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ABOVE: Researchers at the New York State Agricultural Experiment Station in Geneva, N.Y. are in the process of evaluating 30 varieties of hops to determine which are best suited for growing in the region. This work, as well as research on malting barley, recently received a \$350,000 boost in state funding from N.Y. Gov. Andrew Cuomo. Photo: Robyn Wishna.

dean's message



Dean Boor (right) with Dorothy Nakimbugwe MS '96, a food science alumna and the dean's very first advisee. Dorothy returned to campus to discuss Gender-Responsive Researchers Equipped for Agricultural Transformation (GREAT), a program developed in conjunction with Makerere University.

It's a commonly held belief among those who leave Ithaca that our Cornell campus becomes very quiet during the summer. But learning and discovery never go on holiday in CALS.

For our students, summer plans usually involve an intensive internship or volunteer opportunity, world travel, a seasonal job, or an enriching research or extension experience that will further their academic pursuits. In these pages, you'll meet some truly enterprising CALS students and recent alumni who spent the summer of 2014 making a real impact on the world. Kata Young '15 traveled to Mozambique to participate in an important institutional analysis of a long-term project by CARE and the World Wildlife Foundation to improve conservation efforts, sustainable agriculture, and the livelihoods of local communities. Andrew Pike '15, Christian Owens '14, and Katy Merckel '14 helped design and administer a nutrition dataset for villages in India, making it possible for this information to be included in national agricultural surveys for the very first time. And Celine Jennison '14 joined a team of aquatic conservationists in a paddleboard expedition around Bermuda to draw attention to plastics pollution in coastal waters.

Life on campus, too, takes on a different kind of "busy" after the newest class of freshly minted CALS alumni depart Ithaca after Commencement. For CALS faculty, this summer offered the opportunity to focus on breaking new ground with their research and outreach projects. Our extension educators organized

numerous field days and workshops on campus and across the state, introducing growers and the general public to the latest CALS discoveries. And guests from all over the world flocked to campus to enjoy the spectacular summer beauty of Cornell Plantations.

The college leadership has also had an active summer. We kicked off the season during Cornell Reunion with the announcement of the new School of Integrative Plant Science, which promises to revolutionize plant, soil and related microbial science research and instruction at the University. We've been heavily engaged in planning for the celebration of Cornell's Sesquicentennial, which CALS has the honor of launching this October. And very shortly, we'll be releasing the final version of the new, five-year CALS Strategic Plan, after nearly a year of thought-provoking discussion and debate that engaged the entire CALS community.

So, I'm sure you can tell that we will have lots to catch up on when you next return to campus! The reason? Our commitment to our land-grant mission of delivering knowledge with public purpose that contributes sustainable improvement in the lives of people everywhere drives us to achieve year in and year out!

Kathryn J. Boor
Ronald P. Lynch Dean of the
College of Agriculture and Life Sciences

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SUMMER OF ACTION

“No more pencils, no more books” may have held true for many CALS students this summer, but this doesn’t mean they took a vacation from learning. The stories in the pages ahead tell of the kind of learning that occurs outside of the classroom or lecture hall. When CALS lets out for summer, its students often take the knowledge they’ve gained and apply it to real-world situations. For some, this means sticking around in Ithaca to conduct research. For others it entails traveling to the other side of the planet to help improve lives in developing countries. Students and professionals also flocked to campus from near and far for conferences, field days, undergraduate research programs, and other chances to learn from CALS’s esteemed faculty. Join us as we explore some of their experiences.

1 Winemakers, vineyard managers, grape-growers and others gathered for a week of learning from CALS experts in the **CUVEE Course**. During their stay, participants learned about the science behind grape-growing, winemaking and wine perception. They also got the chance to participate in many hands-on experiences in these areas and spend significant amount of time visiting with several winery owners in the vineyard, in the winery and at dinner.

2 The **Geneva Summer Scholars**, representing schools from across the nation, spent the summer conducting research with faculty members and their teams at Cornell's New York State Agricultural Experiment Station in Geneva, New York. The program culminated in a poster session at Hobart and William Smith Colleges Aug. 1, where the 27 students presented research on topics ranging from sodium reduction in ranch dressing to root rot resistance in pea plants.

3 Brewery owners, farmers and home brewers hoping to hop into New York's burgeoning hops industry gathered at the New York State Agricultural Experiment Station (NYSAES) in Geneva, N.Y. July 12 to for a **Hops Field Day**. There, they heard advice from experts and peers alike. Researchers at NYSAES are in the process of evaluating 30 varieties of hops to determine which are best suited for growing in the region. This work, as well as research on malting barley, recently received a \$350,000 boost in state funding from N.Y. Gov. Andrew Cuomo.

IN THIS NECK of the WOODS...

