OPERATION: RESCUE
Animal sciences student discovers passion to heal horses that have experienced abuse or neglect
IN EVERY ISSUE

Dean’s Desk ............... 4
Innovations ............... 10
Collaborations ............ 25
Accolades ................. 30
Connections ............... 32
Alumni in Action .......... 34
Parting Shot ............... 36

[ON THE COVER]
ACES students in the Illini Equine Rescue Society train abused horses to trust people.
12 Branching Out
Clayton Carley empowers and educates through AgriCorps

14 More than Grunt Work
ACES students build real job skills through internships

18 TAP into Valuable Resources
The Autism Program offers a network of help for campus and community

20 Filling the Void
Shortage of ag education teachers causes concern

22 Okavango Odyssey
NRES field course students conduct research in the Okavango Delta in Botswana

26 eDNA Soup of the Day
Environmental DNA helps researchers detect invasive species in lake water

28 Discovering Dad
Hadley Read's book is published 35 years after his death
Life-changing work with worldwide impacts takes place every day in the ACES community, and we’ve captured a subset of these stories for you in this issue of ACES@Illinois. Each story reflects our ability to live into the land-grant mission by doing things that matter to people. I am certain that you will share a deep sense of Illini pride with me as you read about the amazing work that is being done to transform lives.

The best way to predict the future is to create it. We are embarking on a new journey in the College of ACES to frame who we want to be, what we want to do, and how we want to do it. How do you make something great even better? Five focal points have been identified to support us with achieving our collective potential:

1. **Improve the profile and visibility of the College of ACES.** Phenomenal research, teaching, and extension efforts are underway in ACES, and not enough people know about them—internally or externally. I am having open and direct conversations with people about what they value about the college, where we are falling short, and what adjustments we can make to improve our ability to best serve our students and stakeholders.

2. **Reduce our dependency on state dollars.** Expanding our funding portfolio by increasing enrollment, increasing endowments, collaborating with industry and foundations, and expanding our patent portfolio will reduce our dependence on state resources, thereby improving our financial stability.

3. **Build a 21st-century extension program.** We must close the gap between our discovery work and our ability to get its results to people for informed decision-making. If we want to improve the quality of people’s lives, we must find practical ways to get the results of our research into their communities.

4. **Create proactive advancement strategies.** We are igniting our alumni and donor base by creating opportunities for people to network directly with our students and faculty, to engage in fundraising activities, and to build bridges into their communities to promote local engagement.

5. **Revitalize our student recruitment strategy.** We are promoting the value-added aspects of being an ACES student, which include participating in non-classroom experiences such as undergraduate research, industry networking events, international experiences, and leadership development. We position our graduates to be career-ready in order to generate a vibrant workforce pipeline of future change agents in their fields.

I embrace the future knowing that the journey will be challenging, but the outcomes we create will be worth the efforts. My goal as dean is to translate challenges into opportunities that lead to amazing successes. Considering the quality of the faculty, staff, and students in the College of ACES that I have the privilege of working with, our future looks extraordinarily bright.

Kim Kidwell, Dean of ACES
It’s a cool, rainy Wednesday night when the student volunteers meet up on campus to make the 45-minute drive out to the farm, home to Crosswinds Equine Rescue. Once the group arrives, they get some instructions and find “their” horses for the night. This visit, a given volunteer may be learning to communicate with the horses through body language, or perhaps just staying near a nervous horse in its stall for the evening.

The volunteers’ job is to teach, to train, and to show the horses that people can be trusted again.

Gaining the horses’ trust is the ultimate reward for the students in the Illini Equine Rescue Society, who come back week after week to work with these horses. And many of the students eventually see changes in themselves as well because of the time they spend with the animals.

Erin Bryan, a junior in ACES, has been part of the equine society (formerly the Student Equine Emergency and Rehabilitation Society, or S.E.E.R.S.), since her freshman year. It is her passion to see healing in horses that have experienced abuse or neglect.
“Watching horses go through that journey when they first come in to the rescue and are scared, hurt, and abused is the most amazing thing someone can witness,” Bryan says. “People don’t realize how messed up psychologically these horses are. They do have PTSD. We have to reteach them that people are okay.”

The rescue society is a registered student organization, housed in ACES. Many of the students in the group are ACES majors, but others come from areas including psychology and business. Some already have experience with horses, but some have little—yet.

Along with working with traumatized horses at Crosswinds Equine Rescue in Sidell, group members volunteer at Healing Hands Stables in Pesotum, a therapeutic riding center for children with physical disabilities or learning disabilities. During the weekly carpool rides to the two stables, Bryan says, the students talk and build relationships with one another.

Knowing that the equine rescue society was on campus made Bryan’s decision to come to U of I to study in ACES a little easier. She grew up in Geneva, Illinois—where, as she describes it, “If you drive east, you hit the suburbs, but if you drive 5 minutes west, it’s all farmland. So I drove west a lot.”

She started riding horses—hunter jumper, she specifies—when she was young, and she worked at a horse rescue near her hometown. “It wasn’t sensible for our family to have a horse of our own. So I started working with rescue horses because I was passionate about animal welfare, and I wanted to know what happened to these big fancy show horses when their careers were over. I learned about medical care of horses, and we drove around the state to pick up horses that had been abused or starved. We even brought in a horse that had been attacked by a dog and had gaping wounds we had to take care of.”

When Bryan came to ACES, her plan was to become a vet and care for horses, but in time she chose meat science as her focus area. Regardless of her career, though, she says she will always work with rescue horses. “Horse rescue had grown into such a huge part of my life, and I wanted to continue that in college. On the social side, it was important that there was already a group of people here on campus that shared my passion,” Bryan says.

As a freshman, she joined the rescue society and got involved with Crosswinds. During one of her visits there, Bryan met Lilly, a horse that would change her life. “I could talk about her all day,” Bryan says, as her face lights up.

Lilly had come to the rescue from a farm where she had been beaten. When Lilly came to Crosswinds, Bryan says, she connected with owner Mike Cross, but she wouldn’t let anybody else come near her. “When I came in as little freshman me, Lilly wasn’t safe to be around.

“Watching horses go through that journey when they first come in to the rescue and are scared, hurt, and abused is the most amazing thing someone can witness,” Bryan says. “People don’t realize how messed up psychologically these horses are. They do have PTSD. We have to reteach them that people are okay.”

You’re making the horse’s life better, but halfway through you realize that it is making your life better too.

She wouldn’t think when she was scared. The light would leave her eyes, and she would run and run. She would run over people.

“But she and I started working together. We had a come-to-Jesus moment when she realized I wasn’t going to hurt her. I’ve worked with other horses, but it’s different with Lilly. She has helped push me to be a better person and a better caretaker. She was so scared that I had to stay calm and keep her focused on me and convince her that I was not going to let anything hurt her.”

After working with Lilly three times a week for the last few years, Bryan can now ride her without a bridle or saddle. “I am still the only one who rides her, but others can touch her now. She has changed my life. I have never had that connection with a horse before.

“She has taught me to be patient and kind, to control my reactions, to open up my entire heart. I love her so much,” Bryan says.

This is the type of story you hear—about the horses and the volunteers—at Crosswinds.
Mike and AnnMarie Cross started the equine rescue, now located on a 41-acre farm in Sidell, Illinois, as a nonprofit organization in 2003. AnnMarie says their mission is to “rescue, rehabilitate, retrain, and rehome” the horses they bring to their farm. “We try to get horses out of situations before they end up in animal control,” she says.

When she and Mike started working with volunteers from the equine rescue society, their mission changed a bit. “We started out as us training horses,” AnnMarie says, “then us helping others to train. Now we are training others to train others to train horses. Volunteers like Erin have been coming here long enough that now Erin teaches other volunteers how to build relationships with the horses.”

Mike says that he has seen the volunteers themselves change after working with the horses. He tells the story of a child who had been mute after witnessing the murder of her family. It was the bond built with a horse at Crosswinds, a horse who had itself lost its owner in a trailer accident, that inspired the child to begin talking again.

“We really touch people’s lives,” he says. “Out here, we use our bodies to communicate with the horses. When you learn to use your body to communicate, it affects how you start to carry yourself everywhere. It gives a self-awareness.”

As a nonprofit, Crosswinds relies on donations to run the horse rescue. Students in the equine rescue society assist with fundraisers throughout the year to help the rescue.

“It is critical for us that the club members are coming out here,” AnnMarie says. “We are taking severely abused animals and convincing them that we’re okay. Having all these fresh faces come here lets the horses know that new people are all right, too.”

During their weekly trips to Crosswinds, students might use round-penning techniques, using body language to gain a horse’s trust and to communicate. Others may spend time with horses in their stalls, helping them stay calm while being in close proximity with a person. And sometimes volunteers just visit with or brush the horses.

During last year’s Explore ACES event on campus, Bryan shared with visitors about the work of Crosswinds as she introduced Solstice (“Sol”), one of Crosswinds’ special horses. Though Sol is blind, he “sees” by way of an echolocation device that hangs around his neck. The device sends out clicking sounds that bounce off of objects, allowing Sol to find his way.

“It’s all about helping something that can’t help itself to communicate in a way it understands and bringing it back from something it didn’t ask for,” Bryan says. “You are making the horse’s life better, but halfway through you realize that it is making your life better too.”

At Crosswinds, when the horses are trained and at a healthy weight, they are often put up for adoption. The Crosswinds website features horses ready to be adopted. Learn more about the Illini Equine Rescue Society at publish.illinois.edu/illinequinerescuesociety. For details about Crosswinds, including volunteering and donating, visit cwer.org.
Imagine for a moment that you are a broccoli plant. Your goal is to grow and produce seeds that will carry your genetic lineage forth into the next generation. But along come bugs: chomping, chewing insects that threaten to riddle your leaves and flowers with holes, leaving too little healthy tissue to produce the seeds you need to continue your life cycle. You’d run away if you could, but alas, what’s a plant to do?

One word: poison.

Over time, broccoli and other plants in the Brassica family have developed a suite of defensive compounds known as glucosinolates. When a plant detects grazing insects, an enzyme called myrosinase springs into action, splicing stored glucosinolates into active and highly unpalatable compounds.

“If you’re a bug and you’re eating nothing but broccoli, you get a very, very, very big dose of these compounds,” explains food science and human nutrition toxicologist Elizabeth Jeffery. “If it’s not big enough to kill you, it’s certainly enough to horrify you, and you’ll go away and not eat it.”

