The past academic year in the College of Agriculture and Life Sciences has been an amazing period of growth and transition. At the heart of our land grant mission, we continue to strengthen the foundation of our academic, research, and outreach mission.

The reunification with Extension sets the stage for future research, innovation, outreach, and student engagement where practical application of knowledge is applied to the advancement of the public and private sectors. In terms of the number of faculty and staff, student enrollment and budget, CALS is now the second largest college on campus, which speaks to the growing relevance of our academic programs, and our dedication and resolve to educate the next generation of citizens and leaders who are committed to making the world a better place.

The College of Agriculture and Life Sciences has been and always will be an extended family with deep roots and community values. Our commitment to providing students with basic knowledge and analytical applications are focused for the betterment of humankind. CALS family stories tell our past and shape our future.

Thank you for being part of our story, and being part of the College of Agriculture and Life Sciences family!

-Thomas C. Vogelmann

UVM features GRADS IN THE GOLD DOME AND D.C.!

We are proud that so many graduates of the UVM College of Agriculture and Life Sciences are political leaders! Here are just a few...

**Phil Scott, ’80**
Governor

**Erica Campbell, ’09**
Outreach for Senator Bernie Sanders

**Mitzi Johnson, ’93**
VT Speaker of the House

**Will Sudbay, ’18**
Washington Intern for Senator Leahy

**Sam Tully, ’17**
Aide to Governor Phil Scott

**Thomas Renner, ’14**
Aide to Senator Leahy

B.S. Occupational Extension Technology, College of Agriculture

B.S. Environmental Studies, College of Agriculture and Life Sciences

108% increase in undergraduate enrollment in the College of Agriculture and Life Sciences over the last ten years!
Junior Lucy Holmes was an intern at Alaska HeliMush, a family owned dog sledding/helicopter tour company in Juneau, Alaska. Daily responsibilities included caring for 70 sled dogs (feeding and cleaning), greeting guests, taking and developing pictures of tour participants, giving orientation speeches, assigning teams, harnessing dogs, shoveling snow, getting water, making dog food, as well as other general camp chores.

ASC! Junior, Courtney Branch, (lower, far right) was part of a national team that placed first in the Northeast Regional Dairy Challenge. The competition involved analyzing all aspects of working in dairy and teams presented in front of judges and participating farm families. Courtney is a Vermont 2+2 Scholarship Program recipient.

Dr. Julie Smith, President of the County Farm Bureau, was published in Progressive Dairyman and Dairy Business and Holstein World. She also led a USDA focus group in Minnesota about a project called the Animal Disease Biosecurity Coordinated Agricultural Project (ADBCAP)

The UVM Cooperative Horse Program featured its annual “Halloween Barn” where families in the community came to Miller Farm to trick-or-treat from the horses dressed in costume. More than 900 people attended the event!

The CREAM students also showcased their cows at the Champlain Valley Exposition in Essex Jct., VT in September.

ASC! Lecturer, Chrissy Rohan, took students from her Equine Industry Issues class to Humane Lobby Day at the Vermont Statehouse on March 1st.

Michelle Tatum, a senior, interned with White Pegasus in Greece. The organization rides and treks horses in the National Park in Northern Pindos.

In 2017, we anticipate 1.2 million lbs. of milk to be made by our 45 happy Holsteins!
CDAE Lecturer, Kelly Hamshaw, named Vermont Engaged Educator of the Year by the Vermont Campus Compact.

ALUMNI PROFILES

Jane Kolodinsky Named UVM Scholar!

Jane Kolodinsky, Professor and Chair of Community Development and Applied Economics was named a UVM Scholar. She joined UVM in 1987 as an Assistant Professor and rose through the ranks to Full Professor in 1999. She has published 100 articles and book chapters and has a strong citation record. She has received 66 grants totaling $4 million. She served as President of the American Council Consumers in Pursuit of Research Excellence Award in 2000, and the Vogelmann Award for Research Excellence in 2005. She has managed the Center for Rural Studies since 2009 as director and since 1999 as co-director. She also chaired the Food Systems Initiative steering committee.

Chelsea Davidoff, Public Communication and Community Entrepreneurship, ’10, and M.S. in CDAE, ’12, was featured in GREEN BIZ for her work in sustainability. Chelsea is the Corporate Social Responsibility Coordinator at Paramount Pictures in Hollywood.

Inwood Leading the Nation in Health Insurance Research Farmers

CDAE Professor Shoshanah Inwood is leading the national “Health Insurance Rural Economic Development and Agriculture” (HIREDnAg) project funded by USDA. The $500,000 research and Extension project is the first study in the country designed to understand how health insurance decisions impact economic development, workforce vitality, risk management, quality of life and family health in the agriculture sector.

Erin Connor, Public Communication, ’17, was crowned Miss Vermont 2017! She is the youngest pilot in Vermont history to earn her license, and wants to encourage young women to pursue careers in science. Erin comes from a dairy farm family in Bridport, VT.