The summer scene in and around the Cornell campus in Ithaca and the New York State Agricultural Experiment Station in Geneva offers a rich array of workshops, field days, seminars, and tours. Here are just a few of the many possibilities that dotted our calendars in June, July, and August.

1 **2** **3**
Geneva

1

7 Plantations' botanist Robert Wesley led a **walking tour through McLean Bog**, the only designated National Natural Landmark in Tompkins County. The area contains important glacial landforms with unusual habitats. Along the way, the group discussed these habitats and the species they support, as well as the history of the site.

8 Nearly a thousand students, faculty and staff members, and campus visitors swarmed Stocking Hall on July 10 for a sweet treat in the annual appreciation event known fondly as the **CALS Summer Scoop**. In just two hours, volunteers scooped 60 gallons of Cornell Dairy ice cream, which included flavors such as Bavarian Raspberry Fudge, Coconutty Spring Thaw, and Dean Boor's Honey Crunch.

9 In a lecture sponsored by **Cornell's School of Continuing Education and Summer Sessions**, Brian Wansink, the John Dyson Professor of Consumer Behavior at Cornell and head of Cornell's Food and Brand Lab offered actionable ideas that the lab has developed, tested, tweaked, and analyzed in dozens of towns and cities across the United States and abroad to help consumers make healthy eating choices.

10

4 The **School of Integrative Plant Science** was launched at a June 6 ceremony on the Ag Quad, attended by faculty, staff, students, and alumni who were on campus for Reunion Weekend. CALS will be teaming up with the Boyce Thompson Institute for Plant Research and the U.S. Department of Agriculture to invest \$35 million in the new school over the next decade, for faculty hiring, research and student support.

5 Have you ever jogged through the Plantations and wondered where you were or what you were looking at? **Guided running tours led by Plantations** experts provided opportunities for runners and joggers to see the area's gorges, gardens and green spaces like they had never experienced them before. Making several stops along the way, these biweekly Friday afternoon jogs were designed to be accessible for casual runners looking to explore some gorgeous (and gorges) spots they may not have seen before.

6 During a series of **botanical illustration workshops** featuring acclaimed local artist Camille Doucet, participants painted Plantations scenes such as the trees of the arboretum or a feast of flowers.



CALS was a natural choice to host the third annual **Student Organic Seed Symposium**, a conference that aims to bring together organic farmers, researchers, and students to share ideas among one another. While in the area, they also visited some of the many organic farms in the Finger Lakes region and learned from plant breeding experts from the college.

11 Ten agriculturalists – participants of the prestigious **Nuffield Scholar Global Focus Program** – seeking inspiration for their businesses back home in Australia, New Zealand, Tasmania, Ireland and the United Kingdom, took part in a weeklong tour of Cornell's extensive agricultural endeavors this July. Their visit, capped off July 8 with a public panel discussion about climate change perspectives from around the world, was hosted by the Cornell University Agricultural Experiment Station. From the New York State Agricultural Experiment station in Geneva, N.Y., to the on-campus Ithaca dairy plant, the scholars saw the CALS' dedication to agricultural innovation firsthand.

12 Farmers interested in a recent foodie trend flocked to Freeville, New York, July 1 for a twilight tour of Cornell's **value-added grain trials at Homer C. Thompson Vegetable Research Farm**. The popularity of breads and other baked goods boasting organic production or use of "heritage" grains has risen recently, presenting an opportunity for growers, but only if these crops do well in their region. Cornell researchers have been testing several types of modern, heritage and ancient grains to help local farmers determine which varieties would be most feasible for them to grow.

AGRICULTURAL INTERESTS BLOSSOM on CAMPUS



It was a high school ecology class that planted the seeds of Sarah McIlvennie's passion for agriculture. Lessons on the ecology of agricultural systems led her to apply the New Visions Life Sciences Program at Cornell where she studied the timeline of nitrogen release in different cover crops. She's been rooted in agriculture ever since.

McIlvennie's interests have grown to full bloom as an agricultural sciences major at CALS, where she has explored the psychological aspects of food and eating while working at the Food and Brand Lab, worked on apple genetics with horticulture professor Susan Brown, and served as an ambassador for her major.

"The ag program here became more and more of a perfect fit as I developed a better understanding of what my interests really are," McIlvennie said. This summer, McIlvennie got her hands dirty on the production side of things in the lab of plant breeding and genetics assistant professor Michael Mazourek PhD '08.

"It's an incredibly unique lab," she said. "My work changes day to day—it can be peas one day and peppers the next."

One of McIlvennie's varied tasks was harvesting an experimental breed of extremely spicy peppers and performing

tests to determine why capsaicin—the chemical that makes peppers hot—is present at such high concentrations.

"We were wearing gloves and goggles and it was still burning," McIlvennie said.

She also got the chance to work on her own research project for her senior thesis: exploring whether straw may prove an effective – and environmentally friendly – alternative to black plastic when it comes to controlling weeds and keeping disease at bay.

