NEXT GEN EXTENSION
Extending knowledge in the information age
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[ON THE COVER]

It's a new generation: University of Illinois Extension educators are redefining their niche in today's information age.

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Why do we publish ACES@Illinois? For one, it lets us share inspiring stories, including stories about the valuable partnerships we share with stakeholders. The excellence that is consistently achieved by the College of ACES thrives on powerful partnerships with alumni, commodity organizations, government entities, corporate partners, affiliate educational and research institutions, and our other friends. Partners’ investments of their time, their talents, and their financial resources support our core mission: finding solutions to the world’s most critical challenges to create abundant food and energy, a healthy environment, and successful families and communities.

Private investment plays a growing role in our financial planning. We received more than $20 million in new philanthropic investments each of the last two fiscal years, and every dollar makes a difference. Over the last three years, nearly 7,000 individuals, corporate entities, private foundations, and associations made investments in the future of ACES. Of this total, individual alumni and friends contributed over half of the support, making gifts averaging about $250. Collectively, these dollars transform lives. This funding provides critical support for student scholarships and learning beyond the classroom, faculty teaching and research, international engagements, upgrades to classrooms and laboratories, and fulfilling our land-grant mission to deliver valuable outreach programs.

Even before they embark on their careers, our students recognize the importance of private philanthropic support. Last year the ACES Student Advancement Committee launched a campaign to raise awareness about the impact of private philanthropy on their education. The result? They raised over $15,000, and 15 students were given $1,000 scholarships to support their ACES studies.

The recent investment by ADM of $1.5 million for a Feed Technology Complex leveraged a commitment of $3.5 million more from the State of Illinois. This new facility is critical to the future of our animal health and nutrition programs.

If you are already one of our individual or corporate partners, thank you. Your generous contributions help ensure that ACES continues to flourish. If you have yet to become a partner, contact us at 217-333-9355 or visit advancement.aces.illinois.edu/makegift.

Robert Hauser, Dean of the College of ACES
Leia Kedem stands over a crockpot of buffalo chicken dip, wooden spoon in one hand, smartphone in the other. She’s been working on this week’s “recipe rescue” all afternoon, and her lower-fat adaptation of this party favorite came together just in time. In the morning, she’ll prepare it live for a television audience of thousands on the CBS affiliate for east-central Illinois. (Turn the page for Kedem’s recipe.)

Kedem will reach hundreds more through her Facebook page, Moderation Maven—one of the largest and fastest growing for University of Illinois Extension. There will be a post to Illinois Nutrition Edition, a blog with subscribers across the state that Kedem runs with a team of colleagues. “To Your Health,” her column in Champaign’s News-Gazette, runs twice a month. Last week, she recorded a pilot for a new series of online videos focused on nutrition.

If it sounds like a lot of work, it is. Nutrition education has evolved in many ways since the time of Eva Benefiel, Illinois’s first Extension home advisor in Kankakee (1915). Like Benefiel, Kedem uses the latest research and technologies to give families the information they need to prepare nutritious and affordable meals. Benefiel organized picnics and classes and even had access to a special rail car to demonstrate kitchen technology and cooking techniques in the field. Kedem, by contrast, reaches thousands through the combination of classes, workshops, newspaper columns, television, and social media. But the information marketplace is crowded—advice on nutrition, diet, and cooking comes from all directions, and too often with a tenuous basis in credible research.

Kedem is part of a new generation of educators at U of I Extension. About one third of the organization’s educators have been hired in the past three years. They have brought new ideas and new approaches to the experienced teams in four main program areas—agriculture and natural resources, family and consumer sciences, community and economic development, and 4-H youth development. With increasing use of technology, the web, and social media, Extension’s educators are redefining their niche in the information age. Although communication methods have changed, they have enabled educators to continue the time-honored strategy of earning clients’ trust through demonstrations and context-specific advice.

“Information overload can be confusing. I try to be a voice of reason and realism,” says Kedem, 28, the U of I Extension nutrition and wellness educator serving Champaign, Ford, Iroquois, and Vermillion Counties. A registered dietitian and licensed dietitian nutritionist, Kedem is president-elect of the Eastern Illinois Dietetic Association and was recognized last year by Central Illinois Business magazine as one of their “Forty Under 40.” She received her master’s degree from the ACES Division of Nutritional Sciences. “My passion is helping people find ways to incorporate healthier habits and to make those changes stick,” Kedem says.

“Information overload can be confusing. I try to be a voice of reason and realism.”
Thinking globally, advising locally

Andy Larson, a local food systems and small farms educator serving Boone, DeKalb, and Ogle Counties, has a master’s degree in Natural Resources and Environmental Sciences from the College of ACES and an MBA from Iowa State University. His team serves a growing group of farmers who produce fruits, vegetables, and animal products for local and regional markets. One-on-one communication with growers is ideal, explains Larson, but it is very hard to scale. Technology helps bridge the gap.

“Over the phone, I can pull up aerial photos and specialized maps of a producer’s acreage and talk about soil types, high resolution slopes, and drainage. I can speak specifically to what is going to work in his or her system,” Larson says.

Extension educators draw on a network of resources and contacts within and beyond the university, and they are experts at finding the best available information that has the support of research. “I don’t know how many times I’ve heard people say Extension was replaced by Google,” Larson says. “Hogwash. What variety of kale will be most profitable? What type of cattle will perform best in my grass-finished system? We can send you tailored information from reliable sources, including fellow growers,” says Larson. “We’re a conduit and a filter. We catch the good stuff.”

Today’s approach 100 years in the making

“We just came through our centennial year—the 100th anniversary of the Smith-Lever Act that established extension work at land-grant institutions,” says George Czapar, associate dean and director of University of Illinois Extension. “It was a great chance to reflect. We’ve been through sweeping changes in agriculture, technology, and society at large. What I’m most struck by, even more than the change, is the continuity.”

Extension’s mission and even methods have remained remarkably consistent. “We transfer the findings of research from the university to the people, offering information they use to improve the health and well-being of their families, communities, and the environment,” Czapar says. “The key strategy has always been the local connection. Using a variety of educational approaches, such as demonstrations and in-depth workshops, Extension educators provide specific, tailored advice to address particular needs. And we are known and trusted in our communities.”

With social media, more people can come to know and trust individual Extension educators and interact with them on a daily basis. Videos of gardening, cooking, science, and community development topics are convenient and effective teaching devices. Extension’s 100-year-old idea is well suited to the era of Facebook, Twitter, YouTube, and Pinterest.

Czapar is excited to lead U of I Extension as it embarks on its next hundred years. “When I think about the challenges we face now and in the years ahead, the issue is often not the lack of ideas or technologies, but rather how we adapt, adopt, and scale innovation. This is where Extension shines. We offer resources, an established network, and expertise innovating along the communication and technology frontier. Extension continues to powerfully deliver on the enduring land-grant mission.”

Buffalo Chicken Dip
Makes about 7 cups

Ingredients

- 1 lb boneless skinless chicken breast, raw
- 2 (8 ounce) packages reduced-fat cream cheese (Neufchatel)
- 1 cup light ranch salad dressing
- ¾ cup hot sauce
- 1 cup shredded part-skim mozzarella cheese, divided
- 1 cup shredded reduced-fat sharp cheddar cheese, divided

Directions:

Cook chicken breast over medium-high heat in a skillet. Remove chicken and shred or chop, then return to skillet.