Estefania Puerta, Community and International Development, ’10, received the prestigious $90,000 Soros Fellowship for New Americans to study at the Yale University School of Art.

Peace Corps Leaders!

- Vermont ranked #1 in Peace Corps volunteers per capita in 2016
- UVM in top 10 nationally of medium-sized colleges and universities producing Peace Corps volunteers.
- 29 Alumni are currently volunteering in the Peace Corps!

CDAE Town Meeting Day!

Over 100 CDAE students come together with faculty for a “town meeting” in March to discuss the department, majors, course offerings, and vision for the future.

CDAE Lecturer, Thomas DeSisto, received the “Thomas Patterson Teaching Award”. Thomas (left) is presented the award by CDAE Associate Professor, David Conner.

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Microbiology Student Completes Internship in Health Care Policy in Rwanda

Microbiology senior, Gabby Sarriera, interned with the Rwandan Ministry of Health to study the legal system and health care policy as it relates to access. The experience has given her the opportunity to meet with the Parliament, policy leaders, and even the President. She plans a career in medicine after graduation. Gabriela commented, “conducting research and pursuing an internship in Rwanda with Dr. Agnes Binagwaho. Coming back and helping establish an internship at UVM that allows other students to intern in Rwanda, is something I’m proud of too. MMG made it possible for me to pursue my goals while staying on track for graduation.”

2017 UVM Summer Undergraduate Research Fellowship (SURF) Recipients:

Five Microbiology and Molecular Genetics students will receive competitive, monetary awards that will support them while at UVM during the summer to do research with a faculty mentor. Recipients include:

**Jacqueline Diaz**
Assessing Cryptosporidium Drug Resistance using Ultraviolet Mutagenesis and High Throughput Imaging Methods.
Mentor: Chris Huston, MD

**Tyler Hogan**
Characterizing the Effects of PKA and SFK in the Invasion and Migration of Glioblastoma.
Mentor: Paula Deming, PhD

**Josh Laffin**
Determination of the Interactions of Methylation Controlled J Protein (DnaJC15) and Complex I of the Electron Transport Chain.
Mentor: Mercedes Rincon, PhD

**Carolyn Marquis**
Investigating the Effects of Inhibiting Spindle Force Regulators in Triple Negative Breast Cancer Cells.
Mentor: Jason Stumpff, PhD

**Mahalya Gogerly Moragoda**
The Role of Glycolysis in Activation of Dendritic Cell Necroptosis.
Mentor: Ralph Budd, PhD

**Marshall Wallace**

“My time at UVM Rescue has most certainly changed me for the better. I believe that I got a great education in the MMG department, but by being a part of UVM Rescue, I learned a tremendous amount about myself, helping others, the medical field, and even how to run a business! I wouldn’t trade the real-life experience that I got at UVM Rescue for anything.”

A Few Next Steps for the Class of 2017:

**Katherine Amidon**
Accepted to Vanderbilt to do a PhD

**John Ribis**
Accepted to Tufts to do a PhD

**Katelyn Roberts**
Accepted to Penn State to do a MS in Biotechnology

**Michael Guo**
Accepted to Medical College of Wisconsin for MD

PHI BETA KAPPA

Congratulations to Jonathan Slimovitch, ’17, for being inducted into the university’s chapter of Phi Beta Kappa, the nation’s oldest and most prestigious honor society. Jonathan is a Microbiology major from Williston, Vermont, and plans to pursue a career in medicine after graduation. Jonathan commented, “my proudest accomplishment has been my research in the Botten Laboratory, which has not only helped me grow as a student, but also as a person.”

**50% increase in student enrollment in the Microbiology and Molecular Genetics programs in the past five years!**

**100% of students conduct undergraduate research.**
Faculty Books Earn National Honors!

Professor Catherine Donnelly won the 2017 James Beard Foundation award for her encyclopedic reference work, *The Oxford Companion to Cheese*, published in November of 2016 by Oxford University Press. The book won in the reference and scholarship category. The James Beard Foundation awards are the culinary industry’s most prestigious recognition program. This is the second James Beard award for the department. Professor and Chair, Jean Harvey, won in 2008 for “Best Book, Healthy Focus.”

You’re “App” to Exercise with Camp Conquer!

Assistant Professor and Director of the Didactic Program in Dietetics Lizzy Pope, designed a gaming app that helps users to exercise more. The app, Camp Conquer, hopes to motivate high schoolers to meet the Vermont requirement for daily physical activity through movement in the game.

The Science and Nutrition of Goat’s Milk Cheese Becomes an Internship and More!

Nutrition and Food Sciences major, Julius Jeppe, worked with the research and development team at Vermont Creamery over the summer, focusing on quality assurance and product testing. Some of his work included building systems to track origin of ingredients and exploring options to expand shelf life for some cheeses. Julius has continued on with the company after the completion of the internship and is working part-time while he finishes his undergraduate degree.