"There are a lot of benefits to using black plastic—it can heat the soil, block weeds, and retain moisture in the soil but it only has a life of one season before it needs to be replaced," McIlvennie said. "Winter squash is susceptible to getting gummy stem blight, also known as black rot, on the fruit. I'm looking at how growing the vines on straw will have an effect on this, possibly acting to buffer the transmission of the pathogen from the soil to the squash fruit."

McIlvennie said she has become increasingly interested in how people interact with food.

"One of my long-term goals is to figure out where the major disconnects between the food system and the production system are, and how to make them more cohesive," she said.



CREEPY-CRAWLIES and COEVOLUTIONARY QUESTIONS

From bugs and spiders to lizards and snakes, Brian Worthington has a passion for creepy-crawlies. The biology and entomology double major is also president of the Cornell Herpetological Society.

"I basically like everything that most people find kind of gross," he said.

Worthington kicked off his summer in Arizona with a week and a half long course called Deserts, Snakes, and Mentorship. As part of the course, he and a team of three other Cornell undergrads conducted a research project on the feeding behavior of a desert lizard, and received mentorship along the way from graduate students as well as ecology and evolutionary biology professors led Sparks and Harry Greene.

"That was my first real desert experience, and it was absolutely amazing," said Worthington.

Upon returning to campus, Worthington dove right back into research, but this time on a bug that's the size of a small bird. For the past year and half, he has been working to untangle the complex ecological interactions between hawk moths and tobacco plants in Robert Raguso's lab, ultimately working towards a senior thesis.

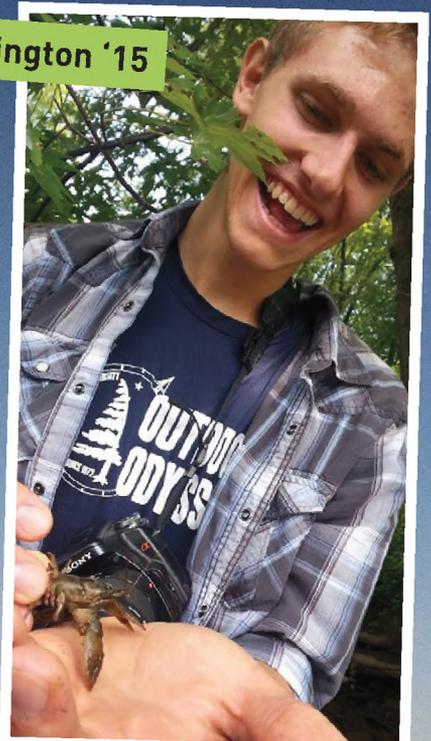
These two organisms have a complicated relationship. The tobacco plant ends up essentially becoming a "sugar daddy" of sorts for female moths, who drink the plant's sweet nectar, and then leave the kids—hungry caterpillars—behind. But hawk moths also help the plant as its primary pollinators.

"I'm really interested in this system because it raises awesome coevolutionary questions," said Worthington. "You have a plant which needs to be pollinated, but it also wants to avoid getting eaten."

When not in the lab, Worthington could often be found hanging off of a branch as he teaches tree climbing for Cornell Outdoor Education.

"I love being outside—that's a big part of why I chose Cornell," he said.

Brian Worthington '15



SOARING THROUGH SUMMER with SCIENCE

As a 4-H geospatial science intern, Ciara Rodriguez was tasked with seamlessly incorporating science into the summer fun of campers at Camp Bristol Hills in Canandaigua, N.Y.

A biology and society major, Rodriguez plans to pursue a career as a pediatrician, in part because she loves working with children. But her interests are by no means confined to pediatrics—in fact, when she first transferred to Cornell from the University of Massachusetts-Amherst in her sophomore year, she majored in animal science.

“I’ve always been curious about science in general,” Rodriguez said

The 4-H internship presented an opportunity for her not only to work with youngsters, but to engage them in science as well. The campers helped her test some activities she developed for National Youth Science Day, which will be held October 8. This year’s focus is aerospace engineering and the project is called Rockets to the Rescue. Using supplies like duct tape, PVC pipes and soda bottles, participants will create a “rocket” that can be used to send emergency food to victims of natural disasters like the recent Typhoon Haiyan.

After a week spent helping to run an on-campus training session for educators about geospatial science, Rodriguez got to work researching math and science educational standards and planning activities to supplement the Rockets to the Rescue experiment. Her weekly reflections can be found on this blog.

Among the activities that Rodriguez designed were paper airplanes, parachutes for eggs, and simple flying devices called ‘hoopsters’ which were made out of index cards and drinking straws.

“A lot of my activities were based on the scientific method,” Rodriguez said. “I always told the kids that they were allowed to modify their paper airplane or hoopsters however they liked, and I would ask them why they did what they did while they were building to get the kids thinking about engineering and experimental design.”