It turns out that these very compounds actually benefit humans when we consume Brassica vegetables. For us, eating these vegetables provides a defense against cancer-causing carcinogens.

Jeffery explains, “I’m not a bug; I don’t have to eat enough broccoli that it horrifies or kills me. All toxic things are dose-dependent. What we’re doing when we eat broccoli is getting a little tiny bit of a compound that our body doesn’t like. Our body says, ‘Oh, I must set up a defense!’ So it sets up this wonderful defense that doesn’t just protect us against the broccoli compound, it protects us against all sorts of environmental chemicals.”

Jeffery has been studying broccoli for 18 years at U of I. Her group has made major contributions to our understanding of the power of broccoli and has given us some very practical recommendations. For example, her research on heat sensitivity of glucosinolates indicates that to retain its superfood qualities, broccoli should be steamed for no more than three to four minutes. She also notes that eating Brassica vegetables three to five times a week can cut cancer risk by 50 percent.

Jeffery’s research has also led to breakthroughs on prevention of specific types of cancers. For example, one of her recent studies investigated whether broccoli could reduce the risk of liver cancer in obese mice.

“We decided that liver cancer needed to be studied, particularly because of the obesity epidemic in the U.S. Obesity enhances the risk for liver cancer, and this is particularly true for men. They have almost a 5-fold greater risk for liver cancer if they are obese,” Jeffery says.

She fed the mice a westernized diet, full of saturated fats and sugar, and exposed them to a liver carcinogen. Mice that were fed broccoli in addition to the westernized diet not only had a lower incidence of liver cancer, they also had a lower incidence of fatty liver disease.

“Since fatty liver is thought to trigger the changes that result in liver cancer, this is really good news. It’s very, very difficult to change your diet enough to lose weight,” Jeffery notes. “The next best thing is eating broccoli to protect our livers, which are so important for keeping us healthy. Three to five servings a week will do the job.”

**NOT JUST PRODUCTION AGRICULTURE**

Most people probably associate the crop sciences department at U of I with production agriculture, but faculty members Mosbah Kushad and Jack Juvik are tapping into the power of plants to improve human health.

Realizing that Illinois produces 60 percent of the nation’s horseradish crop, Kushad began looking into its potential health benefits over a decade ago. He found that the Brassica species contains glucosinolates similar to
those in broccoli. After making the discovery, he worked with Juvik and Jeffery to isolate the cellular activity of horseradish glucosinolates.

“We knew horseradish had health benefits, but we were able for the first time to link it to the activation of certain detoxifying enzymes,” Kushad says.

The team found that horseradish contains two potent anti-carcinogen compounds that not only activate enzymes responsible for detoxifying cancer-causing molecules, but that are also readily absorbed when ingested.

“Horseradish actually contains more than 10 times the glucosinolates that broccoli has,” Kushad says, “so you don’t need much to benefit. In fact, a little dab on your steak will go a long way to providing the same health benefits as broccoli.”

MORE THAN ONE WEAPON AGAINST CANCER

Brassica vegetables provide us with a multitude of weapons to fight cancer. In addition to glucosinolates, they contain flavonoids and other phenolic compounds. These compounds are found in a wide variety of plants, not just Brassicas. To name a few, chocolate, green tea, and açai berries are credited with their superfood powers because of their high concentrations of flavonoids.

Again, these compounds do not exist for our benefit. In the plant, flavonoids have a wide variety of functions, but the most relevant to this discussion is their antioxidant activity. Glitches in the photosynthetic pathway often give rise to the creation of reactive oxygen molecules that can damage plant tissues. Antioxidants in the plant can deactivate free radicals and reduce damage. When we ingest them, these antioxidants do the same job in our own bodies, reducing cellular damage and inflammation.

“Inflammation is a necessary process because it’s a response to disease or damage,” Juvik explains. “The problem is that it’s also associated with initiation of a number of degenerative diseases: heart problems, cardiovascular diseases, and cancers, as well as a range of other bad-news stuff. So we’re very interested in exploring and identifying gene candidates associated with the biosynthesis of compounds that we know to have anti-inflammatory capacity. People whose diets contain a certain level of these compounds will be at a lesser risk of contracting these degenerative diseases.”

In collaborating with Kushad and Jeffery, Juvik concentrates on the genetic side of the equation, identifying genes in broccoli that relate to the synthesis of flavonoids and other phenolic compounds. In a recent study, his team crossed two broccoli lines and tested their progeny in terms of total phenolic content and their ability to neutralize oxygen radicals in cellular assays. They then used a genetic technique called quantitative trait locus analysis to search for the genes involved in generating phenolics in the most promising progeny.

“We were able to identify a lot of candidate genes,” Juvik says. “The next step is to look for those genes in broccoli and other Brassica vegetables and identify the most promising lines to maximize their health-promoting properties. We’ll be able to bring together phenolics and glucosinolates for a major plant breeding program.”

This means the broccoli of the future could have far more potency as a cancer-fighter. And you thought broccoli was already super.
The prevalence of obesity has risen significantly, with nearly 36 percent of Americans now considered obese. Because obesity can lead to life-threatening conditions, including high blood pressure, type 2 diabetes, heart disease, stroke, and even some cancers, finding treatments—in addition to promoting healthy eating and exercise—has become a pressing priority.

Some good news is that University of Illinois researchers have been able to shed light on why obesity is so bad for human health. With obesity, fat cells in the body’s adipose tissue become enlarged and inflamed as immune cells enter. When they stay that way, systemic inflammation in the body can result. This, scientists say, is the link between obesity and its related diseases.

Kelly Swanson, a professor of nutrition and nutrigenomics in the Department of Animal Sciences, explains that these particular immune cells, macrophages, are white blood cells that are not necessarily bad in the body. “They ‘clean up’ after a cell dies so that there is not debris causing problems,” he says. “But with obesity there are different types of macrophages, and more and more of them are inflammatory.”

Too many of these macrophages and too much inflammation tell the body that something is not right.

Swanson, who has studied obesity in his lab in the past, including obesity in dogs and cats, has been working with other researchers across campus to find new ways to deal with obesity-related inflammation, especially targeting macrophages. “We don’t want to kill the macrophages, but to dampen the inflammatory signals they are sending out,” he says.

Drawing from Swanson’s expertise in nutrition and obesity, combined with technology from disciplines including bioengineering, materials science, pathobiology, and others, the team has developed a new treatment using nanomedicine to deliver medication directly to the inflammatory cells.

With nanomedicine, a very small-molecule “transporter” carries a drug straight to the targeted site in the body. In a recent study conducted by the cross-campus team, the new treatment was promisingly successful with mice in an obese state.

“Nanodrugs have been used before in targeting cancer,” Swanson says. “But from an obesity standpoint, this is pretty novel.”

Although medications to treat inflammation already exist, some have drawbacks. “The point is to target the inflammatory cells so we can minimize the side effects of drugs floating throughout the body, mostly going to the liver,” Swanson says.

“With this new method, the medicine is protected until it gets into the macrophages, or whatever cell is targeted.”

During the study, results of PET/CT imaging showed that 63 percent of the injected dose remained in the fat cells up to 24 hours after being administered in mice included in the study. These were promising results.

“The imaging techniques were amazing,” Swanson recalls. “We could see that the nanodrugs were in the tissue and in the targeted cell type.”

A look at gene expression also showed that inflammatory markers went down—more good news.

“There’s never a replacement for healthy eating and keeping weight off, but this could be another intervention to add, especially for morbidly obese people who face so many complications. Comorbidities of obesity are thought to be attributed to inflammation. If we can address that problem, some of those trickledown effects won’t be quite so severe,” Swanson says.

The National Institutes of Health recently awarded nearly $2 million to Swanson and the U of I team to continue exploring this unique, tissue-specific drug delivery method. Team members include researchers from the departments of bioengineering, molecular and integrative physiology, and veterinary pathology.

Swanson says it could be years before the new delivery method is ready to be used on people. More studies will work to determine appropriate dosing and any long-term toxicity.

Initial funding came in 2013 from a Future Interdisciplinary Research Exploration (FIRE) seed grant from the College of ACES. FIRE grants are intended to spark creativity and collaboration between ACES faculty and their research partners, both within and outside the U of I.

Kathy Partlow, grant development specialist, manages the FIRE grant program. She says that Swanson’s collaboration is a perfect example of what the grant hopes to accomplish.

Partlow says, “It’s for unique combinations of disciplines that can make a big impact in a short amount of time.”

By Stephanie Henry
How do you spark an interest in STEM in a youngster who thinks math is boring at best, torture at worst? If you can make the learning fun, says Allan Axelrod, a Ph.D. candidate in agricultural and biological engineering (ABE), you can kindle a passion for robotics and computer programming among even the youngest of students.

Axelrod is the co-founder of Kindle the Flames, an educational outreach program for middle school children he launched in 2014 as a master's student at Oklahoma State University. Girish Chowdhary, now a professor in ABE, was his advisor. When Chowdhary accepted a position at Illinois, Axelrod came with him, and they have organized a second Kindle the Flames team on the Illinois campus.

“I wanted to create activities that would get kids interested in technically difficult areas by showing them technology could be fun,” Axelrod says. He relates his own experience with a game he played in elementary school. “The better you were at math, the more thoroughly you could pummel your friends in this game,” he says with a laugh. “So there was a motivation there, and I got really good in math. I wanted to create something with a similar effect.”

The group started with Alice, an object-oriented, open source programming system developed by Carnegie Mellon University. Named after Alice in Wonderland, the system is provided free to the public. Its drag-and-drop interface allows learners to create 3D environments and populate them with a wide variety of easy-to-program objects and characters.

“We started teaching kids this introductory world-building exercise,” Axelrod says. “Other programming activities said, ‘Here’s a block of code.’ Alice said, ‘Here’s this world. Do you want to start on Mars, or on the moon base, in the Amazon, or underwater?’ It had different scenarios already populated with objects that you could easily customize. The idea was to get kids immersed in world-building, to give them a more narrative-driven focus when it comes to programming.”

From that beginning, Axelrod says, he and his fellow developers also wanted to introduce a robotic aspect to their demonstrations. “But how do you make that fun? You make it a game. Our first-generation game was a drop-the-claw style activity. It was the most basic gateway activity for interaction with robots. If you could mash buttons on a controller, you could play the game. We’ve taught that game maybe 9 or 10 times for more than 300 children.”

But the challenge remained to include programming in the demonstrations, ideally in a way that would seem to be an effortless interaction with robots.