PHI BETA KAPPA

Congratulations to Alyssa Handelman, ’17, for being inducted into the university’s chapter of Phi Beta Kappa, the nation’s oldest and most prestigious honor society. Alyssa is a Nutrition and Food Sciences major from Montclair, New Jersey. After graduation, she plans to work as an EMT before applying to Physician Assistant’s school.

Students in Nutrition and Food Sciences completed over 6,000 hours of internship since last summer!

ALUMNUS PROFILE

Erika Hesterberg, ’12 graduate from Nutrition and Food Sciences, has been offered a spot at Stanford University for the coming year to pursue a Masters of Education in Policy, Organizational, Leadership Studies. Erika graduated from UVM Magna Cum Laude, a Honors College Scholar, and member of Phi Beta Kappa.

Professor Rachel Johnson was quoted in the CNN article in February 2017, titled, “Is the Mediterranean diet good for kids too?”

Katie Campbell experienced the value-added aspects of food systems by rotating between the farm and the processing facility of Screamin’ Ridge Farm. On some days she would process the cucumbers she picked the day before into soups that were later sold to Sodexo for the UVM dining Halls, She also participated in social media and marketing opportunities for the company, including attending farmers’ markets and shows to sample and sell soups. Katie also participated in the cheese fest in Shelburne, VT.
This year, the Lapierre Maple Equipment Company of Swanton, VT, supplied the Proctor Maple Research Company with state-of-the-art reverse osmosis equipment and an evaporator, valued at $150,000. The equipment will be used in maple research on the 5,000 tap UVM operation in Jericho, VT. It will concentrate sap down to 35% sugar prior to boiling, saving time and energy compared to the traditional methods of boiling raw sap. Early results show no difference in the flavor of maple syrup based on the two methods of boiling sap. About half of the UVM Proctor Maple Research Center’s crop is sold to Sodexo to supply the University dining halls. The remainder is sold in bulk to Butternut Mountain Farm in Morrisville, Vermont.

Sweet Success with UVM Maple!

ALUMNUS PROFILE

Katie Webster ’15, is now a research fellow at the University of Massachusetts Amherst. Katie’s responsibilities include maintaining and optimizing the BioFoundry Plant Cell Culture Collection and is affiliated with the Biochemistry and Molecular Biology Department.

2,640 gallons of maple syrup produced from 4,895 taps at Proctor Maple Farm in 2017!

$469,740 Maple Grant

Abby van den Berg and Tim Perkins won a major grant from USDA NIFA for a project through the Proctor Maple Research Center to remove barriers that limit transition from conventional to organic maple syrup production. The grants supports research, education and extension efforts to help existing organic crop producers improve their competitiveness as well as adopt organic practices.

Research Assistant Professor, Michael Sundue, has been conducting field work in Colombia in regions that were until very recently controlled by the Revolutionary Armed Forces of Colombia (FARC) guerillas. Since the peace accords were signed between the FARC and the Colombian government, many regions of Colombia have become accessible to biologists for the first time in decades. There is now a race of sorts, between biologists, developers, agriculture, and other groups to get into these regions. Michael’s field work has helped to document and describe interesting biodiversity that was previously poorly known or completely unknown to science. His most recent trip to Colombia this past summer also involved grad student, Wes Testo.

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Peter Chlebowski, a junior in Plant and Soil Science, founded the Vermont Beekeepers Club and currently serves as President. Peter met Senator Bernie Sanders at the People’s Climate March Solidarity Rally in Montpelier on April 29th.

We are buzzing about the news that in 2017 UVM became the First University Beekeepers Club in New England!

Saffron in Vermont
It was an exciting year for UVM entomologist and Extension Professor Margaret Skinner! Her research on growing Saffron in Vermont earned her national media coverage including the Boston Globe. Saffron is known globally as a delicacy for seasoning and natural coloring. Often sold in upscale grocery stores for as much as $500 per ounce, Margaret’s research and field tests may provide a niche crop for Vermont farmers. So far, her saffron test crop has shown to produce the potency and yield equal to top quality in Iran and elsewhere. Margaret was busy with more than Saffron this year. She was also featured in Seven Days as president of Branch Out Burlington!, an independent nonprofit group that helps grow, plant and care for the city’s trees.

Ecological Designs for the Catamount Horticulture Center
Students in the Ecological Landscape Design course this Spring proposed dozens of design plans for the Catamount Horticulture Center that would engage the community, provide additional academic space, outdoor gardens, manage water quality, provide recreational paths, and even create tiny houses for students to live on site. The 80-acre facility is located off Shelburne Road in Burlington. The course was taught by Stephanie Hurley, Assistant Professor in the Plant and Soil Science department.

15 Miles of irrigation tubing used at the Catamount Farm!

ALUMNUS PROFILE
Kristof Grina ‘12, earned a degree in Ecological Agriculture, and was honored in 2017 by Forbes Magazine as a top "30 Under 30 Social Entrepreneurs" for co-founding “Up Top Acres”, a roof-top gardening business in metro Washington, DC.