Each activity was a hit with the campers. They loved seeing what they could build with even the most basic materials, and some of their results were truly remarkable.

“One child was able to make his rocket go 134 feet,” said Rodriguez, referring to an air-powered ‘stomp rocket.’ “We didn’t think the rocket could go that far, but it was really cool.”

Seeing the joy that these simple science projects brought the campers was the highlight of the summer for Rodriguez.

“They didn’t know they were being scientifically challenged, they thought they were just having fun,” she said.



Ciara Rodriguez '16



Jesus Banderas

Marc Fuchs

Kaitley Wozer

GRAD SCHOOL MOTIVATION GROWS in GENEVA

For the past five years, students from across the country have been coming to Geneva, N.Y. for the CALS Summer Research Scholars Program held at the New York State Agricultural Experiment Station—and leaving inspired to attend graduate school.

Encouraging students with diverse backgrounds to pursue graduate school has remained an important goal of the program since its inception in 2009. Each student in the program—this year there were 27—works with a faculty member at the Station on an independent research project.

“It’s not just having additional bodies in the lab. They’re so enthusiastic and they bring a lot of energy,” said Marc Fuchs, as-

sociate professor of plant pathology.

Fuchs, who has participated in the program since it began, hosted two summer scholars this summer. Second-time participant Kaitley Wozer, a biology and dance double major at Hobart and William Smith Colleges, and Jesus Banderas, a plant biology major at the University of California-Davis, each researched different aspects of grapevine fanleaf virus under his guidance.

Banderas’s path to the program was almost as impressive as his pathology work. He turned to science after several tumultuous teenage years of gang activity and high school expulsion. Now committed to helping other youngsters, Banderas incorporated a community service element

into his Geneva stay, joining associate professor of plant pathology Chris Smart in a summer school science program at a local elementary school.

“Because of my background and my recent accomplishments, I feel very strongly about giving back to the community and helping others see new opportunities and paths,” Banderas said.

For Fuchs, seeing his students’ interests ignited over the course of the summer is what keeps him involved in the program year after year.

“Day after day, week after week, they make progress and suddenly when they start sharing their results in lab meetings you see their eyes shine—that’s a reward for me,” he said.

SUMMER ADVENTURES and VENTURE CAPITAL



A summer spent at StartFast Venture Accelerator in Syracuse proved to be the perfect way for information science major Stephanie Qian Wang to both explore her interests and enjoy the sunny weather.

“I really wanted to learn more about entrepreneurship and start-up businesses,” she said. “Plus, Syracuse is a great city because you can drive for 15 minutes and be at a beautiful lake.”

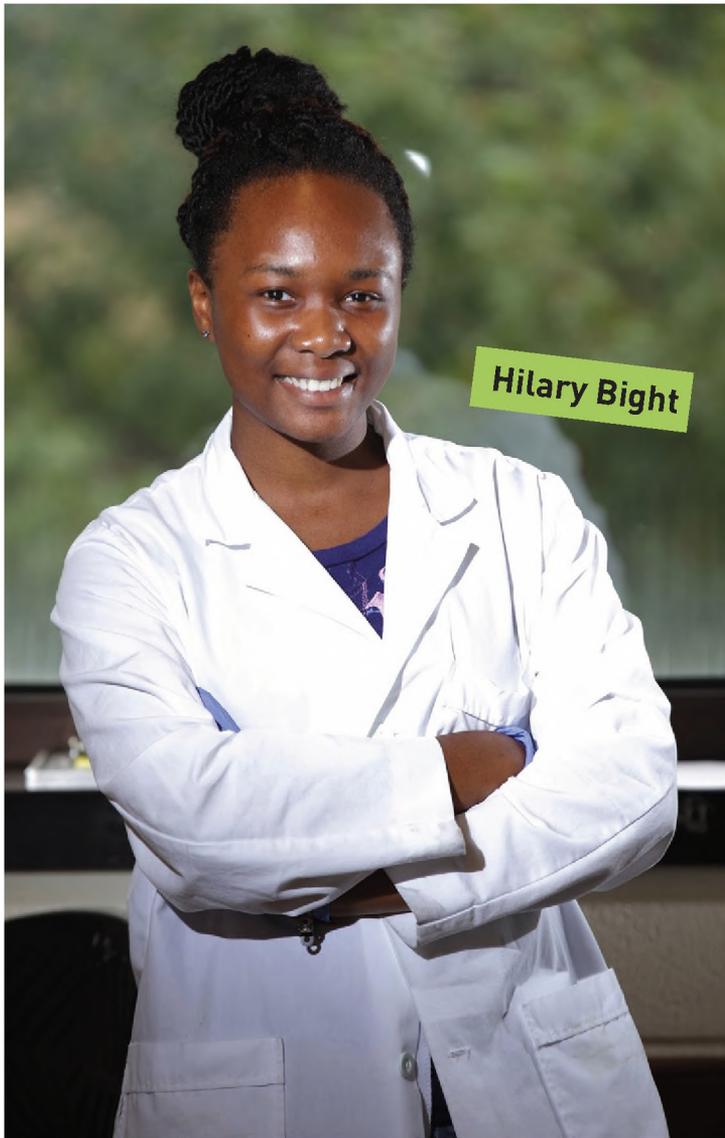
The internship was part of the new CALS New York State Internship Program, which consists of a pre-departure class, a combined internship and community engagement experience over the summer, and a post-internship study. For Wang, who moved to the U.S. from Singapore in search of a more liberal education, the program was a great way to broaden her interests while gaining valuable experience in information science.