Add hot sauce to skillet. Stir in cream cheese and ranch dressing with a wooden spoon, using the spoon to scrape any browned bits off the bottom.

Mix in ½ cup of the mozzarella and cheddar, then transfer mixture to a slow cooker.

Sprinkle remaining cheese over the top, cover, and cook on low setting until hot and bubbly.

Nutrition Facts (1/4 cup or 4 tablespoons): Calories 100, Total Fat 7g (Saturated 4g), Cholesterol 30mg, Sodium 470mg, Total Carbohydrate 1.5g, Dietary Fiber 0g, Protein 7g, Vitamin A 6% DV, Vitamin C 0% DV, Calcium 10% DV, Iron 0% DV

Extension educator Andy Larson’s 5-part series on raising backyard chickens is available on YouTube. More than 700 instructional U of I Extension videos have reached 2.3 million viewers through this venue.
For Madeline Milnamow, the opportunity to collaborate on a research project as an undergraduate opened the door to a future she never imagined. Growing up in Maple Park, Illinois, she dreamed about a career working with abused and neglected dogs.

“When I first came to the University of Illinois, I wanted to work with companion animals,” Milnamow says. “Dr. Amy Fischer was my advisor, and she encouraged me to apply for an internship through the college’s Office of Research.”

The Office of Research summer internship program allows undergrads to experience research firsthand—something more typically reserved for graduate school—through collaboration among their office, faculty, staff, and stakeholders.

To date, the program has enabled 70 students to complete research projects.

“The internship takes you out of the classroom into a working environment where you’re learning new things and putting them into practice,” Milnamow says. “Learning from all the collaborators and getting to know them on a personal level definitely makes the program unique.”

Each student selects a topic and works with an advisor and a field mentor at one of four ACES research centers during the 11-week internship. Students do initial research on campus before arriving at their internship sites so they can focus on applying their work to help find a solution to their chosen issue.

“We meet with students in the spring semester to guide them on how to develop research,” says Elvira de Mejia, director of the program. “Students start with a real issue in the industry and work with real stakeholders who are invested in the results of their research. The students become interested in the issues because they can be a part of the solution.”

Internships representing all of ACES’ seven departments are offered in four Illinois locations. Dixon Springs Agricultural Center is the longest-standing partner. The other partners are the Orr Research and Demonstration Center, the St. Charles Horticulture Research Center, and the University of Illinois at Chicago.

A focus on diverse topics makes the internship experience available to students across the college. Interns develop skills for working with other people and gain valuable opportunities for employment and continuing education—not to mention recommendations from faculty advisors, mentors, and program stakeholders.

Frank Ireland, a research animal scientist and field mentor at Dixon Springs, has been an instrumental part of the program since it began.

“Most rewarding for me is seeing the outstanding students we have at Illinois and watching them grow as they gain hands-on experience,” Ireland says. “I am satisfied knowing I have been involved with providing them an opportunity to choose their career paths based, in some small part, on experiences gained during their internship.”

Some students solidify their chosen paths through the internship experience. Others, like Milnamow, discover directions that they may not have seen otherwise.

“At Dixon Springs I mainly worked with beef cattle, studying management strategies to mitigate fescue toxicosis,” she says. “However, in an effort to start up a companion animal program, another intern and I spent one day a week at local shelters and animal control facilities to assess the area’s most predominant problems. We also volunteered at Project Hope Humane Society of Metropolis on weekends. At the end of the summer, we presented our findings.”

However, the longer she was at Dixon Springs, she says, the more she felt at home with cattle.

“I found satisfaction in each hard day’s work and knew that every task, big or small, was necessary for the well-being of the cattle and farm as a whole,” she says. “I enjoyed it so much that I stayed two more weeks after the program had ended to get more experience and to help with calving season.”

Today Milnamow is using the knowledge and skills she gained at Dixon Springs to pursue her newfound passion.

“Maddie began the program with limited experience,” says faculty advisor Daniel Shike. “Through her hard work, dedication, and the opportunities the program provides, she now is the assistant farm manager at the Beef and Sheep Field Research Laboratory on campus. She is also working on a master’s degree in beef cattle nutrition. Maddie is a perfect example of what the Office of Research summer internship program is designed to do.”

By Regan Emkes
IN THE BLINK OF AN EYE

ACES student battles brain cancer

By Jennifer Shike
Just minutes before, he had been killing time, scratching off lottery tickets with his friend at the local gas station. Suddenly, out of nowhere, he felt like he was losing his mind. This was not what Sam Mitchell, then a junior in agricultural communications, had planned for his spring break. It wasn't even close.

Sam's friend raced him to the local hospital. As Sam moved in and out of consciousness, the last thing he remembers was hearing a tech shout, “We need to get him out of here; he's going to die!”

Fighting for life
For Ron and Janet Mitchell, the world turned upside down in a flash. When Sam's parents arrived at his side, he said a few words, then lost consciousness. Initial CT scans revealed major swelling and bleeding deep in Sam's head. His brain was dying.

“I had no idea what I was looking at when they showed me the CT scan,” Janet says. “They told us all of that white—probably a third of his brain—was blood. No one knew what was going on, but they knew we needed to get him to another hospital fast.”

But fast wasn't an option that night. High winds and storms prevented the LifeFlight helicopter from transporting Sam elsewhere for treatment, so they put him in an ambulance and headed for Methodist Hospital in Indianapolis, over 100 miles away.

By the time Sam arrived at Methodist, the pressure in his brain was so great that the doctors had to drill a hole through his skull to relieve it.

“When we got to the emergency room, they moved us to a private waiting room,” Janet says. “The chaplain came to help us. I wasn't in the state of mind to realize what they were doing—segregating us from everyone else. None of them thought he would make it.”

Hours later, the doctors finally stabilized Sam and moved him to intensive care. Meanwhile, Sam's only sister, Sydney, flew up from Texas as soon as she heard the news, and other family began arriving from all over to offer support. Further tests revealed a tumor the size of an egg in the center of Sam's brain.

“The doctors couldn't believe that Sam had experienced no prior effects from the tumor,” Janet says. “He's been a healthy person, with no history of headaches. He had perfect vision. How he knew to go to the hospital that night is beyond me.”

While doctors worked to bring Sam out of sedation, his parents and sister discussed how to break the news. They agreed it would be best not to share everything right away, for fear Sam's blood pressure would skyrocket. But instead of following the plan, Sam's dad told him about the brain tumor as soon as he woke up.

“My first response was, ‘Okay, what are we gonna do about it?’ I didn’t want to wait and see what would happen,” Sam says. “I wanted them to dig the tumor out.”

Unfortunately, it wasn't that easy. The tumor was in a critical place by Sam's brain stem, making a biopsy difficult and risky. For the next few days, his doctors consulted with experts and colleagues far and wide. Even his family and friends contacted doctors throughout the country.

“We were amazed that these experts would take the time to discuss Sam's case with us,” Janet says.

But the responses they received were conflicting and overwhelming, she adds. Brain tumors vary greatly, and a treatment plan couldn’t be developed until doctors could identify the type. They finally decided to go in through the drain hole in his head to biopsy the growth.

On Monday, March 31, one of the Methodist Hospital surgeons attempted the biopsy. He later told Sam's family that it looked like a bomb had gone off in his brain.

“They couldn’t get a biopsy,” Janet says. “The doctor told me Sam’s tumor was inoperable and that he would die on the table if anyone tried to go in there.”