Professor Ernesto Mendez is bringing global attention to UVM Agroecology with the launching of a new certificate of graduate study and new agroecology shortcourse this summer which will include several international students.
Samantha Connolly, an undergraduate researcher pictured here in her lab (right), was awarded an ASPB SURF award to carry out research this summer. Sami, a Biological Science major, will present at next summer’s (2018) national conference of American Society of Plant Biologists in Montreal. There were only 11 of these awards to students at Ph.D.-granting institutions in the entire US.

ALUMNUS PROFILE

Liam Kelley, ’16 double majored in Biochemistry and Molecular Genetics. He is currently enrolled in the Biological and Biomedical Sciences PhD program at Harvard University. Liam graduated Summa Cum Laude and was a Honors College Scholar.

In 2016, The College of Agriculture and Life Sciences and UVM Extension combined brought in 14.5 million dollars in sponsored research projects!

CLASS TO KENYA

This service learning course has students working on women’s empowerment, food systems, conservation and public health projects in Nairobi, Homa Bay, and the Masa Mari in Kenya. Group projects include gleaning and juice production using a “smoothie bike” that also produces electricity, a large school garden at a high school for teens in need in the outskirts of Nairobi, women’s empowerment education in Homa Bay, and participation in recording animal populations on the Masa Mari. Our partners include the Bay and Paul Foundation and the Vermont Center for International Learning Partnerships. Faculty members Jane Kolodinsky (CDAE) and Farryl Bertmann (NFS) will lead the course. Fall semester students will learn about and develop projects that will be implemented in Kenya during the January 2018 winter session.

We’re Going Places!

International faculty-led trips are taking students all over the world to work with communities, including destinations such as Brazil, St. Lucia, Peru, Ecuador, Kenya, Costa Rica, and more.

Travel abroad destinations of CALS students since 2012.
Simon McIntosh ’17, an environmental studies major in UVM’s College of Agriculture and Life Sciences—with a minor in geospatial technologies—has spent last summer exploring five mountain passes in Mongolia as part of his senior thesis. His research focused on finding locations for future roads in the northernmost corner of Mongolia, near the border of Russia. With the establishment of new national parks in the area by the Mongolian government, increase tourism is expected and planning for the impact is underway. Simon’s final report was shared with Mongolian leaders in the region, which included the identification for two passes that “link rural communities, national parks, and indigenous routes for future tourism purposes,” according to Simon. (contribution of story by Joshua Brown)

Environmental Studies major, Drew Anderson, spent his summer interning at Agricola Farm in Panton. His work at this pig and sheep farm included all aspects of farm management, from readying different paddocks for the new pigs on the farm, to stringing new electric fence, caring for the animals, processing, packaging and labeling meats, to marketing and customer relations.

Students traveled to Ecuador over spring break to study the Natural History and Conservation of the Galapagos Islands and Tropical Andes. They were able to visit the Charles Darwin Research Center, Giant Tortoise rehabilitation and breeding centers, and hike the Andes and the Sierra Negra Volcano.

ALUMNI PROFILES

Sara Halm, ’14, Environmental Sciences, is now a Conservation and Education Program Associate at Swan Valley Connections in Montana. They focus on “collaborative connections and experiential learning.” Sara works in the field as well as teaching courses, coordinating evening programs, adult workshops and elementary programs.

Dankia Frisbee, ’13, Environmental Sciences, is now the Communications and Outreach Coordinator for the Secretary of the Agency of Natural Resources, State of Vermont.

Maria Steyaart, ’05, Environmental Science, is now an Agricultural Water Quality Specialist at the Vermont Agency of Agriculture, Food and Markets.

The Landscape Ecology, Agriculture, and Food Program (LEAF) brings together first-year students from the College of Agriculture and Life Sciences (CALS) to form an active learning community. LEAF is one of four nested programs for first year students within Sustainability House.
The summer of 2016 kicked off the Next Generation Food Systems Internship Program, providing a paid opportunity for students to gain valuable, “real-life” farm experience as part of their food systems studies. The program has been generously funded by a donor, allowing farmers and food processors to hire an intern for the summer. Examples of internships included value-added dairy production on the Farr Farm in Richmond, beer production at Queen City Brewery in Burlington, sustainability work at Cabot Creamery Cooperative, and many more. This summer the program will place a dozen students throughout Vermont. Food Systems coordinator, Matt Myers, works with students throughout the summer to reflect on their experiences and prepare for a career in food systems.

First Food Systems Graduate
Olivia Pena

Only one year into a new major, and CALS will be graduating our first student from the undergraduate Food Systems program. Olivia Pena essentially completed the requirements before the major was official. She will be awarded a Bachelor of Science in Food Systems in May 2017, and is already enrolled in the accelerated Masters Program in Food Systems at UVM, with an expected graduation of 2018. Olivia not only focused her undergraduate studies in Food Systems, but completed a concentration in Animal Science, and minors in Nutrition and Food Science, and Community & International Development. She has worked on the CGIAR team on Climate Change, Agriculture, and Food Systems researching post-harvest loss (PHL) in developing countries for a USAID project, as well as a member of the UVM Real Food Working Group.