As an intern at StartFast, Wang spent much of her time meeting with representatives from the company’s investments and working with them to design tools such as intelligent search engines. She also worked closely with her mentors, which included StartFast’s managing directors, Chuck Stormon and Nasir Ali who are renowned angel investors and venture capitalists in Central New York.

“There was always someone there to help me and supervise me, but at the same time I really learned a lot on my own,” Wang said.

For the community engagement component of the program, Wang worked

Stephanie Qian Wang '16



NEW PROGRAM WHETS APPETITES FOR SCIENCE

The saying “you are what you eat” means a lot more to Hilary Bight after conducting research this summer with Patrick Stover, professor and director of the Division of Nutritional Sciences. A biochemistry major at the University of Maryland Baltimore County (UMBC), Bight applied to the Department of Molecular Biology and Genetics Summer Research Experience for Undergraduates (MBG REU) program as a way to explore her interest in genetics.

In its second year, the MBG REU program gives 5 students a taste of life in the lab and what they might expect as graduate students. The program is focused on increasing diversity in several areas of modern biology. Although anyone can apply, the program particularly seeks applicants from seven “partner” institutions that do not have extensive research opportunities, including UMBC.

Stover’s research focuses on why people respond to the same nutritional exposure differently—why one person might get thinner by eating more salad while a different person does not, for instance. Bight examined why some women who are more susceptible to having a child with a birth defect get colon cancer at a lower frequency.

Scientists believe this phenomenon involves folate, a vitamin known to be very important for preventing neural tube defects during pregnancy. The amount of folate a person ingests can actually change his or her DNA, and this summer Bight worked to gain a better understanding of how these changes are made.

“It’s been really interesting to learn about how what you eat can have profound effects on your body at the molecular level,” said Bight. “Before I came here, I didn’t realize that was possible.”

to develop two strategies for youth retention and attraction in Syracuse, and will propose her strategies in the fall. By interviewing young professionals in the area, she was able to gain an understanding of what Syracuse is already doing well and identify what needed improvement.

“Many young professionals pointed out that the low cost of living and good work-life balance in Syracuse attract some young professionals to stay in the area and start a business,” said Wang. “Others pointed out that the local media is not positive enough about Syracuse and there’s a lack of coverage of positive events going on in Syracuse by the local media.”

When not working to jump-start new businesses at StartFast or to make Syracuse a better city for young people, Wang enjoyed exploring the area with the other interns and visiting nearby lakes and parks.

“This is a great internship opportunity and I recommend it to any information science or computer science major,” she said.

CALS NYS Interns

Stephanie Wang is one of six interns in the program. Here’s a quick look at what the other five have been up to this summer:

Shannon Bush MRP ‘15, city and regional planning with a development sociology minor planned: Interned with the City of Amsterdam Department of Community and Economic Development

Danielle Corona ‘15, biology & society, with a global health minor: Interned with Seneca Towns Engaging People in Solutions (STEPS) & CCE Seneca County

Adam Friedlander ‘16, food science: Interned with Quaker Muller (Batavia)

Jillian Harmon ‘15, development sociology, with an education minor: Interned with Tompkins County Department of Administration.

Matthew Shattner ‘16, applied economics and management: Interned with Sysco Syracuse.

SOWING the SEEDS of SUSTAINABILITY in MOZAMBIQUE

By the time international agriculture and rural development major Kata Young sat down for her first class at CALS, she already had eight years of experience in sustainable development, agroecology, and ethnobotany under her belt. She has traveled the world working as an agroforestry nursery manager and researcher in Nicaragua, a tropical horticulturist at the Eden Project in England, and director of soil systems at Sweet Water Organics in Milwaukee.

Young strapped on her boots after one semester at Warren Wilson College in North Carolina, when she decided she would rather learn by getting out into the real world than by sitting in a classroom. At CALS, Young has found a way to do both.

It was through a class called "Perspectives in International Agriculture and Rural Development" that Young got to know Wendy Wolford, Polson Professor of Development Sociology and Faculty Director of Economic Development Programs in the Atkinson Center for a Sustainable Future, who co-taught the course. When Wolford needed another person to join her and city and regional planning graduate student Amanda Hickey MRP '14 on a research trip to Mozambique this summer, she knew Young would be a great choice.