“Most kids have seen the movie WALL-E,” Axelrod says. “Wall-e is a robot who gets hurt. So we took that idea and thought, Okay, we have a robot. If we reduce his speed, can we convince kids that the robot is hurt? That was the motivation for our next activity: help repair Wall-e. We gave them narrative-based instructions, such as power-on Wall-e’s chip, go to Wall-e’s motor controls, repair Wall-e’s motor controls, etc. Sandwiched in between the narrative-based instructions was the actual code that the students were doing. The overall idea was to make programming seem like an effortless or natural thing to do.”

Chowdhary believes that the reward of completing these interactive games successfully is crucial in encouraging children in STEM—science, technology, engineering, and math—activities. “At some point, students ask, ‘Why are we doing all of this math?’ When you physically build something, you have it in front of you and you feel proud. It’s more difficult to feel proud about coding or mathematics because you don’t have an immediate reward. But these activities communicate that reward in a very tangible way. Imagine the pleasure you get when you make Wall-e feel better. Now compare that with how you might feel if you were an engineer working for NASA and you fixed the Mars rover on Mars while you were sitting here on earth. That’s the carrot for students to move in that direction. And I think it works very well.”

Axelrod recently worked with Envision (ENgineers Volunteering In STEM EducatION) to bring Kindle the Flames to the Urbana farmers market, where kids could try to land an unmanned aerial vehicle on a converted Roomba Robot. Kindle the Flames also took robotic gaming demonstrations to the Champaign Public Library.

Axelrod says his future plans include developing a K–12 interactive robotics curriculum with an emphasis on narrative-driven gaming. “There was a shortcoming in my elementary school gaming experience,” he says. “The boys loved those games, but because there was no story element, the girls didn’t enjoy playing all that much. So we need to learn from research that says gender issues in computer science—and by extension, robotics—can be mitigated by turning programming activities into story-telling activities.”

“We’ve all heard about the students who love programming,” Chowdhary says, “those 15-year-old geniuses who develop amazing computer games. We reason that there had to be an event in their past that got them excited about programming. We hope Kindle the Flames will create that kind of event in a student’s life.”
After preparing for his day in Kofridua, Ghana, Clayton Carley walks from his apartment down a beautiful mountainside through the town market. He greets everyone with “shalom” as he walks past.

Carley, from Crescent City, is a fellow with AgriCorps, a nonprofit organization formed in 2013 to respond to the demand for experiential, school-based agriculture education in developing countries. AgriCorps partners with non-governmental organizations that focus on youth development through agriculture. Carley is the eastern region liaison between National 4-H Ghana and AgriCorps.

“I work in Ghana’s National 4-H office,” Carley says. “On a normal day I am in the office, doing program development and planning teacher trainings. I also work with other AgriCorps fellows around the nation; I am directly responsible for two other fellows here in the eastern region. I work heavily with Ghana’s northern region liaison as well.”

Blaze Currie, a graduate student in agricultural education at Illinois and former executive director of AgriCorps, was one of Carley’s biggest inspirations for becoming a fellow.

Currie describes the initial years of AgriCorps: “My best friend, Trent McKnight, and I had swapped ideas about the possibility of creating the organization, and he pulled together the resources to launch the program. When I became the executive director, one of my jobs was traveling around to different campuses talking with and recruiting students like Clayton for this opportunity to become a fellow.”

According to Currie, Carley’s knowledge base as well as his positive attitude immediately stood out when Currie first met him.

“What makes Clayton unique is the combination of his experience in agricultural education with his background...
in genetics and the science side of agriculture,” Currie says. “Clayton also has a really positive attitude, which becomes an asset when you are working in a developing country, where things can be difficult and there can be challenges to face and overcome.”

These qualities are what motivated Carley, a graduate of both crop sciences and agricultural leadership and science education, to apply to become an AgriCorps fellow.

“I was inspired to become a fellow because of the opportunities to use both of my Illinois degrees in practical applications. Using my experience on the farm and in the classroom is very exciting and so rewarding,” Carley says. “I've experienced firsthand the opportunities that FFA, 4-H, and the positive youth development model have given me, and I wanted to be an agent of change to help replicate and develop these opportunities in Ghana as well.”

While in Ghana, Carley says, he has fallen in love with teaching agriculture to those who are eager to learn.

“I have discovered that I truly love teaching and helping people,” Carley says. “There is nothing more rewarding than seeing a farmer’s or student’s face light up as they begin to use something they learned or come up with their own solutions to real problems.”

Debra Korte, a teaching associate in agricultural leadership and science education, believes Carley’s ability to teach and help others is a testament to his character.

“Clayton always wants to help people reach their potential, and he recognizes their value,” Korte says. “The work he does to help others is never for recognition of himself; he always works to help others. We can all learn something from that.”

Carley has been impacted in return by the lives he has been able to touch.

“I’ve learned that when you empower others, you empower yourself at the same time,” Carley says. “A person’s struggles become your struggles and their success becomes your success as you watch them take ownership of a solution you guided them to creating themselves.”

Carley lives by his grandfather’s motto: “The more you know, the more you realize you don’t know.”

Carley notes about his Illinois years that “it is easy to stay in your friend group or even within your major, but the more you get out and see and experience these opportunities, the more you become interested in seeing and doing more. U of I may have its roots in central Illinois, but it expands its branches all across the world.”

After his fellowship with AgriCorps, Carley hopes to continue with global advocacy for agriculture.

“Finding an organization that takes young ag professionals and enables them to use their skills for global influence is an amazing opportunity,” Carley says. “I hope to have continued global influence and opportunities in the future, and the idea of working with AgriCorps inspired me to begin opening those doors to the rest of the world. Keeping knowledge and experiences to yourself benefits no one, so I love opportunities to share ideas and pass on the education I have.”
Four ambitious students are getting a head start on their careers. These are their stories.

TAYLOR DUGAS

Taylor Dugas, a junior in agricultural and consumer economics, spent last summer working in the White House Office of Correspondence—essentially, the president’s mail department. That might sound a bit dull, but the office has a vital and storied history. Most notably, the Office of Correspondence was responsible for helping deliver Albert Einstein’s famous letter to Franklin Delano Roosevelt, warning that Germany had the ability to generate atomic bombs and urging the U.S. to develop its own nuclear program.

“That letter almost didn’t make it to Roosevelt’s desk. Imagine what type of world we would live in if it hadn’t,” Dugas says.

Dugas worked in the email department under the energy and environment portfolio. “Reading those letters, you really get to know how people feel about the issues. We tried to be candid in our responses, and to make them as personal as possible. People were usually shocked and thankful that they got a response from a real person,” he says.

Dugas describes his acceptance to the White House internship program as a Hail Mary of sorts. “I had deep ties to the Obama administration, coming from Chicago and having volunteered and interned for Obama’s reelection campaign as a high school senior. ‘Why not apply?’ I thought. But I didn’t expect to hear back,” he recalls.

Dugas says a highlight of his summer was President Obama’s speech to the internship class. “He gave us wonderful insight about the role of public service, what it meant for him to be president, and what his lasting legacy is going to be for America. It was very inspiring.”

Growing up on the South Side of Chicago, Dugas didn’t know many other teens with an interest in agriculture. “Corn doesn’t grow in Chicago,” he quips. But he didn’t let that stop him.

Dugas came to U of I and enrolled in ACE, with a concentration in public policy and law. He admits to being unsure of where he fit initially, considering that most of his classmates grew up in farming communities. He got involved with MANRRS—Minorities in Agriculture, Natural Resources and Related Sciences—and rose through the ranks to become president. Along the way, time spent back at home led him to realize that Chicago and other urban environments need people with his expertise.

Dugas points to vast “food deserts” on the South Side, neighborhoods with few accessible and healthy grocery options. He wants to change that by reforming the Supplemental Nutrition Assistance Program (the source of food stamps) and by working to expand farm subsidies for urban agriculture.

Dugas won’t write letters for a living, but his White House internship was not a waste of time. Instead, it cemented his commitment to public service. In Obama’s remarks to the interns, he talked about being “fired up, ready to go.” It turns out that this campaign-style catchphrase describes Dugas quite well.
CAITLIN M. McClure

Agricultural communications senior Caitlin McClure wasn’t expecting to run a division of a new online media outlet as an intern, but that’s essentially what she has done for Neuhoff Media’s Now Decatur.

“They brought me in two years ago as a 19-year-old college kid and said, ‘Here you go!’ I was given free rein to develop agriculture content for the platform,” she recalls. “It only took them two weeks to start calling me ‘the ag editor’ and not ‘the intern.’”

McClure was first approached by the president and CEO of Neuhoff Media at the National Association of Farm Broadcasters conference. After a single conversation with McClure over lunch, Beth Neuhoff hired her on the spot, and she has continued her internship with the company ever since.

“I spotted Caitlin across the room at an industry meeting she was attending as a student and immediately knew she was a star,” Neuhoff recalls. “Not only does she have a tremendous intellect, she has a drive, curiosity, and natural presence.”

Once she got started, McClure dove right in. She is involved with social media, photography, story development, interviews, photography, video production, and more. But one of her major tasks—and one reason she was an attractive candidate for a media outlet in ag-centric Decatur—is to connect the general public and the agricultural community.

“I’m trying to bridge the gap between the 2 percent of the population that produces agricultural products and the 98 percent that consumes them. I do feature and lifestyle stories to help people connect the dots,” McClure says.

McClure credits her classes in broadcast journalism and her involvement in the Illini Agricultural Communicators of Tomorrow chapter with enabling her to hit the ground running at Now Decatur.

“My training at U of I definitely allowed me to come in above where I should have been,” she says.

The idea of leaving the company that gave her so many opportunities is bittersweet.

“It has been such a wonderful experience. It makes it really hard to think about leaving after I graduate,” McClure says. She has a standing offer to join the staff at Now Decatur, but even her boss doesn’t want to see her getting too comfortable. After McClure spends a few years with Neuhoff Media as a full-time employee, Neuhoff will insist that she move on to bigger and better things.

“As I told Caitlin when we met, I’m certain I’ll be working for her one day,” Neuhoff says.

DISCOVERING OPPORTUNITIES AT THE ACES AND SCIENCES CAREER FAIR

The noisy gym is packed with hundreds of ACES students, dressed in suits and waiting to meet prospective employers. More than 130 companies have gathered for the ACES and Sciences Career Fair to offer employment and internships.

Cargill recruiter Amy Davis, an animal sciences alum herself, thinks she knows why ACES students make such successful interns. “Even if you don’t remember the technical stuff from the classroom, you are learning how to learn. My ACES experience taught me the process of how to learn what I need to know. I apply that to my job every day.”