But one surgeon had faith that something could be done. Dr. Aaron Cohen-Gadol decided to perform a full craniotomy. Two days later, he removed a section of Sam's skull to access his brain and get a good biopsy. And he was able to remove 70 percent of the tumor as well.

Determined to be an I-L-I-N-I

Meanwhile, Sam's classmates returned to campus after spring break.

“When Sam didn't show up after break, the other students were genuinely shaken,” says Samantha Koon, the instructor in three of Sam's five classes that semester. “I was stunned when I got the email about Sam. You know your students have lives you don't know about, but to get that email from his mom... Well, it took my breath away.”

Koon kept in touch with Janet at least twice a week to stay up to date on Sam's journey.

“It was important to me that he felt supported by the university,” Koon says. “I didn't want him to feel like he slipped through the cracks. Life crashed down around him, and we wanted to be there to help him get back up on his feet.”

Sam's desire to return to campus fueled his recovery. After two weeks in the hospital, he transferred to Rehab Hospital of Indiana to start physical therapy. But a relapse a few days later returned him to Methodist for two weeks.

On April 27, one month after his near-death experience, Sam celebrated a milestone with a Busch Light in his hospital bed.

“It's not exactly how I pictured spending my 21st birthday,” Sam jokes.

Two days after his birthday, Sam returned to Rehab Hospital; two weeks later, he was released. Shortly after, he traveled to campus with his mother to meet with Koon and his advisor, Barbara Anderson. He found out that two of his classes couldn't be salvaged because of in-class assignments he had missed. But for his three classes taught by Koon, she agreed to file incompletes and allow him to finish them over the summer.

“Sam invested so much in those classes—I saw it as effort wasted if we didn't work together to find a solution,” Koon says. “He could have taken a C-minus and moved on. But he chose to complete his work. I think this speaks highly of his character.”

Koon explored alternative ways to approach his assignments, but “Sam wasn't looking for an easy pass.

And I didn't want to give him an advantage because he had been through a life-changing experience. Did it require extra effort and creativity? Yes. Did we respect educational integrity throughout the process? Yes.”

Navigating the aftermath

The tumor affected Sam's vision and balance. And, weak from being on his back for nearly a month, he struggled to walk. Basic physical tasks were a challenge. But the neurological effects of the tumor were even harder to overcome. Early that summer, he started outpatient therapy to work on memory and cognition.

At neurological rehab, Sam focused on developing his attention, memory, and problem-solving skills. He says his sister, a grad student in speech pathology, was especially helpful during this process and encouraged him to keep at his exercises.

Although Sam has always been very outgoing and energetic, the removal of his tumor resulted in what Koon refers to as “Sam 2.0.”

“He's a little bolder, a little brasher,” Koon says. “But he's still the same fun-loving guy we all like so much. Sam has been figuring out how to moderate himself and develop a filter. He's learned how to rein himself back in.”

Sam agrees that his cancer has changed him. But he wouldn't go back. “I don't take life for granted,” he says. “I know it sounds cliché, but it's not real until you experience it. It's my truth now.”

His attitude throughout this experience has been admirable, his mom observes.

“He's had so much to handle and has never complained—not once,” Janet says. “He has a lot to complain about—excruciating headaches and physical issues to overcome. I don't know that I could have done that.”

Returning to campus

Despite the rehab staff's concern about Sam coming back to school too early, he was adamant that he was ready for the challenge.

“I was tired of being babied,” Sam says. “I wanted to be back at U of I and show everyone I could do it. I still have
After five surgeries and 47 days in the hospital, Sam began three months of rehabilitation in Indianapolis. "We thought he could handle it," she says. "And we couldn't picture him making more progress by driving back and forth to Indianapolis than he would settling back into his classes."

Despite his lengthy detour, Sam will graduate this May, a combination of his efforts and the support provided by Koon, advisor Anderson, and the Department of Agricultural Communications.

"They really reached out and helped us navigate a hard time," Janet says. "They went above and beyond. They took personal interest and ownership in our situation."

It wasn't hard to do, Koon says.

"I did what felt right, and ACES backed up my decisions," Koon says. "Other colleges have commitment beyond the classroom, but it is true that the College of ACES is a little unique. We do things differently for family. And Sam is family. He was easy to do the right thing for."

Sam's near-death experience turned life on its head—not only for him, but for those who walked with him through it all. Although his battle with cancer isn't over, he says he's not sitting around thinking about it. Every four months, he will return to Methodist Hospital for MRI scans to check for tumor growth.

In the meantime, like every other college senior, Sam's working on his resume and doing lots of networking. He hopes to land a sales position that will allow him to apply his passion for agricultural communications and prioritize customer relationships.

"I'm taking life day by day," Sam says. "I don't believe in bad luck. I don't believe God damned me. I believe he put this tumor in my head as an eye-opener—to show me how precious things are and to put perspective into my life. I consider that a gift."
Whether crops are destined for feed bags, dinner plates, or gas tanks has been the subject of heated debate for over a decade. Some argue that farmland should be used exclusively to grow food. Others maintain that producing more efficient biofuels (such as ethanol) is the key to both satisfy our nation’s appetite for energy and reduce its dependency on foreign oil.

As the debate continues, so does the need for both food and fuel. Growing enough food for the world’s growing population remains a challenge, and the planet’s finite natural resources are dwindling.

Rather than focus their efforts on the debate, ACES researchers are seeking new ways to use the crops and resources we have. They are even working to turn challenge into opportunity by developing new crops for food and biofuels.

Work underway in ACES ranges from reducing the amount of grain lost on its way to storage to establishing new government guidelines for farmers who want to grow a crop for its potential as biomass rather than to be eaten. Some researchers study
complete food chains for a big-picture perspective, while others investigate one small question in addressing the complexity of the global food-or-fuel question.

**Why is grain falling through the cracks?**

A basic question of the ADM Institute for the Prevention of Postharvest Loss, which funded the research in Brazil of agricultural economist Peter Goldsmith, is why such loss occurs in the first place.

Goldsmith learned that some Brazilian farms were losing upwards of 10 percent of their yield at various points along the postharvest route—with grain sometimes literally falling through cracks in the trucks headed for storage bins.

In one study, Goldsmith examined how managers of large farms in the Brazilian state of Mato Grosso may be damaging the efficiency of their own operations. He found that managers who are aware of the factors that contribute to loss of grain after harvest lose less.

“It doesn’t seem rational—if you see soybeans bouncing off your windshield from the truck ahead of you or notice bands of soybeans left standing along the berm after harvest, why wouldn’t you try to prevent that?” Goldsmith says. “Clearly there are things that you can do to reduce loss—you can put bed liners in trucks, you can adjust your combine, you can harvest more slowly. But for the farmers in Mato Grosso, it’s not a high priority. It appears that farm managers allow loss to happen because the cost of reducing it is greater than the benefits.”

Goldsmith’s work suggests a discrepancy between managers’ perceptions and the reality of postharvest grain loss. And despite a huge body of articles addressing postharvest loss, no one is working with Brazil’s farm managers to translate what is known into change in the operations for which they are responsible.

Goldsmith believes that some worldwide grain shortages could be reversed by identifying and correcting certain issues related to loss. Recognizing how postharvest losses occur and the role that managers play is a first step toward making improvements.