The UVM Real Food Challenge Met Goal Three Years Early!

The initiative set by the UVM Real Food Challenge to purchase 20% of food sold on campus that is locally sourced, ecologically sound, fair trade, or humane, has met and exceeded its goal in 2017! To celebrate this victory, President Thomas Sullivan announced a new goal of 25% by 2020. Just a few examples of “real food” at UVM include local apples, maple syrup, and milk, humane shell eggs, fair trade bananas, coffee and teas, and ecologically sound seafood. UVM Medical Center local food purchases provide $2.7 million to local economy, according to research conducted by David Conner, associate professor in UVM’s Department of Community Development and Applied Economics and Florence Becot, research specialist at the UVM Center for Rural Studies, who is also a doctoral student in the UVM Food Systems Graduate Program.

UVM FOOD SYSTEMS at CATAMOUNT FARM

~ 69 apple varieties grown
~ 22 Grape varieties grown in the vineyard
~ 119 varieties of vegetable grown
~ 17 varieties of flowers grown
~ 11 varieties of hot peppers
~ 80,000 pounds of apples produced annually
~ 156 shareholders in the Catamount Farm Community Supported Agriculture program
~ 225 customers per week visit the farm during “Apple Fridays”.

Next Generation Food Systems Internship Program

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Matt Myers meets with potential food systems intern.

More than 300 students have been placed in food systems internships since 2013.
UVM Extension received $875,000 from the Connecticut Council of Soil and Water Districts in 2015 to spearhead the Long Island Sound Watershed Resource Conservation Partnership Program; a five-year multi-state project with a goal to improve water quality.

In 2016, more than 50 farm owners completed business planning and analysis projects with the UVM Extension Agricultural Business Program.

UVM Extension helped 25 farmers install biomass (plant-based fuel) heating systems in their greenhouses. By replacing nonrenewable oil or propane fuels, farmers saved (on average) $2,696 per system per year (paying back the full cost of a system in 4.8 years) and collectively avoided ~2.14 million pounds of carbon dioxide emissions (roughly equivalent to the annual emissions from 204 cars).

Thirty-four teens participated in the three-day 4-H Tri-State Agriculture Tour, visiting farms, production facilities, and research sites for first-hand exploration of careers in food systems.

COW POWER!
Professor Qingbin Wang, along with Jenn Colby and Ethan Thompson, present research at the Legislature on anaerobic digester systems on Vermont Farms.

The Migrant Education Program enrolled and served 340 eligible migrant students this year. A small, yet impactful part of MEP’s offerings are site-based English courses.

Dean Vogelmann, President Sullivan and Provost Rosowsky at the Vermont College of Agriculture and Life Sciences and Extension Legislative Reception.

ACROSS THE FENCE
Keith Silva, CALS Extension and the “Across the Fence” program, attempts to complete a taping at the Miller Farm with the added challenge of some curious Holsteins. “Across the Fence” is the longest running community based show of its kind in the country, and is featured every weekday on WCAX-TV in Burlington. The team of Will Mikel, Becky Golin and Keith Silva produce over 260 shows a year, reaching an estimated 18,000 households each day.
**Buckhorn, Dana**, Public Communication
An Analysis of Memorable Messages about Gender and Organizational Socialization in Advertising Creative Departments
mentor: Sarah Heiss

**Clark, Morgen**, Molecular Genetics
Identification of the binding requirements for GbdR and SouR to the sox operon promoter region in Pseudomonas aeruginosa
mentor: Matt Wargo

**Cunningham, Naomi**, Ecological Agriculture
Integrity of Phosphorous Retention in Forested Buffer Strips and Hardwood Forests After Earthworm Invasion
mentor: Josef Gorres

**Feinberg, Hannah**, Dietetics, Nutrition and Food Sciences
Examining the role of willful ignorance on snack choice and consumption
mentor: Lizzy Pope

**Ferraro, Ariana**, Animal Science
Pharmaceuticals Entering Lake Champlain and their Combination Effects on Developing Zebrafish Embryo
Mentor: Jana Kraft

**Galasso, Nick**, Microbiology
The Role of Glycerolysis in Dendritic Cell Inflammation
mentor: Stephanie Phelps

**Guo, Michael**, Microbiology
The Role of the CXCL Chemokine Family in Bladder Inflammation
mentor: Doug Johnson

**Haines, Laurel**, Biological Sciences
Vascular Barrier Function and its Disruption in Response to Histone Proteins
mentor: Doug Johnson

**Harrington, Sara Jane**, Animal Science
Comparison of bovine dermal fibroblast response to Escherichia coli, LPS, Staphylococcus aureus, and PAM2CSK4 in high and low TLR4 expressing cells
mentor: David Kerr