Agricultural and consumer economics alum Brett Nightingale agrees. “Getting ACES students is something we’re really excited about,” says Nightingale, vice president of sales for nitrogen fertilizer manufacturer CF Industries. “We know that U of I has one of the top agriculture programs in the country, and ACES graduates are well prepared for the work they do for us. They get top-quality instruction and career development.”

academics.aces.illinois.edu/career-services
Crop sciences junior Chloe Siegel isn’t satisfied with learning for the sake of amassing knowledge. She needs to know that her work can be applied in the real world.

“I’m interested in not only understanding the science, but using it to help this group of farmers, or improve that staple crop, or combat some climate phenomenon. In crop sciences, I am really able to make an impact,” Siegel says.

She didn’t recognize her need for tangible results until her third internship, at Dow AgroSciences. But more on that later. In her first two internships, Siegel did more traditional academic research. She spent the summer after high school as an intern at the Chicago Botanic Garden, in her hometown of Glencoe.

“I was studying a rare shrub found in New Mexico and Texas. We were trying to assess genetic diversity in two disjunct populations, to see if there were any ways to conserve the species,” Siegel explains. The project gave her a proficiency in standard molecular biology lab methods before even starting college. The work has since been published in a peer-reviewed scientific journal.

Siegel knew she liked molecular biology and biotechnology, but it wasn’t until she took Matt Hudson’s genetic engineering lab course that she knew she wanted to work and major in crop sciences.

“Crops are food and fuel and the air we breathe. They keep the world running,” Siegel says. “A lot of what I am learning, especially economic empowerment and food security issues, really resonates for me. I feel like I am enabled to do something about these issues with an education in crop sciences, specifically in biotechnology.”

Siegel’s next internship took her to the Smithsonian Institution, in Washington, DC, the summer after her freshman year. There she honed her existing molecular biology lab skills and added a few new skills, including novel DNA extraction methods and grant writing, to her growing resume. That project also resulted in a journal article that is being prepared for publication.

Siegel finally found her calling the following summer, when she interned at Dow. She loved that she was working on a project with practical applications: looking at the molecular mode of action of new fungicides that could lead to improvements in crop yield.

“There was a disconnect for me when I was working in academic labs as opposed to industry. I kept thinking, ‘What do we do with this? What’s the application? What now?’ I really wanted to see the concrete product of what I was doing. I didn’t know that until I got into industry,” Siegel says.

She plans to pursue a fourth internship next summer, and hopes to continue working in industry for a couple more years before going back to school for her Ph.D. This was a tough decision because, believe it or not, Siegel claims she once hated school. But her experience in crop sciences changed that.

“When I was younger, going to school was a major challenge for me,” Siegel says. “But my classes now are a whole lot of fun. I love the department because class sizes are small and my professors know me. And the classes I’m taking are teaching me things I know I can use to accomplish my goals.”

University relations manager for GROWMARK and FS System, Amie Hasselbring, says, “We always have great success when looking to fill internships with students from U of I, specifically the College of ACES.”
Food manufacturing companies spend millions of dollars on chemical leavenings such as baking soda every year. That’s why Kellogg’s brought Jazmine Williams on board for a six-month internship: to replace chemical leavenings with less-expensive substances, while maintaining the taste and texture of their signature Eggo waffles.

“I worked with gases such as CO₂ to fluff up the waffles and mimic the reaction that occurs with chemical leavenings. I succeeded in achieving a great reduction in leavenings, and they passed my results along to their cost optimization team,” says Williams, a senior in food science and human nutrition.

The process took a lot of trial and error. At first, Williams experimented with different formulations at the lab bench. After a few promising batches, she scaled up to see if her recipes worked on a larger scale.

“I was able to do a large production in the pilot plant, managing a team of engineers and workers to make it happen. I tried six different test designs using different levels of CO₂. I made about a thousand waffles,” she notes.

The waffles were sent on to the sensory department to be tested for taste and texture. Williams had initially applied for an internship in that department, but says she was “stolen” by the research and development team.

Williams thinks the solid foundation she had from her classes at U of I helped make her worthy of being pilfered. “In the interview, they could tell I knew what I was talking about,” she says. Undergraduate Williams was the youngest intern in a class of master’s and Ph.D. candidates, but she was soon managing a research team and building her skill set.

Williams wound up loving R&D and now sees a future in that field. After completing the graduate degree required for an R&D position, she hopes to return to Kellogg’s to further revolutionize foods.
When you’re dealing with a disability like autism,” Becky Moore says, “you need a connectedness with the autism community to know how to reach out and get help.” The oldest of Moore’s three children was diagnosed with autism early in his childhood.

Since Moore’s family moved to Champaign a few years ago, that help has come through The Autism Program (TAP), housed in the Department of Human Development and Family Studies (HDFS) in ACES. Under the direction of Linda Tortorelli, TAP offers resources and referral services to parents and professionals. There is no charge for most of their services.

TAP helps people navigate complex systems, knowing who to call and what to say. The support is a lifeline, Tortorelli says, especially when a child is first diagnosed with autism.

“When someone is dealing with disability in their world, the systems they have to navigate are extremely complicated,” she says. “First is even getting to a diagnosis. Then, how do they get support and services in the medical community? Then, how to get those in the educational community?”

TAP’s resource center is housed in Christopher Hall. The room is colorful; picture strips and visual resources hang on the walls. Shelves and tables are lined with books—for parents, educators, college students, and adults who deal with autism. Because it’s a drop-in center, student interns, Tortorelli, and other staff are on hand to talk with families and others who come by.

TAP also offers social skills classes, new diagnosis orientations, and trainings for childcare providers, first responders, and others.

For Moore and her family, the connection with Tortorelli and TAP could not have been better timed.

“This has been a dark time for us,” Moore says of new issues the family is facing with Jacob’s personality and behavior, aspects of his autism. “But the people at TAP are there with resources. If I didn’t have someone like Linda Tortorelli, I don’t know what we’d do.”

JACOB AND AUTISM

“It’s been said that if you’ve met one person with autism, you’ve met one person with autism,” Moore says. That’s because autism looks different in each person who has been diagnosed.

Autism spectrum disorder, or ASD, refers to a collection of traits related to difficulty with social communication and repetitive behavior. These traits can be different for each person on the autism spectrum. It is not known what causes ASD.

Jacob, now 16, loves to bowl and to recite movie lines. In fact, he uses lines from movies, expressing both happiness and sadness, in real moments to relate to people. Since Jacob’s diagnosis nearly 10 years ago, Moore says, some stages of development have been easier than others. The current stage has been a tough one.

Jacob is verbal and high-functioning, though he deals with a severe developmental delay. Cognitively, he is at a kindergarten or 1st-grade level. But at nearly 6 feet, he towers over his mom. Moore says Jacob’s meltdowns have become a problem. That’s something else Tortorelli has been able to help with.

“He’s a big kid with an adult body, but he thinks like a little boy,” Moore says. “He knows he has autism, but he beats his own drum. He has a good sense of humor, but he’s more serious now. He feels bad after a meltdown. He says, ‘Poor mom, poor dad.’ Just like a little boy. That is the level he is at.”

Staff at TAP have made picture strips, social stories, and picture books of what Jacob does during his days—riding the bus, interacting with horses, bowling—to help ease the stress involved with schedules or new activities.

The Autism Program offers a network of help for campus and community

by Stephanie Henry
Even before connecting with TAP at U of I, Moore says the family received help from The Autism Program in Springfield, where they lived before moving to Champaign.

“Our relationship with TAP has been strong through the years,” Moore says. “We know it’s there and when we need it, we call and use it. But families like us are not always in crisis.”

**SUPPORT FOR FAMILIES AFFECTED BY AUTISM**

TAP, formed over 10 years ago at U of I, is part of a statewide network of autism programs. The founders, including Aaron Ebata, an HDFS professor, and James Halle, then a U of I special education professor, wanted to begin an autism program. In deciding how to shape the program, Tortorelli says, “We went to the people we had identified as stakeholders, and we’ve held true to what they wanted.”

The stakeholders wanted five elements in the program: a place they could go, people to talk to (not just a website), education and training for themselves and the community, access to diagnostics, and classes or groups that could help with social skills.

Tortorelli says her work with TAP was a career that found her. After years of looking for answers in the community herself as a mom to a child (now an adult) with autism, she has acquired a wealth of knowledge about who to call and where to go for support.

She adds, “I have been in the trenches navigating these complex systems for my own son, who has complex needs. Disability services and money are scarce.”

TAP also offers support to educators working with kids with autism and provides an internship program for students. Interns get experience working with families, help make visual supports, and complete an online curriculum.

A research evidence base underlies the recommendations and referrals made at TAP. In autism, some interventions and strategies have a preponderance of evidence, others have an emerging evidence base, and some are unfounded, Tortorelli says.

“If an approach has no research behind it or has proven to be harmful, we let parents know,” she says.

Tortorelli worries that the word does not get out far enough that TAP exists.

Recently, the Illinois state budget crisis created fears that the program would have to close. With efforts from parents and advocates, TAP received gifts from Carle Foundation and Christie Foundation in Champaign-Urbana. Additional funds from private College of ACES donors and HDFS helped keep the program operating. Stopgap funding from the state will allow the program to stay open through June 30. Additional private contributions are vital to TAP’s continuing to serve community needs.

Mom Becky Moore says their family is eager to give back in return for all TAP has given them over the years. “We’re not just needy for help—our families can help, too. If I know someone is struggling or if there’s some support I can lend, I am happy to share it.”

Learn more about TAP programs or providing financial support at theautismprogram.illinois.edu.
FILLING THE VOID

SHORTAGE OF AG EDUCATION TEACHERS CAUSES CONCERN

By Courtney Walker

This fall, six new University of Illinois graduates will introduce themselves to their students in agriculture classrooms around the state. In fall 2018, that number will jump to 18, one of the largest classes of agricultural educators the U of I has trained in the last decade.

But high school ag programs continue to face a steady shortage of qualified instructors. In a region encompassing Illinois and five surrounding states, for every 10 agriculture teachers, there is one position waiting to be filled.

"Those involved in agricultural education have made a sustained effort to increase the number of teacher candidates. Still, the number of openings exceeds the number of people willing to fill them," says Debra Korte, U of I agricultural leadership and science education teaching associate. "If we want to keep agricultural education programs in our communities, we need teachers."