**Double-duty crops increase benefits, decrease waste**

One way that even more value can be added to crop production is by using what was once considered residue. For example, corn stover—the leaves and stalks of corn plants left in a field after harvest—has found new life through conversion to ethanol.

ACES researchers also look for nutritional possibilities among crops already being used in producing biofuels.

One crop of recent interest is *Camelina sativa*, or “Gold of Pleasure,” a plant native to Europe and central Asia. Long considered a weed in North America, *Camelina sativa* is increasingly valued for its usefulness both in biofuel production and as animal feed. Oil extracted from camelina seeds is used in fuel production, and the resulting meal is high in protein and may be fed to livestock.

ACES animal sciences professor Hans H. Stein wanted to determine if camelina seeds and expellers (the residue remaining after seeds are crushed) could be fed to pigs, and his research indicates they can be. Stein looked at the digestibility of crude protein and amino acids in camelina products when fed to pigs and found that it compared favorably to that of canola meal, which is already used in pig diets.

“Our findings will help producers and feed companies evaluate camelina expellers for possible inclusion in pig diets,” Stein explains.

Elizabeth Jeffery, a professor of nutritional toxicology, is likewise interested in camelina, but for a reason related to humans. Jeffery found something promising about the crushed camelina seeds left after oil is extracted—the compounds boost liver detoxification enzymes about five times.

Because the oil from oilseed crops makes an environmentally friendly biofuel, scientists have been hoping to find a green use for the protein-rich seed meal left after the oil is extracted. So Jeffery thought the crop was worth a look.

“The camelina seed meal is a promising nutritional supplement because its bioactive ingredients increase the liver’s ability to clear foreign chemicals and oxidative products. And that gives it potential anticancer benefit,” Jeffery says.
Making energy from nonfood crops

One way to minimize decisions over whether to grow a crop for food or fuel is to develop alternatives whose only use would be to produce biofuels.

Miscanthus and other grasses have received frequent attention as crops that can be grown for their abundant biomass, which can be converted into fuel as an alternative to corn grown for ethanol. But ACES researchers are exploring additional fast-growing natural resources.

Erik Sacks and Pat Brown, assistant professors in crop sciences, are independently leading two of the 10 projects around the country awarded funding from the USDA and the Department of Energy to improve plant feedstocks for producing biofuels, biopower, and bio-based products.

Sacks’s research is providing new information on the evolution and genetic makeup of Miscanthus that could lead to improvement and greater security of the crop in the future. Brown’s project is exploring biomass sorghum. Working with 600 lines of sorghum, he will look for natural variations that could be useful for breeding sorghum for biomass.

Brown is especially searching for certain classic traits such as low lignin. Although low lignin is good because the plant tissue breaks down more easily, it is also bad in that plants low in lignin tend to fall down easier—to lodge. Plants that don’t stand up affect the overall yield of the crop. So Brown is also looking for a natural variant that makes plants lodge to guide plant breeders’ work.

Looking ahead, Brown observes that “a lot of people are waiting to see where bioenergy goes in the next 10 years. We know we can get a certain price for corn at the elevator, and there are certainly a number of ethanol plants, but not a lot of farmers are growing biomass crops at this point. We hope we’re going to find something that drives down the cost of production and makes a real difference.”

New crops need new rules

With their long agricultural histories, corn and soybean both have proven growing and management techniques and are financially subsidized by the federal government. The same is not yet true for newer crops being grown to produce fuel. Environmental law and economics professors in ACES are working with government agencies to create standards for these new crops in response to concerns that fuel crops compete with food supplies.

For example, some people believe that fuel crops should be grown only on marginal land, with the most productive land reserved for food crops. But what do we mean by “marginal”? Jody Endres, professor of environmental, agricultural, and energy law, says there isn’t an official definition of the word, but that one is needed.

And that’s just one example of the questions and ideas that come with new crops. Should farmers who grow crops to be used for fuel receive extra credit? Are these new energy crops environmentally and financially sustainable?

Endres is leading national work to develop standards for biofuel crops analogous to those that are in place for food crops. Among other things, she’s addressing growing public concerns that producing biofuels crops affects water quality and biodiversity.

Ongoing work for an ongoing dilemma

Research from crop scientists, agricultural economists, nutritional scientists, plant breeders, and other disciplines in ACES will continue to shed light on the issues underlying the “food or fuel?” debate. And likely it will generate new solutions as well.

Agricultural economist Craig Gundersen, for example, studies the problem of food insecurity in the U.S., particularly among seniors and children. And other research and extension teams are concerned with food insecurity in developing countries and in the United States.

For more on how the College of ACES is addressing the world’s need for food and fuel alike, download a copy of Food for Thought 2 at go.illinois.edu/FFT2.
“I’ll have what he’s having”

By Debra Levey Larson

If you want to eat healthier when dining out, surround yourself with friends who make healthy choices. In fact, according to ACES food economist Brenna Ellison, when groups of people eat together at a restaurant and have to state their food choices aloud, they tend to select items from the same menu categories.

“My conclusion from the research is that people want to be different, but not that different,” Ellison says. “We want to fit in with the people we’re dining with. It goes against the expectation that people will exhibit variety-seeking behavior; we don’t want to be that different from others.”

To reach her conclusion, Ellison analyzed lunch receipts from a full-service restaurant for three months. One section of the restaurant was the control group, with guests receiving menus listing only entrées and their prices. Another section received menus with a calorie count for each entrée. And a third section had menus with both the calorie count and a traffic light symbol to indicate caloric ranges: a green light indicated 400 calories or less, a yellow light 401 to 800 calories, and a red light more than 800 calories.

Although the data Ellison gathered came from information on the paper receipts, knowing which menu the customers ordered from was critical to the results. So Ellison also went undercover at the restaurant to observe.

“I helped bus tables sometimes so that I could watch and make sure that the tables were getting the right menus,” Ellison says. “Or I would send people in as ‘secret eaters.’ They could eat whatever they wanted; I just wanted to make sure that they got the right menu for their section.”

Because she stopped by the restaurant every day to pick up receipts, Ellison says, she was able to get additional information directly from the servers. “They said that customers talked about the traffic lights a lot. And we did find that larger tables which received the traffic light menus ordered fewer calories, on average. This suggests there was some peer pressure to order lower-calorie items,” she says.

Using the receipts, Ellison determined what items people chose and how satisfied they were with their choices. “Observing many different choices over many different people lets us estimate how happy they are with their choices and how this changes with what other people are ordering,” Ellison says. “We don’t actually ask people how happy they are with menu item A versus B. Rather, we see the choices they make, and we use these choices to logically infer which item makes them happier.”

Ellison says that this type of framework is standard in most economic analyses of consumer choice.

“The big takeaway from this research is that people were happier if they were making choices similar to the people sitting around them,” Ellison says. “If my peers are ordering higher-calorie items or spending more money, then I am also happier, or at least less unhappy, if I order higher-calorie foods and spend more money.

People were happier if they were making choices similar to the people sitting around them.”

“The most interesting thing we found was that no matter how someone felt about a food category originally—even if it was initially a source of unhappiness, such as the items in the salad category—this unhappiness was offset when others had ordered within the same category,” Ellison says. “Given this finding, we thought it would almost be better to nudge people toward healthier friends than healthier foods.”
CROSSING LINES

CULTURAL

A plant geneticist goes to Ethiopia

By Debra Levey Larson
“We live a very different reality here in the U.S.,” Bohn says. “You can’t imagine what it is like in a developing country like Ethiopia until you see it for yourself.”

