride, drive and be around horses. She will be missed at the horse barn.

UVM Pre-Veterinary Club holds suture lab

The UVM Pre-Veterinary (Pre-Vet) Club held another successful suture lab this past spring semester. Two sessions were held which were taught by Dr. Joel English and UVM’s own Dr. Ruth Blauwinkel. In these sessions students were taught the simple continuous, simple interrupted, and ford interlocking stitches on bananas and pieces of chicken breasts. As we develop relationships with more veterinarians, the Pre-Vet Club hopes to host more suture labs and invite more students to join us who are interested in learning these skills before they move on to veterinary school.

This semester Dr. Millie Armstrong of the Vermont Veterinary Medical Association (VVMA) gave a OneHealth talk where we started developing a discussion with UVM’s Pre-Medical (Pre-Med) Club. Through a developing relationship with the Pre-Med Club, some Pre-Med students gladly joined our sessions to develop their skills in sutures along with Pre-Vet students. We hope in the future to have more collaboration with Pre-Med students in activities such as these.

The simple continuous, simple interrupted, and ford interlocking stitches were demonstrated during the suture labs.

Pre-Vet Club and Pre-Med Club students practiced their suturing skills on chicken breasts and bananas.
My internship at Green Mountain Antibodies

Many of my Animal Science peers would agree that acquiring laboratory exposure and experience is a highly competitive and valuable experience. At Green Mountain Antibodies, Inc. I was one of two lab animal care interns this semester alongside my contemporary Nicholas Tatakis. Green Mountain Antibodies is a biotechnical company that produces custom rat and mouse monoclonal antibodies. Two of the main areas that I spent time in were animal work and cell culture.

I learned to monitor and record mouse and rat health, properly scruff and restrain animals, and a myriad of vivarium upkeep and sanitation tasks. The vivarium is an engaging space to work in and gain lab animal experience. The value of these animal models for research is impressive. An incredible amount of work goes into these projects, relying on the animal’s ability to produce antibodies. In cell culture I learned how to count cells, use aseptic techniques, operate different kinds of pipettes, feed and observe cells, freeze cells, thaw cells, expand wells, and maintain cell growth. In addition to these areas, I also learned general laboratory skills.

Something I enjoy most is being able to apply things that I have learned at UVM in my science classes. Whether it’s pipetting or spectrometry from Survey of Biochemistry, stoichiometry and pH from General Chemistry, recognizing a diagnostic test from Animal Plagues, aseptic techniques and bacteriology from Microbiology and Infectious Disease, or anatomical recognition from Anatomy and Physiology, it’s really rewarding to be able to apply knowledge and techniques I learned in class. A tip for future interns is to build a strong science background and be engaged and ready to immerse yourself in science every day.

Nicholas “Nick” Tatakis (UVM ’16) and Jen Jen Yu who will be graduating in December.

$910 RAISED FOR HSCC

Ricky Scuderi and his dog Spot, Lyn Carew, Jane O’Neil and her grand puppy Owsley, Marcia Purvis and her dog Scout, and Dave and Lisa Townson, along with their dog Zoey, “Walked for the Animals” and raised $910 for the Humane Society of Chittenden County. Thank you to those who supported the ASCI team.
Benjamin and Woolpert pass their defenses


Dr. Benjamin is originally from the small town of Bernhards Bay, New York. She received her B.S. from Cornell University in 2005. Following graduation she worked at the Cornell Dairy Facility where she became an integral part of the herd health team. Aimee worked toward her Ph.D. in Animal, Nutrition, and Food Sciences under the direction of **Dr. David Kerr**.

**Melissa Woolpert** recently received her Master of Science degree in the multidisciplinary Food Systems program through the Department of Animal and Veterinary Sciences with assistantship support from the William H. Miner Agricultural Research Institute in Chazy, New York. Her thesis presentation was entitled, “Management Practices and Communication Strategies to Improve Milk Fat and Protein Content on Dairy Farms.” Melissa has taken the position of Dairy Nutrition Consultant/Outreach Manager at Poulin Grain, Inc.

Welcome baby Purdie

**Violet Florence Purdie** arrived on May 31st, a bit of a late night owl just after 11:00 PM, weighing in at just a little over 9 pounds, healthy and very happy. Violet is the daughter of Assistant Professor, Dr. Sabrina Greenwood, and Lecturer and CREAM faculty advisor, Dr. Norm Purdie. Violet also has a big brother, Edwin “Eddie” Knox Purdie, who is nearly two years old. Congratulations to the Purdie family.