WHY TEACH AG?

Agricultural educators play a key role in facilitating successful high school programs that promote leadership, agricultural literacy, and experiential learning. The extensive out-of-class focus makes agriculture programs unique among other high school programs.

Korte calls the structure of the programs "intracurricular" as opposed to extracurricular.

"The foundation of agricultural education is the three-circle model," she says. "Ideally, teachers provide solid classroom and lab instruction, students participate in FFA experiences that relate to that instruction, and each student has a Supervised Agriculture Experience [SAE] that is tied to curricum." These three circles allow for real-world applicability and leadership development. Tim McDermott, agriculture teacher at Waterloo High School, says the model facilitates the fulfilling nature of his career.

"Seeing students take what they're learning in the classroom and demonstrate that knowledge at FFA events while watching the leadership, teamwork, and friendship building that comes along with FFA membership is the most rewarding part of my job," McDermott says. "The teaching part is fun, but nothing beats seeing students discover a sense of satisfaction when they are able to do something that they didn't know they could."

Diana Loschen, agriculture teacher at Tri-Point High School in Cullom, says, "You can go to work each day as an ag teacher knowing that you're making a difference."

The expectation of a gratifying career is what attracts many young people to a future teaching agriculture. Amy Loschen, a senior in U of I agricultural science education, is student teaching at Somonauk High School this spring. She is pursuing a career as an agriculture teacher because it combines her desire to help students with her passion for agriculture.

"High school ag class is the first time many students are exposed to agriculture," she says. "Ag classes are more important than ever because many students have never stepped foot on a farm. The classes allow students to dive deeper into agriculture topics. It's important to expand students' knowledge of agriculture so they can not only be more educated consumers, but possibly discover careers in agriculture."

Students also gain unparalleled leadership skills through agriculture classes, Korte says. "Regardless of students' involvement, hopefully they'll become better leaders in their homes and communities by taking ag classes," she says.

Kaity Spangler, a junior in agricultural science education, was actively involved in the chapter and section levels of her high school agricultural education programs.

"Agricultural education helped build me as a person. It's made me the go-getter that I am today," Spangler says.

Ag teachers are not just teaching content, Korte says. "I like to think most ag teachers are training their students to be better people while teaching them life skills they can easily apply in the future," she adds.

SO WHAT'S THE PROBLEM?

Despite the many rewards of teaching agriculture, a shortage remains. Korte says it can be attributed to several factors. One of the most concerning is attrition, or teachers leaving the profession. According to Korte, attrition is an issue in all education-related professions, the subject of extensive study.

"Research indicates teachers of agriculture are satisfied with their jobs; that is not the issue," Korte says. "A multitude of other factors influence their decisions to leave. Most frequently, teachers cite salary, student discipline, classroom management, administrators, paperwork, time requirements, burnout, or work-life balance as reasons they decide to leave the classroom."
Teacher Diana Loschen says that because agriculture instruction requires more effort beyond that of typical classroom preparation, many new ag teachers are challenged in ways that they have never been challenged before.

"Teachers are pushed to their limits in terms of time management," Loschen says. "They’re pulled in a variety of different directions all at once. The amount of time teachers put into their programs often causes them to sacrifice family time, so some leave teaching to pursue other careers in agriculture or even outside of agriculture. That is a problem."

But because agricultural education is such an important feeder into the Illinois agriculture industry—the state’s number one employer—agriculture teachers are a necessity. One in four jobs in Illinois is directly related to agriculture; high school agriculture programs equip students to become the future of Illinois.

“If we want to train people for future careers, if we want to keep jobs in Illinois, we have to train them for employment opportunities available here," Korte says.

FINDING SOLUTIONS
Because of agricultural education’s importance to Illinois, the Facilitating Coordination in Agricultural Education program was created to support the state’s agriculture teachers. Agriculture educators have access to curriculum, professional development workshops, and other classroom supports. New ag teachers also can leverage a network of fellow teachers to maximize their potential for success.

McDermott says that Illinois’ reputation for strong ag programs often adds to new teachers’ stress. “These young teachers try to do everything they possibly can, and do it fairly well; then after a few years, they realize there are only so many hours in a day.

“Partnering up our young teachers with experienced teachers who have ridden the same roller coaster of emotions and pressures helps young teachers stay in the profession,” McDermott says. “We can act as a sounding board for new teachers so they know they’re not alone. We’ve all been there. It does get a little easier the longer you stay in the field."

Much like the agricultural marketplace, agricultural education in Illinois is in a continual state of change. But the dedicated teachers in the field, and the professionals who support them, feel positive about Illinois agricultural education right now. Private gifts providing undergraduate scholarships for students pursuing careers in agricultural education are another way to continue to attract and retain the best and brightest students to the program, Korte adds.

“I believe we’re in a growth phase," Korte says. “As a state, we’re starting to increase the number of students who want to be ag teachers. The increased enrollment in our teacher preparation program is validation of that increased interest in the profession."

While the number of agriculture teachers may change, the influence agricultural education has on its students is consistently beneficial.

“We have a direct impact on shaping the minds of our high school students related to agriculture, and we help develop leadership and communication skills to prepare them for the career field,” McDermott says. “We get to see rewards for our efforts every day in the classroom.”
It’s 6 a.m. and the campers are quietly preparing for the day. Suddenly, a voice calls out from the camp manager’s tent.

“Girls? We’re going to have to wait. I can see a lion from my window.”

It was the start of another ordinary, extraordinary day in Botswana for animal sciences students Katie Campbell and Taylor Damery. The two were enrolled in a nine-week ACES field course to study wildlife in Botswana’s Okavango Delta and Chobe Enclave Region.
JEWEL OF THE KALAHARI

ACES alum Jordana Meyer, who oversees on-the-ground operations for the course in Botswana, explains the appeal: “Botswana has some of the greatest wildlife diversity in Africa. The Okavango Delta, a UNESCO World Heritage site, is home to the densest population of elephants in the world, not to mention hundreds of other mammals, birds, reptiles, amphibians, and fish.

“Our programs present students with hands-on experiences in the conservation of natural and cultural resources across wilderness and rural regions of Botswana. Students get to apply their classroom training to projects focused on biodiversity monitoring, adaptive management, and human–wildlife interactions,” Meyer says.

Neither Damery nor Campbell needed much convincing. Both women were already interested in study abroad opportunities, and after they attended Meyer’s information session at U of I, they applied right away.

“What really made me decide to go was that it was hands-on research, and we were learning useful research skills,” Damery says. “Also, the information we were collecting and processing was actually being fed back to the government and used. That’s what really sold me on it.”

“I liked that it was so specific to animals,” Campbell says, “and that there was a conservation aspect to it. There was so much for me to learn. I wanted to go so badly.”

REAL RESEARCH FOR REAL SOLUTIONS

After landing in Maun, the U of I group spent a week in training. Researchers from all over the world came to give lectures on animal biology, physiology, and behavior and on the environment in the region.

“That first week, almost everything was new to me. Having a strong foundation in animal sciences definitely helped, but I didn’t expect to learn as much as I did. It was amazing to hear from all these top-of-the-line researchers. I just sat there in awe,” Damery says.

As the week progressed, the group discovered that animals in the protected areas were forced to traverse farmers’ properties to get to a major water source. Native herbivores were competing with cattle for forage and eating crops; predators were killing livestock, and farmers were retaliating. Campbell and Damery were fascinated, so they, along with four other students, signed up to conduct research on human–wildlife conflict.

“It was interesting to find out what a big problem this is. We met with one of the farmers, and he asked us, ‘What are you going to do for me when my cattle are being killed by lions?’ I realized we were there for a reason. We were helping their animals survive, and helping them live out there,” Campbell says.

“We interviewed farmers to see what kind of conflict they were experiencing,” Damery adds. “Many were having such bad elephant problems that they had to quit growing crops altogether.”

Students paired off to focus on different aspects of the human–wildlife conflict, but everyone helped each other. Campbell and her partner studied herbivore population dynamics. Each day, they would tally the herbivores they observed along a transect. Later, they analyzed their results to determine if the herbivore populations were growing, shrinking, or moving.

“We would get in a Jeep and drive a certain distance,” Campbell recalls. “Within that distance, every time we’d see herbivores, we would stop, count them, and record details like sex, age, GPS coordinates, weather, and time. We’d record elephants, impala, waterbuck, buffalo, baboons, giraffes, zebra, and cattle. That data helped us keep track of the populations in that area and how close they were to the road, to resorts, or to other settlements.”

Damery and her partner looked at elephants and how they moved across the landscape. They used a similar transect approach, going out early in the morning and looking for elephant footprints along pathways.

“How often were they using the paths? What type of herds were using them? Was it a bachelor herd, a lone bull, or a matriarchy? We were able to answer all those questions by analyzing footprints on the road. We got some good data back,” Damery says.

Each group entered observations into a database started by past students using the same methods. These repeated measurements not only offer a long-term view of wildlife dynamics in the region, they also inform government policies that benefit both farmers and wildlife.

What’s more, the research built important skills for the students, many of whom lacked hands-on research experience prior to the trip. Natural resources and environmental sciences professor and course coordinator Bob Schooley says the students learned general skills like designing experiments and collaborating with other
researchers while gaining experience with standard wildlife biology research methods.

“Fortunately, these skills are not restricted to being useful in Africa. This knowledge can really help students when they’re applying for jobs,” Schooley says.

LIFE IN BOTSWANA

Few creature comforts awaited students back at camp after their long days collecting data.

“I really loved camping, but I wasn’t prepared to be constantly dirty, to cook my own food, and to have to heat up my shower bucket over the fire. We made the best of it,” Damery laughs.

But living in the midst of Africa’s iconic creatures was the experience of a lifetime for animal lovers Campbell and Damery. Lions, hyenas, and elephants made regular visits to the camp.

“That first night being out there was crazy,” Campbell recalls. “I barely got any sleep, hearing lions walking around and making noises.”

The group of students grew close quickly—a good thing, since they were working and camping in tight quarters for two months.

“We were with these people 24/7,” Campbell says. “I think that was one of the really neat parts of the trip. We were out in the middle of nowhere, with no cell phones or Internet, nothing to distract us. We had only each other to talk to and tell stories. We got to know each other very well.”

For Campbell and Damery, life in the bush felt slower and richer.