Haramaya University serves about 12,000 students along with their lecturers, faculty, and service personnel. The school sits on a lush plateau in the highlands, with a lake and good ground on which to grow corn, but grain yield is not what’s most important to farmers there.

“In Illinois, farmers grow the best-performing maize hybrid to maximize yield,” Bohn says. “But in eastern Ethiopia farmers grow maize as a multipurpose crop. It’s grown not just for its grain, but for the rest of the plant as well—as biomass for roofing, animal feed, and other purposes. So the entire plant has high value.”

For Haramaya, having an expert like Bohn on site for two weeks was a gift—an opportunity to tap his expertise and knowledge. For Bohn, the assignment was a wild-and-crazy, hit-the-ground-running adventure. He was given a scope of work developed by the university’s School of Plant Science—a long to-do list of tasks “clearly too ambitious for me to accomplish in a two-week stay,” Bohn says. “They wanted me to set up a lab and train people to run it, give workshops, teach classes, consult with students and faculty, and write publications. And after I got there, more things came up.”

In an effort to check one item off of the task list, Bohn planned to conduct a workshop on plant genomics in the Haramaya computer lab. “I walked into the technology room and saw 30 computers. This is great, I thought. At a conference in the U.S., I would just put my memory stick into the USB port and off we’d go. But the computers required a password, and no one knew what it was.” Bohn switched to using a whiteboard, but the single marker went dry before he finished his presentation.

Bohn repeatedly encountered obstacles of the sort common for universities in developing countries, such as a library with outdated books and labs filled with equipment but without reliable power or a clean water source to run experiments. “The lack of resources shocked me,” Bohn says. “But I was amazed at how creatively the faculty and the students used their limited resources to do excellent work. I tried to help them see that they can make progress without all of the fancy stuff.”

He encouraged them to build synergies with other departments and disciplines at Haramaya, an approach which is also fundamental to the Farmer-to-Farmer program. “It’s about helping to connect developing countries with people in the developed world who can provide support and training in that area,” he says. Some of its big-picture goals are to build household resiliency, help manage natural resources, address food insecurity by integrating nutrition education with agriculture, and encourage more women in agriculture.

“We think that the food security challenges are so big that we also need a big solution,” Bohn says. But even small solutions can contribute. He describes an anecdote in which a woman in Tanzania was taught to plant a single healthy hybrid seed in each hole rather than several, to dig her holes a little deeper, and to space the plants more closely. These small changes doubled her harvest and economically changed her life.

Although Bohn wishes he had had more time to prepare and perhaps to write a grant for funding, he believes his short time in Ethiopia was well spent. He was able to collaborate on a number of projects, including teaching a class on breeding hybrids and analyzing a large data set on the diversity in mango and another on breeding against termites in sorghum.

Back in Illinois, Bohn continues to communicate with the people he met at Haramaya University. He has already connected some faculty with webinar opportunities on maize breeding, and he hopes to create additional collaborative relationships.

Interested in learning more about becoming a Farmer-to-Farmer volunteer? Contact Oliver Ferguson in the College of ACES at 217-300-0203 or ofergus@illinois.edu.
Dream Big...

Prasanta Kalita motivates others to think beyond the norm

By Leanne Lucas

Every professor hopes to cultivate at least a few big dreamers over the course of a career, but the professors who dream big themselves are ones that students remember. Prasanta Kalita? Definitely a big dreamer.

Kalita is a professor of soil and water resources engineering in the Department of Agricultural and Biological Engineering (ABE). The many awards he’s received for teaching excellence are easy to understand after you have the chance to talk with him.

“Teaching is my most favorite thing to do,” he says. “No matter what else I do, I love to talk with and work with students. They energize me.”

Kalita’s “what else” takes an impressive amount of energy, something he never seems short of. In addition to his teaching and research, he is an interim assistant dean in the ACES Office of Research and director of the Archer Daniels Midland (ADM) Institute for the Prevention of Postharvest Loss.

“Almost everything I do is interconnected,” Kalita says. “In the Office of Research, I help administer FIRE grants, which encourage faculty to develop exploratory research ideas across multiple disciplines.

“I’ve also had the opportunity to help interdisciplinary groups on international projects,” he says, noting that he has recently traveled with ACES and U of I colleagues to Mexico and Myanmar to observe water and postharvest loss projects.”
“I am getting to know the college faculty, and I have gained a much better understanding of who is working in all the different areas. It’s very good exposure for me.”

Though Kalita’s appointment as assistant dean frees him from some professorial duties, he still teaches two courses, Principles of Soil and Water and Water in the Global Environment. The second is a Campus Honors Program course, and Kalita says it is a high priority for him.

“There is such a need for a class that discusses water concepts to solve global water problems,” he says. “I waited many years to see if anyone would offer a class like that, and no one did. Not here—not anywhere. We have water classes for specific disciplines, but we had nothing for students who did not have it as a normal part of their curriculum.”

Kalita sees there is so much interest in the topic that he hopes to expand it one day as a general education course. “My goal is to someday offer it at Foellinger Auditorium to 700 students. I don’t know how I would do that, but you have to dream.”

His expertise in soil and water resources intertwines nicely with his position as director of the ADM Institute for Postharvest Loss. “Since I began this position a year ago, my understanding of the issues involved has changed and grown so much. We’re going to have 9 billion-plus people by the year 2050. How are we going to feed them? When my research was limited to water, I only knew there would not be enough water to produce the food we needed.”

Now his perspective is much broader, Kalita says. “With our limited resources of land, fertilizer, seed, and water, we have to protect whatever food we produce. Postharvest loss of major crops is projected to be anywhere from 10 to 30 percent, depending on which product you’re talking about and what area you are in. There is so much variability between the developed and the developing countries. Loss in the United States and Europe is primarily from waste. But people in some countries in Asia and South America and Africa don’t have the luxury of enough food to waste. Their loss comes before the consumer level. They don’t have the technology to adequately harvest, dry, store, or process their crops.”

Kalita hopes to address these and other problems of postharvest loss in a variety of ways. “We are planning the world’s first international congress on postharvest loss, in Rome this October,” he says. “It will be in collaboration with the Food and Agricultural Organization of the United Nations, the World Bank, the Bill and Melinda Gates Foundation, the Rockefeller Foundation, and others.”

Kalita sees the conference as an opportunity to bring together the world’s major players to discuss the critical issues of postharvest loss. “Right now there is no avenue that brings government agencies and the people who make the policies together with the organizations that fund the research and the designers who make the products. We’re forming this coalition to exchange information so that we can all contribute to solving the problem of food security.”

Remember the whole “dream big” thing? Kalita has suggested that they ask Bill Gates to be the keynote speaker for the conference. “I thought people would shoot me down, but everybody really liked the idea. I don’t know if we can make that happen, but we need to do everything we can to put a spotlight on our message and get it out to the rest of the world.”

In his position with the ADM Institute, Kalita also works with the Coursera Initiative. Coursera is an educational technology company that offers massive open online courses. Illinois was the first land-grant university to join the consortium of more than a dozen global universities working with Coursera.

“We are putting together a class on postharvest loss that we will offer free online,” says Kalita. “But we will also put it on CD and in book form so that people who do not have the Internet can still access the information. People in the developing countries are the ones who need it the most.”

The ADM Institute is also starting a partnership with two universities in India, Bihar Agricultural University and Rajendra Agricultural University, to design a plan to develop extension education in postharvest drying and storage.