**Kasten, Miriam**, Biological Sciences
Effects of a-Thrombin and Meizothrombin on Vascular Permeability Related to Trauma
mentor: Laura Almstead

**Kerwien, Lauren**, Plant Biology
The effect of potassium deficiency on Rhizobial infection and differentiation in the Medicago truncatula-Sinorhizobium symbiosis
mentor: Jeanne Harris

**Perlee, Sarah**, Microbiology
Do Syncytins Mediate Fusion of Exosomes to Cells?
mentor: Markus Thali

**Scott, Sarah**, Animal Science
Atherosclerosis in Parous and Virgin Mice: Does Pregnancy Affect Future Cardiovascular Health?
mentor: David Townson

**Slimovitch, Jonathan**, Microbiology
Rab8A and Rab11A GTPase Involvement in Arenavirus Intracellular Trafficking
mentor: Jason Botten

**Smith, Ethan**, Nutrition and Food Sciences
The Stanford Healthy Neighborhood Discovery Tool: Assessing Social Cohesion at an Urban Farmer’s Market in Arizona
mentor: Farryl Bertmann

**Southgate, Morgan**, Plant Biology
Ecology and Distribution of the Adiantum pedatum complex in the Green Mountains
mentor: David Barrington

**Trigg, Niles**, Microbiology and Molecular Genetics
The role of the G83D residue of NEIL1 glycosylase in the recognition of cisplatin and carboplatin induced DNA damages
mentor: Susan Wallace

**Vangala, Aditya**, Microbiology and Molecular Genetics
Obesity’s Role in Ventilator Induced Lung Injury
mentor: Doug Johnson

**Wallace, Marshall**, Molecular Genetics
The Role of Astrocyte Ca2+ Signaling in Altered Neurovascular Coupling in a Mouse Model of Subarachnoid Hemorrhage
mentor: Stephanie Phelps
Kirsti Blow, Sophie Sellstrom, Bridget Martin, Public Communication
Telling the Story of Vermont Research
Mentor: Richard Watts

Peter Chlebowski, Ecological Agriculture
Using Honey for Graft Union Healing In Apple, Pear, and Ginkgo Tree Rootstocks
Mentor: Mark Starrett

Morgen Clark, Molecular Genetics
Identification of the binding requirements for GbdR and SouR to the sox operon promoter region in Pseudomonas aeruginosa
Mentor: Matthew Wargo

Samantha Connolly, Biological Science
Determining the Function of NPF1A in Lotus japonicus.
Mentor: Jeanne Harris

Greer Cowan, Mary Washburn, Community and International Development
The French Connection: The past, present, and future of Vermont immigration.
Mentors: Richard Watts, David Massell

Naomi Cunningham, Ecological Agriculture
Integrity of Phosphorus Retention in Forested Buffer Strips and Hardwood Forests After Earthworm Invasion
Mentor: Josef Gorres

Marjorie DesLauriers, Biology
Investigation of Semaphorin6A Induced Phosphorylation of PlexinA2 and Neurelin 1
Mentors: Bryan Ballif, Riley M. St. Clair, Alicia M. Ebert

Jacqueline Diaz, Microbiology
Identification of ROR1 domains critical for cancer cell viability
Mentor: Ann Kroll Lerner

Hannah Feinberg, Dietetics, Nutrition and Food Sciences
Examining the Role of Willful Ignorance in Snack Choice and Consumption
Mentor: Elizabeth Pope

Ariana Ferraro, Animal Science
Pharmaceuticals entering Lake Champlain and their combination effects on developing zebrafish embryos
Mentors: Alicia Ebert, Jana Kraft

Mahalya Gogerly-Moragoda, Microbiology and Molecular Genetics
Examining the effects of acute exercise on cognition and mood in a large, diverse population
Mentor: Ann Kroll Lerner

Laurel Haines, Biological Science
Endothelial integrity contributes to the mesenteric vascular barrier to solutes whereas myogenic response and intraluminal albumin do not
Mentor: Kalev Freeman

Jen Hayes, Environmental Studies
Native bees (Hymenoptera: Apoidea) and berry polycultures: Studying farmers’ motivations for diversification and the impact of mass floral resources on pollinator communities

Amanda Hill, Emily Feng, Plant Biology
Increasing the Resolution of Genetic Variation in the Fiddlehead Fern
Mentors: Nikisha Patel, Dave Barrington

Emma Hoffman, Liam Farley, Lucy Holmes, Angelica Karas, Public Communication
Agroecology, Farmer Livelihoods, and Ecosystem Services in Santa Catarina, Brazil
Mentor: Joshua Farley

Lila Hughes, Environmental Studies
Welfare Reform: Ending welfare as we know it twenty years later
Mentor: Felicia Kornbluh

Miriam Kasten, Biological Sciences
Effects of Thrombin on Pressurized Blood Vessel Diameter and Permeability to Large Molecules
Mentor: Kalev Freeman