“Some days we’d be stuck on the road for 2 or 3 hours because elephants were in the way,” Damery recalls. “I’d get annoyed, but then I’d think, why am I annoyed? I’m in Africa. I’m stuck in a traffic jam of elephants! It was awe-inspiring, and I knew it was a once-in-a-lifetime experience. Every day, we’d see a lion or something and I’d say, This is the best day of my life. The next day, I’d see something else and think, No, this is even better.”

RETURN TO REALITY

Both Damery and Campbell, who are pre-vet students, have spent time reevaluating their paths after coming back to campus. Campbell is a research assistant in Prabhakara Reddi’s lab at the U of I Vet School, experience she hopes will give her more options going forward.

“The trip definitely opened my eyes to all the different opportunities that are out there. I found I really liked the research aspect and working with wildlife. I’m hoping that I can apply the skills I’m learning in Dr. Reddi’s lab to some aspect of conservation in the future,” Campbell says.

Damery is still planning to be a vet, but she’s delayed her application for a year to get more practical experience, like the research assistantship she recently started on the U of I dairy farm with animal sciences professor Phil Cardoso. “If vet school doesn’t work out,” she says, “I could see myself in a career doing animal research.”
Across the state, one event at a time, Illinois 4-H members and volunteers are dedicating their energy, time, and money to creating more food-secure communities where they live. Three years into the 4-H Feeding and Growing Our Communities initiative, more than half a million meals have been purchased, packaged, and distributed to families in need. Thousands of pounds of garden produce have also been raised to feed hungry families.

The grassroots effort of U of I Extension empowers youth first to understand hunger in their local community, then to develop a plan of action unique to their community’s needs.

In some communities, 4-H members gather donations of food to fill backpacks; children take the backpacks home on the weekend. In other communities, volunteers come together to package soy–rice ingredients into meal packets that are then donated to local family-assistance sites. These food-packaging events are done with the assistance of Illini Fighting Hunger, a University of Illinois student organization which partners with the campus Wesley Foundation.

In 2016 alone, more than a quarter-million meals were packaged by Illinois 4-H, bringing the total number of people fed through 4-H’s efforts to almost 600,000 in three years. More than five thousand volunteers have assisted, donating over 30 thousand hours of service to meal packaging alone.

The 4-H clubs hosting the meal packaging must raise funds to cover most of the cost of the meals they package. Up to $750 is provided to groups for each event from a statewide Illinois 4-H Foundation grant. Seed money was provided by the Howard G. Buffet Foundation, and subsequent funding has come from Evelyn Brandt Thomas and Farm Credit Illinois.

Some 4-H teens have taken the “hands to larger service” challenge of the 4-H pledge to heart by focusing on feeding their neighbors. Clare VanSpeybroeck was recently honored by Illinois 4-H as a state community service award winner for her efforts fighting local hunger. Her team of 4-H Hunger Ambassadors in Rock Island County has distributed more than 115,000 meals in their county alone.

VanSpeybroeck’s experience with her team inspired her to take on organizing a meal-packaging event of her own. She first raised $2,300 to cover the cost of the ingredients. Then, with the assistance of the Illinois 4-H Foundation’s $750 grant and a core team of volunteers, she distributed more than 16,000 meals for her local community.

VanSpeybroeck, 17, and fellow 4-H members also serve a free monthly meal to the community that they prepare themselves. They fund a weekend backpack program and teach other teens across the state how to advocate for people in need.

Community 4-H gardens are another tool for supporting families in need. In some counties, they provide a full-circle “garden to table” experience for the young 4-H members who till the land, plant the seeds, care for growing plants, harvest the vegetables, and prepare nutritious dishes, says Bill Million, U of I Extension 4-H youth development specialist.

Nearly 17,500 pounds of produce worth $25,000 have been harvested and donated locally by 4-H community gardens. Some 7,000 families have enjoyed the bountiful harvest graciously given by Illinois 4-H members.

“It is such a joy to watch a garden grow,” relates one 4-H volunteer from the Bountiful Kids 4-H Club in Peoria County. “But I think the bigger joy was in donating the vegetables we worked hard to tend. Experiences like these will nourish these children to become giving adults.”

Lisa Diaz, U of I assistant dean and director of Illinois 4-H, says 4-H believes in the power of youth to make their communities better.

“They set a goal to raise awareness about hunger in Illinois and have exceeded all expectations,” Diaz says.

Logan County 4-H Ambassadors have filled a real need with their weekend food backpack program, but it was hard for them to grasp that other children didn’t have food at home, Extension educator Carissa Akpore says. Once they understood, their passion to help their peers exploded.

“We need to step up our game and help make it bigger and better next year,” a Logan County 4-H Ambassador says.

By Judy Mae Bingman
Every plant and animal has a unique genetic composition, which makes a lake like a bowl of DNA soup—every spoonful contains the combined DNA of the lake’s inhabitants. Scientists have recently begun using this environmental DNA, or eDNA, to identify the presence of organisms like amphibians and fish. Using eDNA to monitor hard-to-detect species can provide early warnings of invasion. ACES aquatic ecologist Eric Larson in the Department of Natural Resources and Environmental Sciences and his colleagues analyzed eDNA to successfully detect the presence of the highly invasive rusty crayfish in a dozen Wisconsin lakes.

“The lakes in the Boulder Junction area have had long-term monitoring from the University of Wisconsin and the University of Notre Dame,” says Larson, “so we had an existing gradient of data. We knew of a range of lakes—from some where this invasive crayfish had never been observed to others where we know rusty crayfish are abundant.

“Using the eDNA tool, we succeeded in detecting rusty crayfish in lakes where this species is very rare. This suggests that the tool could provide early warning of new invasions in other regions, which would let us enact control or eradication measures when they’re most feasible.”

Larson was skeptical of using eDNA for this species, he says. The tool has been successful in finding fish and amphibians which are very mobile, are more mucousy, and, presumably, are constantly shedding DNA into the environment. “With my background as a field biologist, I thought, ‘Crayfish. With an exoskeleton. Under a rock. At the bottom of a lake.’ Given those realities, I didn’t think we’d find any using this DNA approach. Obviously, I’m now a convert.”

Samples were analyzed using a small white machine resembling a bread maker. Inside, a computer with a laser heats and cools the samples of DNA over and over in a chemical solution. During each cycle, the double strands of DNA are separated, then built up again. The duplication is exponential, so millions of copies are created in a very short time. A dye is attached to the DNA beforehand, making it easier for researchers to identify each organism’s DNA and quantify it.

Larson’s colleague Mark Davis, coordinator of the Collaborative Ecological Genetics Laboratory at the Illinois Natural History Survey, explains that every living thing is constantly sloughing off cells, and all of those cells contain DNA. But eDNA isn’t like what you get if you take a blood sample from a salamander. That would be “clean DNA.” You already know it’s from a salamander.
“The eDNA from a lake is ‘dirty’ DNA,” Davis says. “It’s degraded, broken down so you have very small fragments. With chemistry and technology, we amplify it. Using bioinformatics, the computer wades through the information to give us a full view of what’s in that sample, whether it be invertebrates, fish, reptiles, amphibians, birds—anything that may be coming into contact with the water or soil. With eDNA, it’s exciting because you don’t know what you’ll find.”

Davis says there are still problems to solve in analyzing eDNA. “Right now we can tell if an organism is present or not. But determining the exact number of individuals is difficult. For example, we often don’t know the rate at which an organism sheds DNA, or if more is shed at different times. And how quickly does the DNA degrade?”

Larson cites one potential disadvantage to using the hypersensitive eDNA analysis: it may increase the potential for finding false positives, or cases where an organism is perceived as present when it’s not. This can occur if field or laboratory equipment is contaminated or if DNA is transported long distances by predators or water currents. In the case of Larson’s study, crayfish DNA was detected in two lakes where the invader had not previously been observed by more conventional methods. Larson says that a minute amount of the species’ DNA could, for example, have been transported in feces from birds that had fed on crayfish in a different lake.

“It may be that these are new or incipient invasions detected by eDNA analysis before other methods. But it may also be that we had false positives. As a consequence, these are lakes that we want to monitor and follow up on,” he says.

Globally there are around 600 crayfish species, of which about a half dozen have become problematic invaders in the United States. These nonnative crayfish prey on fish eggs, destroy aquatic plants, and can negatively affect fish through competition for food and changes to habitat.

Invasions have economic repercussions, Larson says: “One eradication of rusty crayfish in Wisconsin took years and was very costly.” In that instance, success may have been due to a drought that substantially lowered the lake levels and stranded their habitat.

“Crayfish can walk over land, so if you have them in an aquaculture pond, there’s nothing to prevent them from, say, crossing over a little hill and then showing up in a national park,” Larson says. “They’re also prevalent in elementary and middle school science classrooms as live animals for behavioral studies. Teachers may not want to euthanize the crayfish at the end of the school year. Mistakenly believing that there is just one crayfish species everywhere, they may have an end-of-semester release party and dump aquarium contents into a local pond or stream, or send crayfish home with students who may subsequently release them.”

Larson says the ideal is preventing invasions from happening in the first place. “But the eDNA tool gives us a sensitive and potentially affordable method for monitoring hard-to-detect species for management applications. That can mean getting early warnings of these species invasions while you still have the time to control or contain them before they are too abundant for that to be feasible.”
The Read family had a nightly tradition: at 6 o'clock they ate dinner together, the meal accompanied by much conversation. Siblings Mary Beth and Greg Read recollect being at the table for at least an hour, if not two, just talking with their parents and brother Nate. Greg admits he didn’t fully appreciate the conversations at the time, adding that his friends couldn’t conceive of their families doing such a thing. Kids in those days—the 1950s and 1960s—were expected to gobble down their food and head back outside.
“Dad was a great communicator in our family,” Greg says. “Communicating was his job.” The nationally respected Hadley Read founded the undergraduate curriculum in agricultural communications at the University of Illinois in the 1960s.

Hadley Read was also known for befriending almost anyone, Greg says. “He would go on international trips for work, and the next thing you knew our mailbox was full of letters from people he met while traveling. Most often, on the same day he received a letter, he would go back to his study and write a reply. He was a loyal letter writer and receiver.”

Hadley authored two popular books on communications methods, as well as a handbook adopted for nationwide use by the American Association of Agricultural Communicators in Education. But his authorship wasn’t limited to academia. In 1977, Hadley published Morning Chores and Other Times Remembered. The book documents, in free verse, Hadley’s childhood on the family farm in Stanhope, Iowa.

Eventually those nightly family dinners with hours of conversation came to an end as the Read children left home and went on to live their own lives. Hadley Read passed away in 1981.