“We would like to work with two government agencies as well,” says Kalita, “the Indian Council of Agricultural Research and the Ministry of Information and Technology. We only have a ‘handshake agreement’ with them right now, but I’m hopeful. Regardless, we are going to go ahead and start working in the communities. I come from a farm background. I understand what it means to farmers when you give them a chance to develop their livelihood and increase their income. It changes lives.”

In addition to his teaching, research, and administrative roles, Kalita is a member of the executive committee of the Illinois Senate of the Urbana-Champaign campus, and he is a committee member of the University Senates Conference. “I have a much better understanding of how the system works and what is happening, not just in Urbana, but on all three campuses.”

Asked about his seemingly hectic life, Kalita laughs. “People ask me how I can do what I do. But I’m learning so much, I can’t give it up. I only sleep about four hours a day,” he admits. “But I’ve been like that all my life. My parents worried about me even when I was young. Now I think maybe that’s why God created me the way he did—to do this work. We live in a global world, and there is so much to do and not enough time.

“But the best part is, I can take what I am learning back to the students to share with them,” he concludes. “It doesn’t take five minutes to tell them what’s happening in the world. Hopefully it will motivate them to think bigger. Otherwise we are bound by our textbooks and our surroundings, and we don’t have to be. We can dream big.”
What does dinner look like at your house? Does one child pick at his food while another is a bit too enthusiastic about sweets? University of Illinois experts have mealtime strategies you can use to help your kids develop a healthy approach to eating.

By Phyllis Picklesimer

Around the Table

Start early to help your child develop a healthy relationship with food
Trust children’s ability to eat what they need

"Infants are born with a natural ability to regulate their food intake, especially if they're breast fed," says Sharon Donovan, a professor of nutrition who is studying picky eating with sensory scientist Soo-Yeun Lee. "But all through life, we find ways to overrule that capability. If we're bottle feeding, we want them to finish the bottle. When they are older, we may serve kids too much and then expect them to clean their plates. We override their inherent ability to say 'I'm full,' or we misread their messages."

Research has determined that picky eating peaks between the ages of two and three, a time that represents a “perfect storm” of developmental changes, such as striving for independence and being cautious about unfamiliar things. Parents may interpret some of these normal behaviors as choosy eating.

"At this age, children simply don't like new things. It's called neophobia. They're afraid of strangers, and they're also less accepting of new foods," Donovan says.

Toddlers grow much slower than infants, and growth rate should drive appetite. The researchers advise parents to trust their children to know when they are full. Also, it's normal for children to become leaner from ages two through five. Children who do not go through a lean period are at greater risk for childhood obesity, Donovan notes.

So what should parents of young children do? The researchers provided several recommendations. "It's important to know the appropriate serving size for toddlers. A half-slice of bread, 4 ounces of milk, or a quarter-cup of vegetables is an adequate portion at that age. Start with a child-sized serving; then give seconds if your child wants them," Lee advises.

Also, because food behaviors and preferences are established very early in life, Donovan and Lee recommend exposing kids frequently to different textures, flavors, and food groups. It can take up to 10 tries for a child to accept a new food, so don't give up prematurely.

Other tips include serving the new item with other foods the child likes, taking apart combined foods like casseroles and sandwiches to show what the dish contains, and simply letting the child see parents and siblings eat and enjoy the food in question rather than apply any pressure to try it.

A parent's response to a child's seeming pickiness may determine how severe the behavior will be and how long it will persist, Donovan says.

"Rewarding a child for eating an unwanted food is a negative strategy that may actually perpetuate the picky behavior. The best thing parents can do is be gatekeepers over what food comes into the house, then let the child decide what she is going to consume, and allow for the occasional treat," Donovan says.

Parenting style is also emerging as an influence on picky eating, the U of I researchers have found. "We know we're not going to change a person's parenting style, but we are trying to learn the characteristics of parents who report that their child has very few eating problems," she notes.

Pass, don't pre-plate, so kids learn to recognize when they're full

Child care centers have an important role to play in shaping children's eating habits and behaviors, according to Brent McBride, director of the U of I’s Child Development Laboratory (CDL). More than half of U.S. children under age six (57 percent) spend an average of 30 hours a week in home- or center-based child care, and a typical preschooler consumes half to three-fourths of her daily calories in a child care setting.

One practice recommended by the Academy of Nutrition and Dietetics for child care centers could help combat child obesity: instead of pre-plating food, serve meals family-style, passing bowls and allowing children to serve themselves. Kids who serve themselves not only eat 25 percent less, they waste less, McBride says.

Child care providers and parents at home should be discouraged from preparing a child's plate and bringing it to the table, he advises.

“When foods are pre-plated, children never develop the ability to read their body's hunger cues. Family-style meals give kids a chance to learn about portion size. Kids learn to think, Okay, this is an appropriate portion size for me," he says.

As adults eat with children, they can model healthy behaviors. Teachers at CDL are asked not to pressure children to take a given number of bites or to finish a serving before another food or activity is offered.

“Instead of asking, ‘Are you done?’ we want teachers to ask, ‘Are you full?’ ” McBride says. “Or to say, ‘If you’re hungry, you may have some more.’”

These are good practices for parents to follow at home as well, the researcher says.

The best thing parents can do is be gatekeepers over what food comes into the house."
McBride’s recent work has shown that many child care providers don’t serve food family-style because they believe the practice is messy and unhygienic.

“Teachers who don’t do family-style meals give all these reasons that they don’t. But when you first do, say, easel painting with two-year-olds, it’s very messy because they don’t have fine motor control. But you still do it—because it helps them develop that motor control. The same is true for family-style meal service. It may be messy until children learn to pour the right way, but it’s important. It’s a developmental progression,” he says.

At home, parents too may have to be patient, sacrificing some tidiness and order while their child learns to regulate his food intake, McBride adds.

**Prioritize family mealtimes despite busy lives**

Taking about 20 minutes three to five times a week to eat and talk together as a family offers strong benefits to kids, urges Barbara Fiese, director of the U of I’s Family Resiliency Center.

“Children need regularity and predictability for healthy development,” she says. “Few other family activities are repeated with such consistency as meals eaten together, allowing children to build up expectations about how their parents and siblings will react from day to day. As a result, kids develop a sense of security,” she says.

A review of studies shows that children who eat family meals at least three times a week are 12 percent less likely to be overweight and 35 percent less likely to engage in “disordered eating” (such as binging-and-purging or fasting), Fiese says.

Fiese offers a variety of tips for making the most of family mealtime after a busy work day.

- Decide consciously to create a boundary between work and home.
- Make a plan—knowing you have everything on hand for dinner alleviates post-work stress.
- Focus on what you’re doing. Multitasking can create pressure rather than relieve it.
- Institute a no-screen rule for time at the dinner table—turn off phones, tablets, laptops, and televisions.
- Stick to dinnertime routines—divide responsibilities, wait to eat until everyone’s at the table, serve and end dinner at consistent times.
- Set rules for family mealtime—no touching, pushing, hitting; stay in your seat; ask for food to be passed if you can’t reach; speak in “indoor voices.”
- Manage your emotions to keep dinnertime calm.
- Model respectful conversations—share stories about the day; take turns speaking; use a signal for who gets to talk; make sure everyone gets time to speak.