Joseph Keegan, Aaron Fenichell, Mara Carini, Community Development and Applied Economics
Outside the Box
Mentor: Yevgeniy Korsunsky

Mary Loomis, Environmental Studies
Red Point: A History of Family and Place
Mentors: Elizabeth Wright, Jenny Groves, Molly Damm

Frankie Lyon, Madeleine Cary, Peter Silverman, Community Entrepreneurship
Accessing Enduring Physical Wellness
Mentor: Yevgeniy Korsunsky

Alyssa McCabe, Sierra Maust, Tomoki Nomura, Sam Dampfousse, Community Entrepreneurship
Face To Face
Mentor: Yevgeniy Korsunsky

Mariah Noth, Community and International Development
Building Demand, Not Dependence: Community Development and Food Security Implications of Mobile Food Vending
Mentor: Daniel Baker, Jane Kolodinsky, Kelly Hamshaw, Thomas DeSisto

Rowan Payne-Meyer, Sustainable Landscape Horticulture
Assessing the Cold Hardiness and Disease Susceptibility of Select Cultivars of Oakleaf Hydrangea (Hydrangea quercifolia)
Mentor: Mark Starrett

Sarah Perlee, Molecular Genetics
Do Syncytins Mediate Fusion of Exosomes to Cells?
Mentor: Markus Thali

Jake Pinkus, Ecological Agriculture
The Influence of Biochar on Hydroponically Grown Chinese Water Spinach
Mentor: Mark Starrett

Darla Quijada, Animal Science
SY AMPK Gene Family: Exploration of Conserved DNA Methylation

Katelyn Roberts, Microbiology and Molecular Genetics
Strategies for overcoming malnutrition-imposed immune dampening using a nutrient-sensitive cell model
Mentor: Sean Diehl

Gabriela Sarriera, Microbiology
Outdated Legal Barriers to Health in Rwanda
Mentor: Laura Hill

Sarah Scott, Animal Science
Pregnancy’s Influence on Atherosclerosis, Inflammation, and Related Risk Factors in C57BL/6J Mice fed a High Fat Diet
Mentors: Elizabeth Bonney, David Townson

Megna Senthilnathan, Molecular Genetics
How does body mass of sexual ant pupae change in response to experimental warming?
Mentors: Sara Cahani, Katie A. Miller

Jonathan Slimovitch, Microbiology
Mapping Zika virus host-pathogen interactions
Mentor: Jason Botten

Ethan Smith, Dietetics, Nutrition and Food Sciences
The Stanford Healthy Neighborhood Discovery Tool: A Secondary Analysis Assessing Social Cohesion at an Urban Farmer’s Market in Arizona
Mentor: Farryl Bertmann

Morgan Southgate, Plant Biology
Ecological Niche Differentiation in the Adiantum pedatum complex
Mentor: David Barrington

Ethan Thibault, Plant Biology
Experimental Validation of Adaptive Mutations in the Populus balsamifera Gene GIGANTEA
Mentor: Stephen Keller

Niles Trigg, Microbiology and Molecular Genetics
The effect of the G83D variant of NEIL1 glycosylase in the recognition and repair of 5-hydroxyuracil damages
Mentor: Susan Wallace

Grace Ullman, Plant Biology
Phylogeny and Antioxidant Activity of Phlebodium Genus
Mentor: Michael Sundue

Marshall Wallace, Molecular Genetics
The Role of Astrocyte Ca2+ Signaling in Altered Neurovascular Coupling using a Mouse Model of Subarachnoid Hemorrhage
Mentors: George Wellman, Masayo Koide
Student Research Conference Presentations

Maggie Williams, Environmental Sciences
Does The Colorado Potato Beetle, Leptinotarsa decemlineata, prefer to Feed on Imidacloprid Treated Potato Plants? Mentor: Yolanda Fanslow

Lisa Wood, Microbiology and Molecular Genetics
A Targeted Approach to Triple Negative Breast Cancer Mentor: Jason Stumpff

Christine Albertelli, Dietetics, Nutrition and Food Sciences
Understanding eating behaviors and attitudes to define eating styles Mentors: Amy Nickerson, Dana Notte MS RD CD, Peter Callas PhD

Chloe Boutelle, Anderzen, Janica M. Bevet, Samuel J. Boulton, Francesca K. Wang, Weiwei Caswell, Martha J. Cirillo, Jennifer B. Irwin, Emily C. Lott, Sarah M. Morra, Ryan T. Putscher, Caroline R. Utter, Alisha K. White, Alissa C. Food Systems
What is the Relationship between Food and Communication? Mentor: Sarah Heiss

Kristian Brevik, Plant and Soil Science
Exploring the Genome of the Colorado Potato Beetle Mentor: Yolanda Fanslow

Bonnie Cantrell, Animal, Nutrition and Food Sciences
Facilitation of the Bovine Epigenome in the Limbic System: An Atlas of the Bovine Brain Mentor: Stephanie McKay