As part of an Atkinson Center led partnership with CARE USA, Wolford has gotten involved in a project exploring landscape-level approaches to improving conservation, sustainable agriculture and livelihoods for local people in coastal Mozambique. CARE has been working with WWF (World Wildlife Fund) and local partner organizations to support the development of farmer associations and farmer field schools. Over the past three years, farmers have set up experimental plots to trial their typical practices alongside conservation agriculture practices, and create some combination of the two.

Katherine (Kata) Young '15



"Our role, on the Cornell side, was to build a set of participatory, qualitative methods to understand what factors influence the farmers' decisions to participate in these farmer field schools and associations or not, and to adopt the practices of conservation agriculture or not," Young said.

Over the course of four action-packed weeks, the three-woman team conducted 80 individual interviews of both participants and non-participants in farmer field schools and held five focus group interviews.

"We also wanted to conduct this work with sensitivity to the historical context in this country, working with individuals who had been slaves, went through revolutionary wars, survived their communities being torched, witnessed their family members and friends being killed. This is reality," said Young.

The team is now working on a final report to send to CARE and the local communities, as well as a peer-reviewed publication based on their research.

For Young, it's opportunities like this that make the international and rural development program at CALS so worthwhile. During her time here so far, she's also traveled to Bangladesh and India with CIIFAD's SMART program (Student Multidisciplinary Applied Research Team), and to Chiapas, Mexico, as a teacher's assistant and internship coordinator for CALS' "Experience Latin America" course.

"It's important for students to remember as they're going through the academic year that what they're learning in class has a real applied purpose, with outcomes that affect real people. Soak up all the knowledge you can and put it to good use!" she said.



INVESTIGATING NUTRITIONAL NEEDS in INDIA



Katy Merckel '14

Andy Pike '15

Christian DiRado-Owens '14

This summer was filled with international exploration, data collection, laughs and lots of chai tea for CALS students Andrew Pike, Katy Merckel and Christian DiRado-Owens.

The three were part of a team of six interns with the Tata-Cornell Agriculture and Nutrition Initiative (TCi), a research initiative working to solve the problems of poverty and malnutrition in rural India that is generously funded by Indian businessman and philanthropist, Ratan Tata '59, B.Arch. '62.

"We heard about the internship last fall when we took Food Policy for Developing Countries, a fantastic course taught by Professor Prabhu Pingali, who is the director of TCi," said Pike, an applied economics and management major.

International development experts speak about the link between agriculture and nutritional outcomes, but very little actual evidence exists. So, for the past year, TCi staff researchers, postdocs, graduate students, visiting scholars and faculty fellows have been working on a project to simplify and standardize a set of nutrition metrics that could easily be inserted into current and existing



agriculture surveys.

The TCi interns worked to test some of the data collection methods that were developed, travelling to four villages in two states in south-central India. The dataset will ultimately contain five modules, and this summer the interns tested the module on household-level dietary diversity, mostly interviewing women responsible for cooking. Over two weeks, the interns completed a total of 142 household surveys and nine focus group discussions with women across diverse caste and class backgrounds.

"Besides the journeys we have taken into the villages for fieldwork—some of them over 12 hours away—we have had the chance to go into Hyderabad and see some of the historic forts and tombs," said Merckel, a graduate student in international development.

One of the most rewarding aspects of the data collection process was building strong

relationships with field investigators who translated their questions into the local languages, developmental sociology major DiRado-Owens added.

"The success of our interviews depended on the strength of these relationships



and how well we could communicate with each other," he said. "As a result, we shared many laughs, took family photos, and drank endless amounts of chai insisted upon by the wonderful women and families that we interviewed."

Part of what allowed the team to form such strong relationships with the local people was the subject of the research itself, according to DiRado-Owens.

"Connecting with diverse people over the shared experience of food is one of life's most beautiful pathways to form cross-cultural relationships, even if those relationships last no longer than the time it takes to finish a cup of chai," he said. "This internship allowed us to enter into the homes of people whom we might not have met otherwise and share that common experience for a brief moment."

GRADS REMAIN ROOTED AT CALS

When a beautician burned Yve-Car Momperousse's hair, she was horrified to find that it began falling out when she washed it—but she knew what to do.

"I thought about how my mom used castor oil in our hair when we were growing up," said Momperousse.

But when she went to the store, the only castor oil she could find was filled with bleach and other additives. The seasoned 'socialpreneur' and institutional strategist, who founded and managed more than eight non-profits in her pre-Cornell career, decided to fill the gap in the market herself, while also providing a new economic opportunity for people in her native country. In 2009, she created Kreyol Essence an agribusiness that creates natural beauty products, made from premium black castor oil and ingredients exported from Haiti. As part of her business model, Momperousse aims to provide sustainable jobs for those underrepresented in the workforce. The company also aims to curtail soil erosion, deforestation, and greenhouse gas emission through the cultivation of castor beans.