What does dinner look like at your house? Give the strategies suggested by U of I experts Donovan, Lee, McBride, and Fiese a try. It may take time, but your picky eater is likely to eventually sample a variety of nutritious foods. Children who serve themselves will learn valuable lessons about eating when they’re hungry and stopping when they’re not. And the conversation, concern, and laughter of siblings and parents around the table during regular family mealtimes can lay a lasting foundation of emotional security.
It’s common to hear a person with impressive leadership skills described as a “born leader.” But a new U of I study supports the idea that good leaders are most often the product of their experiences, not their in-born abilities, and that leadership development follows a specific progression.

Past research has suggested that leadership is just 30 percent genetic, with 70 percent a result of lessons learned in life. A study conducted by several faculty involved in leadership education in the College of ACES proposes a pathway to leadership development that can be taught in university classrooms.

According to Kari Keating, who teaches in the agricultural leadership education major, “Our research shows a predictable progression of being ready, willing, and able. Students who receive leadership training go from being ready to think of themselves as potential leaders to being willing to learn the skills that will allow them to lead to being able to take the reins and be leaders in a situation that calls for it.”

“We’ve shown that we can teach students to move through these stages,” she adds. “In only 15 weeks in our introductory class, students reported significant gains in three important components of leadership: self-efficacy, or confidence in their ability to lead; skills; and motivation to lead.”

Colleague David Rosch notes that students who enter the course low in self-efficacy—saying “I don’t really think of myself as a leader” or “I’m not confident in my abilities”—don’t increase in being willing and able in 15 weeks. But they do make big increases in readiness, he says.

“Think of it like doing math,” he says. “You’re not ready for calculus if you don’t know the basics of algebra.”

Those who come into the class with leadership readiness—saying, “I’ve got this; I’m a leader”—have a different learning experience, Keating says. They become willing to lead people whether or not they expect to benefit personally.

What is leadership exactly? “Historically, leaders have been viewed as male and power oriented. If you were tall, articulate, and well-schooled, in other people’s minds, you were a leader,” says Lisa Burgoon, also a faculty member in ACES leadership education.

And students often take a positional view of leadership. “But,” counters Rosch, “just as a year in a cave doesn’t make you a geologist, being senior class president doesn’t make you a leader.”

“The definition we use is that a leader is an individual influencing a group of people toward a common goal. So how do you influence people? You can lead through your interactions, your relationships, your communication, the way you express thanks, your ethics.”

In the course of the class, Burgoon says, students complete about a dozen self-assessments to learn where their own strengths and weaknesses as a leader lie. By the end of the semester, a student may conclude, “I don’t lead with any of this relationship stuff. I’m mainly authoritative. Maybe I need to alter what I’m doing so our team can get better results.”

Rosch says every semester students come back to him with reports of job interviews in which they advanced because they could demonstrate and talk about leadership. He adds that academic advisers are beginning to recommend leadership courses to students who aren’t in the leadership major or minor.

“If we could pre-test students for leadership proficiency like we test for chemistry placement,” Rosch says, “we could maximize the learning potential in our program.”
ACES student work experiences enhance learning

By Marla Todd

A dusty, dirty storage unit overstuffed with equipment might be the last place that a college student would expect to learn something. For two ACES student workers, though, it offered a perfect environment for exploration.

Nick Reitz, graduate student in food science and human nutrition (FSHN), and Todd Kirk, junior in agricultural and biological engineering (ABE), worked with Brian Jacobson, manager of the FSHN pilot processing plant. They are just two of the many ACES students who work closely every semester with researchers, facility managers, and other staff throughout the college.

The FSHN pilot processing plant is a multipurpose space mirroring a food processing facility. Faculty and students conduct research and teach courses in the plant, which features a variety of equipment used for developing, preserving, and packaging food.

Reitz and Kirk’s projects had a hands-on, practical component. They designed and built portions of a tomato processing system, made possible through a grant from the campus student sustainability committee. And that overstuffed storage unit? The pair researched, dismantled, and salvaged its contents to determine what could be useful additions to the pilot plant.

*“Everything we looked at, we had to determine what it was and if there was a use for it,” Kirk says. “You can find useful pieces in what looks like junk.” He adds that the project improved his ability to research products.*

Students fill toolbox on the job

Manager Jacobson, an ABE alum, strives to give student workers practical experience that builds their long-term skill set. He stresses independent work, problem solving, and seeing a project through to the end.

Kirk and Reitz appreciated the freedom that Jacobson gave them to discover. "Brian said there are certain things that I needed to learn how to do," Kirk says. "He would lead me in the right direction, but he expected me to figure out how to do it. That’s how you learn it."

Jacobson provides students with end goals for projects. When students first start working with him, an end goal might come with 10 or 15 steps for accomplishing it. After they gain experience, he might assign a similar project and simply tell them to go do it.

In addition to building soft skills, a job in the pilot processing plant builds on what students learn in the classroom and then reaches beyond. In his food processing course, Reitz operated several pieces of equipment in the facility. Just a few months later, he was taking apart the same pieces of equipment, revealing the fine inner workings—motors, control circuits, pumps. He expects to translate his work experience directly to his graduate research and future employment.

*I really feel comfortable with any sort of machine now,” Rietz says. *“Even in the research lab, I’m more at ease problem-solving, sometimes even contacting the manufacturer to fix something."

As for Kirk, his job in the pilot plant has brought classroom theories to life. As someone who learns best by seeing concrete applications, he appreciates operating machines in the pilot plant that show fluid flow and heat transfers, both important subjects in ABE.
A student job lets someone see what a job in the industry might actually entail.
Job experience impacts future

Students from different departments and majors working together are reflective of the career world, where varied professionals form a team, Jacobson says. The new tomato processing line presented the perfect opportunity for students to combine their talents. Reitz knew about end-product needs as well as sanitation and safety practices. Kirk brought knowledge of equipment operation, welding, and electrical systems.

Each of the pair also readily admits that he learned from the other. Reitz has integrated that experience into his role as a teaching assistant for an introductory food science course. He will be offering first-year food science students a tour of the pilot plant.

Working in the pilot plant has also influenced the career direction of several students, Jacobson says. They have entered careers that might not have been of interest before their work in the facility.

“Choosing a major gives you a degree focus, but it doesn’t always point you towards an interest area or specific job,” Jacobson says. “A student job can let someone see what a job in the industry might actually entail.”

For example, when Kirk arrived at Illinois, he planned to work in bioprocessing. After his work experience, he is now interested in process engineering for a food or beverage company. Similarly, Reitz’s career plans have expanded from basic food chemistry to include more mechanical aspects, including food processing.

Academics come first

Jacobson expects student employees to work independently and take responsibility for their projects, but he reminds them that classes are first priority. This job is conducive to learning and college workload, he says. He doesn’t hesitate to give students time off to study for a test.

“I love working in the pilot plant,” Kirk says. “It’s one of the better decisions I have made since being at the University of Illinois.”

Students influence facility upgrades

Students working in ACES’ food science pilot processing plant have had the unique opportunity of impacting the future of the facility.

Plant manager Brian Jacobson involved several of them in the visioning exercises conducted for the planned facility renovation. Moving forward, they will play an active role in preparing for the renovation and completing equipment installation when the transformation is finished.

The $3-million upgrade will produce a multipurpose facility for student instruction, cutting-edge research, and collaborative exploration with external partners. More information about the renovation and ways you can help provide financial support are available at pilotplant.aces.illinois.edu.