Sanhita Chakraborty, Plant Biology
Understanding the interplay between salinity and nodule development Mentor: Jeanne Harris

Andrew Daubenspeck, Community Development and Applied Economics
Assessing the Benefits of the State Designation Programs Offered by the Agency of Commerce and Community Development Mentor: Jane Kolodinsky

Lauren Greco, Community Development and Applied Economics
Farm Fresh Food Boxes Mentor: Jane Kolodinsky

Holly Greenleaf, Plant and Soil Science
Sculpture Rain Garden: The Role of Art in Ecological Design Mentors: Stephanie Hurley, Eric Roy

Hannah Harrington, Community Development and Applied Economics
Communicating the Value of Local through Food Hubs Mentor: David Conner

Elisabeth Hodgdon, Plant and Soil Science
Laboratory and field assessment of candidate pheromone blends for mating disruption of swede midge (Contarinia nasturtii; Diptera: Cecidomyiidae) Mentors: Yolanda Fanslow, Rebecca Hallett, Kimberly Wallin

Sami Jarjour, Community Development and Applied Economics
The Most Democratic Society on Earth: Rojava, Syria Mentor: Shoshanah Inwood

Suryatapa Jha, Plant Biology
A Novel Retromer Subunit VPS26C, and its human-ortholog, regulates polarized growth in Arabidopsis Mentor: Mary Tierney

Michael LeDuc, Plant and Soil Science
The Potential of Mites as a Biocontrol of Flies in Bedded Pack Systems Mentor: Deborah Neher

Samantha Lewandowski, Community Development and Applied Economics
Assessing Community Renewable Energy Preferences and Support for a Local Anaerobic Digester Mentor: Shoshanah Inwood

Rachel Mason, Plant and Soil Science
Resilience and viability of dairy farms in a warmer, wetter Vermont Mentors: Josef Gorres, Scott Merrill

Elijah Massey, Community Development and Applied Economics
Technical Assistance and Farming at the Rural-Urban Interface: Availability, Use, and Farmer Perceptions Mentor: Shoshanah Inwood

Caitlin Morgan, Food Systems
Teaching Food Agency Through Inquiry and Action Mentor: Amy Trubek

Megan Morris, Margaret McKendry, Dietetics, Nutrition and Food Sciences
Understanding Food Insecurity Among Iraqi Resettled Refugees in Northern Vermont Mentors: Linda Berlin, Amy Nickerson

Sean Morris, Community Development and Applied Economics, Hot Money, Speculation, and Food Security: Case Studies from Indonesia and Thailand Mentors: Joshua Farley, Jane Kolodinsky

Rebecca O'Reilly, Anna Huffman, Dietetics, Nutrition and Food Sciences
Increasing Affordability of Fresh Fruits and Vegetables in Rural Vermont Mentor: Linda Berlin

Orest Pazniak, Community Development and Applied Economics, Social and Economic Implications of GMO Labeling Mentor: Jane Kolodinsky

Richard Scuderi, Animal Science
The effect of dietary grape marc on the bovine milk proteome Mentors: Sabrina Greenwood, Dave Ebenstein, Ying-Wai Lam, Jana Kraft

Danielle Shaw, Community Development and Applied Economics
Vermont Seniors’ Vulnerability to Scams and the Effectiveness of Call-Blocking Devices Mentor: Jane Kolodinsky

Chase Stratton, Plant and Soil Science
Repelling swede midge from brassica crops using plant essential oils Mentor: Yolanda Fanslow

Hannah Ullman, Community Development and Applied Economics
Women, Long-Distance Travel, and Well-Being Mentor: Lisa Aultman-Hall

Allison Unger, Animal, Nutrition and Food Sciences
Sex-Dependent Differences in Glucose Tolerance and Weight Gain in Adult CD-1 Mice Fed Diets Containing Different Fat Types Mentors: Jana Kraft, Tom Jetton

Weiwei Wang, Community Development and Applied Economics
Understanding duration of membership in subsidized Community Supported Agriculture: A mixed methods approach Mentor: Jane Kolodinsky

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College of Agriculture and Life Sciences

1,483 undergraduate students
110 graduate students
88-90% student retention rate (out-of state and in-state)
76% four-year graduation rate
Retirements

George L. Cook
Extension Professor Emeritus

Jonathan G. Leonard
Senior Lecturer Emeritus of Community Development & Applied Economics

In Memoriam

Donald J. Balch
Professor Emeritus of Animal Science

Erik A. Bateman
Research Associate Professor, Microbiology & Molecular Genetics

Betty M. Bolognani
Extension Instructor Emerita of Extension System

John R. Kunkel
Extension Associate Professor Emeritus of Animal and Food Sciences

Marion Brown Thorpe
Professor Emeritus of Home Economics Education

Fred C. Webster
Professor Emeritus of Agricultural & Resource Economics

Brett Cohen
Nutrition and Food Sciences major