Yve-Car Momperousse '15

It was a big summer for Momperousse, who spent much of it in Haiti, visiting suppliers and raising money to grow the business. She and her team were able to raise \$100,000 in just three days with the help of Nobel laureate Muhammad Yunus and Kiva, an organization that offers enterprise loans for busi-

nesses in developing countries. Victory in the Compete Caribbean Enterprise Innovation Challenge brought an additional \$500,000 to the company.

As Momperousse prepares to move to Florida to be closer to Haiti, she feels grateful for all of the knowledge and support she's gained as an International Agriculture and Rural Development graduate student at CALS.

"I needed to think about the business aspect of the company as well as the agricultural and social aspects, and CALS' interdisciplinary program provided the synergy necessary to help me take the business to the next level," she said.

Plant sciences major Justin Kondrat transferred to Cornell when he was already halfway through his undergraduate career, but it didn't take long for him to become firmly rooted here on the Hill. By his final semester, Kondrat's feelings were manifested in flowery, ten-foot long letters on Libe Slope that spelled out "ROOTED." The purpose? To get students with diverse backgrounds to reflect upon what keeps them rooted at Cornell.



Justin Kondrat '14

For Kondrat, the answer was clearly Cornell Plantations, where he has worked since he first arrived at Cornell.

"It helped me ease into the whole transition," he said.

Kondrat remained rooted at Cornell Plantations even after graduation. As a communications and marketing intern this summer, he managed the Plantations social media accounts, wrote blog posts, and helped to create a chocolate, pomegranate and vanilla exhibit in the Nevin Welcome Center. During this summer he attended the American Public Garden Association Conference in Denver as a travel award recipient and also was a Hortscholar at Cultivated '14 conference in Columbus, Ohio, where he talked to other horticulturalists about his work with ROOTED.

"This feedback has inspired me to think about making ROOTED a national movement," said Kondrat.

After one last summer at the beautiful Cornell Plantations, Kondrat headed to Hawaii for an internship in tropical horticulture at the National Tropical Botanical Garden.

"Going from Ithaca in the summer to Hawaii is like going from paradise to paradise," he said.

Kwesi Acquay certainly took advantage of every opportunity he came across at CALS – and created some of his own. The applied economics and management major was a member of the peer-mentoring group Scholars Working Ambitiously to Graduate (SWAG) and Cornell University Sustainable Design. He also co-founded Cornell Current, a first-of-its-kind current events and industry trends organization. Now an investment banking analyst at J.P. Morgan, Acquay remains involved with Cornell Current as chair of its alumni board. He will be working to create new opportunities for future CALS students by helping the organization plan Cornell University's first premier insights conference on global and industry trends. The Global Perspectives Conference is slated to hit campus in 2016.

Kwesi Acquay '14



Matthew Bond '14

Two years at Cornell weren't enough for plant science major Mathew Bond. Having transferred from SUNY Potsdam in his junior year, Bond wanted to squeeze in as much time here as possible before heading off to the University of Hawaii to pursue a doctoral degree in ethnobotany.

Inspired by the Plant Pathology class that he took with plant pathology professor Bill Fry PhD '70, Bond spent most of his summer studying potato and tomato late blight in Fry's lab.

"I come from a county that has more cows than people, so I'm very interested in helping farmers," said Bond.

Bond's work this summer was aimed at determining how environmental conditions affect the growth of the fungus-like pathogen that causes the disease, and how to incorporate this data into a computer program that uses weather conditions to help farmers spray pesticides more efficiently.

Now in Hawaii, Bond is starting his research on how the chemistry of medicinal plants varies in different ecological conditions and how this might relate to the harvesting practices of different indigenous cultures.

WHERE are THEY NOW?

Last summer: Alex Koeberle joined the CALS Communications team and “did everything CALS-related,” including putting together the summer 2013 issue of *periodiCALS*.

As much as Alex Koeberle enjoyed investigating Ithaca as part of the CALS Communications team last summer, his thirst for exploration was far from quenched. Having never traveled outside of the United States, Koeberle was itching to go somewhere unlike anywhere he had been before. So the following fall, he and his girlfriend Khrystyne Wilson '12 bought one-way tickets to Lima, Peru. “I’m interested in biodiversity and conservation, so I wanted to go to places that I knew would probably be very different 25 years from now,” said Koeberle. Before embarking on his South American adventure, Koeberle took on a temporary field technician position at Little Moose Field Station in the Adirondack Mountain region of New York where he assisted natural resources professor Clifford Kraft '75 in assessing the quality of native brook trout populations. By early January, Koeberle and Wilson’s five-month journey was underway. Their adventures took them to Peru, Chile, Bolivia, and Ecuador as they hiked the Andes Mountains and wandered through villages in search of unique opportunities. While in Peru, the two travelers came across a small storefront advertising multiple day hiking trips. Without knowing much about what they were getting themselves into, Koeberle and Wilson signed up. They reported to a meeting place downtown at 3 a.m. the next day, got in a van, and rode through a blinding snowstorm to Colca Canyon, one of the deep-