Nineteen Animal & Veterinary Sciences students will be attending the following veterinary schools in the fall:

- Cornell University
- Colorado State University
- Iowa State University
- Purdue University
- St. Georges University
- Tufts University
- UC Davis
- University of Glasgow
- University of Illinois at Urbana-Champaign
- University of Pennsylvania
- University of Prince Edward Island
- Washington State University
ASCf faculty 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. Department of Animal and Veterinary Sciences faculty and students appeared on the following episode:

• June 15th—Gearing Up for the 2016 Breakfast on the Farm Events—Dr. Julie Smith, UVM Extension Dairy Specialist, and Claire Stanley, Paul-Lin Dairy Farm in East Fairfield. [https://www.youtube.com/watch?v=5EIS-rozenJw&feature=youtu.be](https://www.youtube.com/watch?v=5EIS-rozenJw&feature=youtu.be)

2016 FARMS Two-Plus-Two scholars announced

Vermont Technical College and the University of Vermont announced the 2016 Farm and Agricultural Resource Management Stewards (FARMS) Two-Plus-Two scholars. The scholars were chosen for their academic potential, their interest in a bachelor’s degree in dairy management, and their commitment to the agriculture industry. The 2016 Two-Plus-Two scholars are: Derrick Daigle, Troy; Henry DelaBruere, North Troy; Lucas Lanphear, Hyde Park; Kelsye Ruston, Grafton; and Levi Vaughn, East Thetford. The FARMS Two-Plus-Two scholarship is funded by the State of Vermont for students pursuing a bachelor’s degree in dairy and agricultural resource management through the unique VT Tech-UVM partnership. The program funds half the tuition for two years of study at Vermont Technical College and full tuition for two subsequent years at UVM. The program includes a semester at Miner Agricultural Research Institute in Chazy, New York.

Over 65 Two-Plus-Two scholars have graduated in the past 15 years and are now active in agribusiness industries and on farms across Vermont.

Recent Peer-reviewed Publications


Huawei Zeng, Suzanne L Ishaq, Feng-Qi Zhao, and André-Denis G Wright. 2016. Colonic inflammation accompanies an increase of β-catenin signaling and Lachnospiraceae/Streptococcaceae in the hind gut of high-fat diet-fed mice. Journal of Nutritional Biochemistry, in press


Shun Kitaoka, Anthony Morielli, and Feng-Qi Zhao. 2016. Regulation of glucose transport by insulin/IGF-like signaling in Cae-norhabditis elegans. FEBS Open Bio 6,576-585

**Support UVM Animal & Veterinary Sciences**

The Department of Animal & Veterinary Sciences is home to some of the best and brightest students, faculty conducting 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://alum.uvm.edu/foundation/giving/cals/](https://alum.uvm.edu/foundation/giving/cals/)

Please specify Animal & Veterinary Sciences in the “Other” category.

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**Calendar of Events—2016**

**June**
- Jun. 25, 2016. Foal Days, Morgan Horse Farm, Weybridge, VT
- Jun. 25, 2016. Breakfast on the Farm at Nea-Tocht Farm; Ferrisburgh, VT

**July**
- Jul. 4, 2016. Fourth of July Holiday
- Jul. 19-23, 2016. The 2016 Joint Annual Meeting (JAM) of the American Dairy Science Association (ADSA), American Society of Animal Science (ASAS), the 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

**August**
- Aug. 10, 2016. Vermont Day Open House, Morgan Horse Farm; Weybridge, VT
- Aug. 26, 2016. First Year Move-In Day
- Aug. 27, 2016. Breakfast on the Farm at Green Mountain Dairy; Sheldon, VT
- Aug. 29, 2016. First Day of Classes

**September**
- Sept. 5, 2016. Labor Day Holiday
- Sept. 23-25, 2016. Alumni/Parents & Family Weekend

**October**
- Oct. 10, 2016. Fall Recess
- Oct. 24, 2016. UVM Horse Barn Co-op Halloween Barn
- Oct. 31, 2016. UVM Morgan Horse Farm Raffle Drawing; Weybridge, VT

**November**
- Nov. 21-25, 2016. Thanksgiving Recess

**December**
- Dec. 9, 2016. Last Day of Classes
- Dec. 10, 11, 14, 2016. Reading Days
- Dec. 12, 13, 15, 16, 2016. Exam Days

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**Congratulations**

Congratulations to all of our graduates. We hope you have a great summer and we look forward to welcoming the Class of 2020 in the fall.