But in recent years Greg and Mary traveled back to Stanhope to explore their Read family history, and they reconnected with their father’s talents as a communicator. Soon after their trip, while looking through various family materials, Greg discovered several manuscripts that his parents had written, including Hadley’s The Awakening of a Country Boy.

“Greg called me and said, ‘Look in your cabinet. Do you have this? I think we should publish it.’ I read it and agreed,” Mary says. “I’m embarrassed to admit that we really had not read it before. We had tucked it away for 30 years.”

Mary and Greg connected with an independent consultant, who took the typewritten manuscript and pictures they had gathered, designed the book, and uploaded the final 171-page product into an online publishing system.

Jim Evans, professor emeritus of agricultural communications and former colleague of Hadley Read, describes the new book: The Awakening of a Country Boy is written in 81 short verses, beginning with Hadley’s early years during the Great Depression. The book features Hadley’s memories of his town, his high school years, even his early romances. Ten pages of photos, many provided by the Stanhope library, further document Hadley Read’s early years.

Mary notes that “there is a lot of history in there for people who didn’t have that experience to learn from. Or, for people that did grow up in a small town, they can relate to Hadley’s life and see it in the pictures.”

John Woods, a former student of Hadley Read, says that few people could write like Hadley. “There are probably many people from his generation that went through what he did, but they couldn’t capture it like he did.”

“Dad wrote about stores, the basketball team, his girlfriend, and national events in excruciating detail and with vivid memory,” Greg says. “One of the joys of publishing this book is realizing how talented he was in this genre that I knew nothing about.”

Bringing the book to print has made Mary more aware of who her father was, of his growing up, and of the entire Iowa landscape—both the physical landscape and the emotional landscape of a young boy.

“We didn’t do it to sell books,” Mary reflects. “We did it for the family. We did it to honor our dad. This is the only link that our children and grandchildren have to their grandfather. I almost feel like Dad is looking down from up above, saying ‘It’s about time!’ ”

Reconnecting with people who knew Hadley Read has been an unanticipated benefit, Greg says. One, a woman named Addie, grew up on a farm in Nebraska. After reading Hadley’s 1977 memoir, she wrote to him. She was amazed when he wrote back, and they developed an abiding friendship, Greg says. Addie went on to write a great deal of free verse herself.

After Mary shared the newly published book with Addie, she wrote back and has been corresponding with both siblings. She shared the moving story of the last time she spent with Hadley, Greg recounts. Hadley and his wife, Margie, stayed for a short visit at Addie’s home in Nebraska. Just before leaving, Hadley pressed a note into Addie’s hand. After he left, she opened it to read, “I’m dying. I just came to say good-bye.”

Those are the kind of stories Greg and Mary are learning about their father, they say. The process is bringing up history they knew nothing about. “It’s been kind of an awakening for both of us in different ways,” Mary says.

“I’m getting an appreciation for a side of my dad I didn’t really know about,” Greg says. “It has become clear what he got out of communicating: writing to people, learning about their lives, and writing back. While I was growing up, what Dad did to meet strangers and communicate with them seemed crazy. Now I appreciate it.”

The Awakening of a Country Boy is available for purchase at blurb.com. A portion of every sale benefits the Hadley Read Scholarship in Agricultural Communications at the University of Illinois.

Greg and Mary are now considering publishing other books written by their parents. “This is the legacy our parents left—they both were writers,” Mary says.

Writers, yes—and conversationalists as well. Mary and Greg have calculated that their parents spent more than 26,000 hours (more than a thousand days!) sitting at the dinner table, talking. Greg says, “That is an amazing testament of communication.”
Highlighting some of the successes of our ACES family in their pursuits to make an impact on society and find solutions to some of the world’s greatest challenges.

Yuj Arai, associate professor in the Department of Natural Resources and Environmental Sciences, received the 2016 Marion L. and Chrystie M. Jackson Soil Science Award from the Soil Science Society of America, recognizing a midcareer soil scientist who has made outstanding contributions in soil chemistry and mineralogy.

Yetomiwa Awolola, a sophomore double-majoring in agricultural and consumer economics and technical systems management, received a Benjamin A. Gilman International Scholarship. Sponsored by the U.S. Department of State’s Bureau of Educational and Cultural Affairs, the scholarship supports studying or interning abroad. Awolola is studying abroad this semester in Sierra Leone. Scholarship recipients gain the opportunity to better understand other cultures, countries, languages, and economies—improving their preparation to assume leadership roles in government and the private sector.

The American Society of Agronomy named Fred Below, a professor of crop physiology in the Department of Crop Sciences, a Fellow at its 2016 annual meeting in Phoenix.

ACES ag education students participated in Alpha Tau Alpha competitions during the National FFA Convention. The Quiz Bowl Team—Morgan Doggett, Andrew Klein, Willow Krumwiede, and Adam Rosentreter—received first place, as did the Debate Team of Doggett, Krumwiede, Rosentreter, and Maggi Maxstadt. The Parliamentary Procedure Team placed second; members were Doggett, Klein, Harley Carlson, Kaity Spangler, and Oakley Whalen. The ACES Agricultural Education Program also received second place in the Program of Excellence competition.

Roberta Duuyf, an alumnus of the Department of Food Science and Human Nutrition, has published the 5th edition of the Complete Food and Nutrition Guide, coinciding with National Nutrition Month (March) and the 100th anniversary of the Academy of Nutrition and Dietetics.

Lila Jeanne Eichelberger was inducted into the National 4-H Hall of Fame last fall for her lifetime achievements and contributions to America’s largest youth development organization. Eichelberger was one of 16 people inducted during the ceremony at the National 4-H Youth Conference Center in Chevy Chase, Maryland. Eichelberger, an alumna of home economics, tirelessly dedicates her time, talent, energy, and financial resources to the advancement of Illinois 4-H, 4-H Memorial Camp, 4-H House, the University of Illinois, and Illini sports.

George Fahey, professor emeritus in the Department of Animal Sciences, was given the ASAS Morrison Award at the 2016 American Society of Animal Sciences annual meeting in Salt Lake City. The award is presented each year to a member who has done outstanding research of direct importance in livestock production.

Dr. Barbara Fiese, director of the Family Resiliency Center and professor in the Department of Human Development and Family Studies, received the award for Distinguished Contributions to Family Psychology from the American Psychological Association, Division 43. The award honors her positive impact on family psychology throughout her career via research, instruction, and service.

For the second year in a row (and the third time in four years), the Illini
AGRICULTURAL COMMUNICATORS OF TOMORROW (ACT) was named the National ACT Chapter of the Year. The award was presented during the Ag Media Summit held in St. Louis last July. Ag communications students won additional national awards in the areas of leadership and fundraising. Students Christy Allen, Nicole Chance, Kendall Herren, Paige Jones, Kelsey Litchfield, Krista Temple, Michelle Van Cleave, and Katie Zelechowski attended the national gathering of agricultural communicators. The Illinois delegation was headed by Jennifer Shike, the chapter’s adviser.

ELIZABETH JEFFERY, professor emerita in the Department of Food Science and Human Nutrition, was named the 2016 recipient of the American Society for Nutrition/Dannon Institute Mentorship Award. This award recognizes nutrition educators who have demonstrated outstanding mentoring qualities by developing successful investigators of nutritional sciences.

JORDAN JOHNS, a sophomore in agricultural leadership and science education, is one of 12 university students nationwide selected as a Teach Ag Ambassador for the National Teach Ag Campaign. The campaign is an initiative of the National Council for Agricultural Education, led by the National Association of Agricultural Educators.

MADHU KHANNA, professor of agricultural and consumer economics, was named an AAEA Fellow by the Agricultural and Applied Economics Association at their 2016 annual meeting. PHILIP GARCIA earned the Distinguished Teaching Award for Graduate Teaching: Ten or More Years’ Experience. GARCIA and SCOTT IRWIN also received the Quality of Research Discovery Award. The Distinguished Extension/Outreach Program Award for a Group was awarded to MARK ALTHOUSE, RYAN BATTS, JONATHAN COPESS, STU ELLIS, ANDREW GOERS, SCOTT IRWIN, NICK PAULSON, GARY SCHNITKEY, and BRUCE SHERRICK.

The highest recognition one can receive from the Crop Science Society of America is to be named Fellow. In fact, only 0.3 percent of CSSA’s active and emeritus members receive this particular award. Members of the society nominate their colleagues based on their professional achievements and meritorious service. DEAN KIM KOWELL received that honor at CSSA’s annual international meeting in November in Phoenix.

U of I crop sciences students KATHRYN LILLIE and HANNAH REED were chosen as Golden Opportunity Scholars by the American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America. The program encourages talented students to prepare for leadership roles in those fields by matching them with scientist-mentors and providing financial support for them to attend the society annual meetings.

KELSEY LITCHFIELD, a senior in agricultural communications, was elected president of the National Agricultural Communicators of Tomorrow. Her election marks the third time the University of Illinois has been home to the national president. ACT is the leading collegiate organization in developing and strengthening agricultural communication students through professional growth opportunities and educational programs.

JAN LUMIBAO, a graduate student in the Division of Nutritional Sciences advised by Rex Gaskins, was one of eight inaugural research training fellows selected for the Tissue Microenvironment Training Program, a universitywide training program through the Department of Bioengineering supported by a T32 grant from the National Institutes of Health. His research focuses on how the tumor microenvironment influences mitochondrial metabolism, function, and redox poise to impact malignancy and progression of glioblastoma.

ZEYNEP MADAK-ERDOGAN, professor in the Department of Food Science and Human Nutrition, has received the 2016 Mary Swartz Rose Young Investigator Award from the American Society for Nutrition. This award is given to an investigator within 10 years of postgraduate training for outstanding research on the safety and efficacy of bioactive compounds for human health.

Human development and family studies doctoral student SHAWN MENDEZ was honored with the 2016 Jessie Bernard Outstanding Research Proposal from a Feminist Perspective Award from the National Council on Family Relations, the nation’s leading scholarly organization with a focus on family science.

GARY OCHS, teaching associate in agricultural leadership and science education, was elected to serve a four-year term as national secretary/treasurer for Alpha Tau Alpha. The professional honorary organization plays a vital role in preparing those who have chosen a major in agricultural education or extension education.

LUIS RODRIGUEZ, professor in agricultural and biological engineering, is the principal investigator for a 4-year, $1-million grant from the National Science Foundation to address “grand challenges” through Innovations at the Nexus of Food, Energy, and Water Systems. The project will provide educational resources by combining the fundamental sciences with the skills and knowledge of interdisciplinary problem solving and the latest computation modeling analysis tools and data.