Alex Koeberle '13



est canyons in the world—twice as deep as the Grand Canyon. “We hiked down and up the entire canyon and through indigenous communities that essentially make you feel as if you are 300 years in the past,” said Koeberle. In the beginning of the trip, Koeberle and Wilson were spending hours on end traveling from city to city by bus. Frustrated that they didn’t have the opportunity to explore the many interesting places that they passed by, they decided to buy a ‘73 Ford Taunus station wagon in Santiago, Chile. “The whole car experience was probably the most unique part of our trip,” said Koeberle.

With the car—or “the wagon,” as Koeberle calls it—they were able to explore Patagonia. They later traveled to Bolivia, where they volunteered at an animal sanctuary, amongst many other adventures, some of which he documented for travel sites. Now back at home in Cobleskill, N.Y., Koeberle sees grad school on the horizon. The hardest part about going on a trip like this is overcoming the initial fear of the unknown, he said, but the rewards can be huge. “Seeing what’s out there can really pay off and influence your career or just help you realize that you can go on adventures like this,” he said.

Last summer: Plant science major Celine Jennison pursued her passion for permaculture, planting self-sustaining gardens around campus.



Celine Jennison '14

Amidst our “throwaway culture,” Celine Jennison is standing up for sustainability—well, stand-up paddleboarding, that is. In June, Jennison and her teammates Christian Shaw '14, Gordon Middleton '14, and Julian Rodriguez set out on a 10-day paddleboarding expedition around the waters of Bermuda in order to increase awareness of plastic pollution in the world’s oceans.

They named their initiative Plastic Tides—making “tides” plural in the hopes that the photos, live broadcast, and outreach from their expedition will inspire others to take action. They raised \$19,032 in a Kickstarter campaign to fund the project, and produced a series of videos.

“There are these huge plastic concentrations in the middle of the ocean, but unfortunately, these problems aren’t really addressed,” said Jennison.

Bermuda was the perfect spot for the expedition, since it is the land closest to one of these huge patches where plastic waste collects, called a plastic gyre. While paddleboarding around the coast, the crew members took turns collecting samples of the plastic floating at the water’s surface using special nets, called trawls, that were rigged to the back of their boards. At the end of the expedition, they sent the samples to the Bermuda Institute for Ocean Sciences for analysis.

“We’re combining adventure and hard science to address this serious problem,” said Jennison.

After returning to land, Jennison visited schools in Bermuda to teach kids about plastic consumption, the food chain, and how everyday decisions have enormous impacts on our planet.

“The waters of the world are in danger,” said Jennison. “I hope that Plastic Tides has inspired individuals to act today to preserve the last of the planet’s healthy reefs.”



AROUND the AG QUAD and BEYOND

Andrea Alfano '14

My summer may not have involved conducting scientific research, improving international agriculture, or teaching youngsters to think scientifically, but in a way I feel like I got to experience all of this and more.

Putting together this special, student-centered issue of *periodiCALS* gave me the opportunity to meet incredible people whom I may not have otherwise met and share in their inspiring experiences, even if only through words and photos. While physically much of my summer was spent back on the Ag Quad, the stories of the students I interviewed transported me to places as far away as India and Mozambique.

I joined the CALS Communications team in the fall of my senior year with the goal of sharpening my communication skills, but over this past year with the team, I've gained so much more than that. A biological sciences major, I realized over the course of my undergraduate studies that my true passion lies in science communication. Finding and sharing the stories in science fills me with the kind of gratification that I've always imagined great careers are made of, and my work with CALS Communications has only reinforced these feelings.

From writing *Cornell Chronicle* stories and blog posts on scientific research to crafting profiles of outstanding students, my work with CALS Communications this summer has exposed me to facets of the college and of scientific research as a whole that I never knew existed.

At a field day for hops research in Geneva, N.Y., I got to peer into the world of craft brewing. Roundtable discussions about dairy, climate change and nutrition research held during a visit by U.S. Secretary of Agriculture Tom Vilsack opened my eyes to many important issues and some of the cutting-edge research being conducted at CALS to address them. Whether it was from expert researchers, exceptional students, or even government officials, I was constantly learning.

Having graduated this past May, I am so grateful to have had this unique opportunity to soak up as much of this place that I love so dearly as I could this summer. It allowed me to stay in beautiful Ithaca for a few extra months of bike rides, mushroom walks and great local music while also gaining invaluable experience in writing and creating a publication. As I make the transition to New York City and the next phase of my life, I can say with confidence that visiting CALS will always feel like coming home.