VIJAY SINGH, professor in the Department of Agricultural and Biological Engineering and ACES Distinguished Professor in Bioprocessing, has been appointed director of the Integrated Bioprocessing Research Laboratory.

MATTHEW WHEELER, a professor in the Department of Animal Sciences, won the university’s 2016 campus Executive Officer Distinguished Leadership Award for contributions across many dimensions of shared governance that advance the excellence of a campus unit and for exemplifying the campus commitment to collaborative decision-making. He has been a leader at every level of campus and university service, including service on 197 committees.
ON his way to making aviation history, Agricultural and Biological Engineering alumnus Bo Zhang flew into Willard Airport, south of the Illinois campus, on August 17. Zhang was the pilot of a flight around the world in a propeller-driven aircraft. Although the trip has been made in similar aircraft more than 350 times, Zhang is China’s first aviator to attempt the feat.

Zhang departed Beijing on August 7 in a single-engine turboprop SOCATA TBM 700. He flew more than 25,000 miles, traveling through 23 countries and making 44 stops along the way. Zhang’s route included the first-ever flight along the Silk Road, an ancient network of trade routes.

“When I made my plan,” Zhang says, “I was aware of China’s One Belt, One Road Initiative and its influence on the world’s economy. In my plan I would retrace the ancient Silk Road, flying over the five central Asian countries. In that way I can both experience the shock from the ancient civilizations and witness the development and the changes along the new Silk Road.”
Zhang travelled with his crew, mechanic Orwell Jager, engineer Pingquo Xuan, reporter Yang Ling, and translator Liu Ke. Because of the plane’s small size, Zhang says, it could only travel a maximum distance of 1,430 miles at any one time and required frequent refueling. The group’s trip took 49 days and included stops in the United States, Russia, Canada, Iceland, and Britain.

At his stop at Willard Airport, Zhang was met by scores of students, faculty, and alumni, as well as Chinese and U of I dignitaries, including President Timothy Killeen, President Emeritus Robert Easter, and Robert Hauser, former dean of the College of ACES.

Zhang said there are more than 220,000 privately owned planes in the United States, but only about 2,000 in China, so there is much room for development. Part of his motivation to make this flight was to inspire other Chinese to become aviators.

“Flying an aircraft or having a career in general aviation is not a fantasy or an impossible dream,” he says. “It is achievable by anyone with the right amount of effort.”

In 2014, Zhang became the first student to earn a private pilot certificate from Parkland College in Champaign; he completed the program in 58 days, a record for the University of Illinois Aviation Institute.

Zhang received a master’s degree (1992) and a Ph.D. (1999) at Illinois, both in agricultural engineering. In 2010 he began a two-year term as at-large director on the University of Illinois Alumni Association board of directors. In 2008 he received the Madhuri and Jagdish N. Sheth International Alumni Award for Exceptional Achievement.

Tina Veal, director of ACES alumni relations, says, “Bo has been a long-time supporter with the College of ACES and University of Illinois. Once he puts his mind to something, he succeeds! We are very proud of his accomplishments with this endeavor.”

Zhang credits the strong academic foundation he developed at Illinois for the successful international career he has built, and he works tirelessly to promote the University of Illinois in China. His professional ties to leaders in government, business, and academia have allowed him to act as a liaison between China and U of I. In 2005 he arranged meetings between then–acting provost Jesse Delia, Easter (then dean of the College of ACES), and a group of government officials, executives, and university leaders in China. These meetings laid a foundation for the creation of a U of I presence in China. A second meeting between Easter and the party secretary of China Agricultural University solidified support for future cooperation between U of I and its Chinese counterparts.

“We extend our congratulations to Bo Zhang,” Veal says. “His exceptional career and life achievements are a true source of pride for the University of Illinois.”

Noteworthy headlines during Zhang’s years at Illinois

- 08/19/90
  “Sue,” the largest and best preserved T. rex yet discovered, is found in South Dakota.

- 04/19/92
  The Chicago River floods the city’s Loop business district with an estimated 250 million gallons of water.

- 04/19/95
  Timothy McVeigh and Terry Nichols bomb Oklahoma City’s Federal Building, killing 168 people.

- 12/19/97
  The Kyoto Protocol is adopted in an effort to reduce global greenhouse gas emissions.

- 01/19/99
  The U.S. Senate begins the 5-week impeachment trial of President Bill Clinton.

- 09/19/91
  Nirvana releases Nevermind, featuring the hit single “Smells Like Teen Spirit.”

- 12/19/94
  Netscape Navigator is released, quickly becoming a leading web browser.

- 08/19/96
  Prince Charles and Princess Diana divorce after 15 years of marriage.

- 06/19/98
  Michael Jordan plays his last game for the Chicago Bulls.
Whether it’s a new box of crayons, a new year, a new job... the promise of resetting our possibilities brings hopeful anticipation. At the University of Illinois—including within our own College of ACES—the promise of fresh starts has brought us close to giddiness. Our new chancellor, Robert Jones, described his new position at Illinois as his “dream job.” ACES stakeholders are dreaming, too, that having someone with an agricultural, land-grant background leading the Urbana-Champaign campus will elevate the stature and understanding of the ACES mission. As for understanding our industry, as well as our college—we are every bit as excited to welcome Dr. Kim Kidwell (B.S. ’86) back to ACES as our dean. These and other new campus leaders will spark fresh ideas, energy, and spirit. It’s hard to wait to see where they take us!

So, then, don’t wait! What can you do? Share the ACES story! Even the best leaders can’t be in every corner of the state to explain to prospective students, legislators, and stakeholders the superior value of the University of Illinois College of ACES. Our college has never lacked for good news stories, but now we have good new stories. So put on a new Illini shirt (color it orange and blue!), and make it your new job to spread the good word.

It’s certainly easier for our academic leaders to succeed when they are supported by bright and enthusiastic staff and volunteers—a fact that I can appreciate as I assume the role of ACES Alumni Board president from Bill Francis. Our board of directors is a group of committed individuals who are all solid leaders themselves. I thank Bill and the board presidents who have gone before him, along with former ACES deans Bob Hauser and Bob Easter, for drawing the lines for our continued success—now let’s grab a color and help that come alive!

Welcome, new ACES alumni board members

The College of ACES Alumni Board of Directors is happy to welcome its new members:

- Agricultural Education Vocational Director – Tim McDermott, B.S. ’04, Waterloo, IL
- NRES Vocational Director – Jennifer Walling, B.S. ’03, M.S. ’06, J.D. ’06, Chicago, IL
- HDFS Vocational Director – Alison Leipsiger, B.S. ’07, Chicago, IL
- Young Alumni Director – Jacob Prather, B.S. ’12, Mahomet, IL
- District 6 Director – Raquel Lacey Nelson, B.S. ’97, Champaign, IL

ACES Alumni Association
THE PRESIDENT’S MESSAGE

By Sue Gray

Returning by popular demand, ACES Family Academies will be hosted for the third time by the College of ACES Alumni Association, on July 13 and 14. Youth ages 8 to 13 years old are invited to attend with an ACES alum returning to campus to experience educational sessions, stay in the Bousfield residence hall, and share Illini experiences with the next generation. Watch the ACES Alumni website for registration announcements. We look forward to another outstanding year!

Registration available at acesalumni.illinois.edu/events/aces-family-academies.
ON THE HORIZON

April 17 :: Award of Merit Luncheon, College of ACES Awards Banquet
May 1 :: ACES in Places – Eckerts, Belleville, Illinois
May 4 :: SAC Professional Development Trip
May 14 :: ACES Commencement/Tassel Turn
May 15 :: Young Alumni and Family Spirit Nominations Due; ACES Alumni Board of Directors Meeting
June 6 :: ACES in Places – Lawfers Dairy, Kent, Illinois
July 13–14 :: ACES Family Academies
August 29–31 :: Farm Progress Show, Decatur, Illinois
September 8 :: ACES College Connection
September 9 :: Salute to Ag Day

For more event announcements, including regional alumni events, visit acesalumni.illinois.edu. All events are on campus unless specified.

Award of Merit Winners

The College of ACES Alumni Association will honor five alumni with the ACES Award of Merit, its most prestigious award, during a luncheon on April 17. These are our 2017 award winners:

- Leon C. Corzine, B.S. ’72 Ag Mechanization; Assumption, Illinois; president of LPC Farms, Inc., and former president of the National Corn Growers Association
- Robert A. Easter, Ph.D. ’76 Animal Sciences; Mahomet, Illinois; University of Illinois president emeritus and professor emeritus
- John P. McNamara, B.S. ’76 Agricultural Sciences, M.S. ’78 Dairy Science; Pullman, Washington; professor emeritus at Washington State University, consultant for McNamara Research in Agriculture
- Keith D. Parr, B.S. ’78 Agricultural Sciences; Elmhurst, Illinois; law partner at Locke Lord, LLP
- Robert J. Wyffels, B.S. ’77 Crop Sciences; Geneseo, Illinois; co-owner, vice president of production at Wyffels Hybrids

Register by April 3 at acesalumni.illinois.edu/events.

$60 for 60 years

Join us as we celebrate the 60th anniversary of the College of ACES Alumni Association. Donate $60 to support activities, programs, awards, and recognition as we continue meaningful engagement and advocacy among the ACES family. Give online, advancement.aces.illinois.edu/makegift, to the ACES Alumni Association Fund, or send checks to the ACES Alumni Association made payable to the U of I Foundation. Help us celebrate this milestone and ensure funding for the future of the ACES Alumni Association!

ACES E-Alum Report

Stay connected to the College of ACES! Be sure your email is up to date with us to have the latest news delivered to your inbox every other month. Email us at acesalumni@illinois.edu.

ACES Alumni Class Notes

The College of ACES Alumni Association would love to hear from you! We are interested in keeping you connected to your alma mater and sharing updates (marriages, deaths, family changes, and achievements) to be shared in the ACES Alumni Class Notes online. You may also use this form to update your personal information so we can keep in touch with you.

STAY CONNECTED ON SOCIAL MEDIA

ACESAlum and UofiCollegeofACES
ACESAlumni
ACESAlumni
ACESAlumniLinkedIn
As we prepare to celebrate 150 years of excellence at the University of Illinois, the words of our first president, John Milton Gregory, remain true today: “The hungry eyes of toiling millions are turned, with mingled hope and fear, upon us, to see what new and better solution we can possibly offer of the great problems on which their well-being and destiny depend.”