4-H Health Jam

4-H reaches 200,000 youth per year in Illinois, often with the support of donations made to the Illinois 4-H Foundation by 4-H alumni and their families. Helen Francis Boggan from Wilmington, Illinois, was a generous, kind woman who lived an active life, loved 4-H, and promoted healthy living. Donations made in her honor have supported an award-winning 4-H program—“Health Jam”—that engages youth in learning activities related to safety, health, physical activity, and health care careers. University of Illinois Extension partners with local emergency management units, health departments, hospitals, and nonprofits to provide Health Jam programs for youth.
Nearly 20 faculty members, graduate assistants, and students from across the College of ACES are working together to see red (and purple).

All are involved in a new research collaboration with Kraft Foods Group focused on developing affordable food colors from natural sources. The company is providing $1.4 million in funding to ACES and $150,000 to the university for fellowships.

The new work, which integrates talent and expertise from several ACES departments, will determine the economic and technical feasibility of extracting food colors from corn and incorporating them into food and beverages.

Jack Juvik, a professor of plant genetics in the Department of Crop Sciences and principal investigator for the project, says corn was recommended to Kraft as an economically feasible source for food colors as ingredients in many packaged food products.

"Corn has a sophisticated supply chain that allows it to go into many different products. This is a value-added opportunity for the industry; it won't be a special product grown just for colors," Juvik says. "It's also a good vehicle, because a lot of corn is grown already, and producers know how to grow and process it. We have to conduct research to see how much pigment we can get and to figure out what forms of the pigments are most appropriate for foods, as well as their stability in foods."

The naturally occurring anthocyanins in corn will be used as the source of food coloring. Anthocyanins, pigments found in plant tissues (leaves, roots, stems, flowers), give red, blue, and purple colors. Researchers will look at the anthocyanins in the pericarp, or outer portion of the kernel, especially in "purple corn" or "Indian corn" lines, which have been a staple food for humans for thousands of years.

"Our end goal is to develop cost-effective red and purple food colors derived from corn to deliver on some consumers' preference for ingredients from natural sources," says Nigel Kirtley, vice president for research and supplier integration for Kraft. "The outcomes of this research could also provide American farmers with another crop opportunity and highlight new ways the food industry and academia can collaborate in mutually beneficial ways."

The professors joining Juvik on the research team are Elvira de Mejia, food science and human nutrition; Vijay Singh, agricultural and biological engineering; and Gary Schnitkey, agricultural economics. The group will evaluate the composition of hundreds of maize (corn) lines. They will be looking for the lines with the most anthocyanins and how environmental factors influence color and stability. The costs related to extraction will be an important consideration, as will the most effective processing techniques to remove the pericarp and leave behind usable co-products.

"We will do tests in both the laboratory and the field," Juvik says. "This is a preliminary study that could lead to something very big."

By Stephanie Henry

An investment in the future

This new collaboration expands the engagement of U of I faculty with Kraft Foods and the food processing industry, promotes a pipeline for U of I graduates to explore internship and career opportunities with Kraft, and paves the way for future research partnerships. Over the years, Kraft Foods has supported ACES through undergraduate scholarships for students from underrepresented groups, fellowships in nutritional sciences and health and wellness, and an endowed professorship.
Lisa Adams, a 1985 agricultural communications graduate, received the 2014 Professional Development Award of Excellence in Public Relations by the National Agri-Marketing Association at NAMA’s fall conference in Chicago. Adams is public relations principal of Sage Virtual Communications in Kansas City, Missouri.

The Arkansas Children’s Nutrition Center has named Division of Nutritional Sciences alumnus Sean Adams as its new director.

USDA provided $3 million last year to cooperative state extension services to educate producers about key programs established by the 2014 Farm Bill. USDA awarded an additional $3 million to two university coalitions to develop online decision tools and related education, training, and outreach.

The University of Illinois Department of Agricultural and Consumer Economics was named the lead for the National Coalition for Producer Education and received over half of the $3 million for online tools, together with the Food and Agricultural Policy Research Institute at the University of Missouri and the Agricultural and Food Policy Center at Texas A&M University.

Webinars and the Illinois-led web tools are available at the Farm Bill Toolbox at farmdocdaily.illinois.edu.

Nine students from the U of I Agricultural Education program completed in the National Alpha Tau Alpha Conclave during the National FFA Convention in Louisville, Kentucky. The students competed in Quiz Bowl (1st place), Debate (2nd place), Parliamentary Procedure, and Program of Excellence. The competitors were Cassie Campbell, Clayton Carley, Shelby Cooper, Claire Geiger, Rachel Hazen, Trent Hawker, Betsy Kueker, Maggi Maxstadt, and Kaity Spangler.

Judy Bingman, 4-H media communications specialist, received the 2014 Branding Leadership Award for Communications and Marketing Excellence from the U of I Office of Public Affairs. The nomination featured Bingman’s state fair work, which has influenced Extension’s image, messaging, and marketing tools statewide. U of I Extension’s director of communications, Stephen Wald, received the 2014 Crisis Communications Award for his leadership after an outbreak of norovirus at 4-H Memorial Camp.

Germán Bollero, professor and head of the Department of Crop Sciences, was named a Fellow—the highest recognition bestowed—by both the Crop Science Society of America and the American Society of Agronomy. Brian Diers, a professor of soybean breeding, was also named an American Society of Agronomy Fellow. A Fellow has made outstanding contributions in an area of specialization, whether in research, teaching, extension, service, or administration, or in public, commercial, or private service activities.

Lauren Chatham, a first-year Ph.D. candidate in the Department of Crop Sciences, was named the first Fraley-Borlaug Scholar in Plant Science. The scholarship, which supports women studying plant biology and biotechnology in the College of ACES, was established by Monsanto and U of I alumnus Robb Fraley, the company’s executive vice president and chief technology officer. Fraley, a World Food Prize laureate in 2013, used his share of the financial award along with a match from Monsanto to establish the endowment, initially totaling $250,000.

Taiwan’s new Minister of Health and Welfare is Been-Huang Chiang, who received a master’s degree in meat science and Ph.D. in food science from the College of ACES. Chiang has been a professor, director of the Institute of Food Science and Technology, dean...
of the College of Bio-Resources and Agriculture, and dean of academic affairs at National Taiwan University.

Archer Daniels Midland Company is donating $1.5 million as the lead gift for a new Feed Technology Complex on the U of I South Farms. The gift encouraged former governor Pat Quinn to announce additional support of $3.5 million from the state’s $31-billion “Illinois Jobs Now!” capital construction program. The state-of-the-art complex, replacing the university’s century-old feed mill, will let students and faculty process customized animal feeds and will support world-class research and educational programs in crop and animal sciences, nutrition, and food science. The facility will be used to develop and test new technologies that can be applied to the manufacture of animal and human foods and will support research on safe food production, animal nutrition and sustainable livestock practices. The total estimated cost of the project is $13.9 million.

Tony Grift, associate professor in Agricultural and Biological Engineering, and Martin Bohn, associate professor in Crop Sciences, co-edited a special issue of Resource, the member magazine for the American Society of Agricultural and Biological Engineers. “Feed the World in 2050” addresses the challenge of feeding a predicted global population of 9 billion people. Grift and Bohn solicited contributions from around the world and received so many responses that ASABE will publish a second collection in March.

Walt Hurley, professor of animal sciences, received a prestigious regional USDA Food and Agriculture Sciences Excellence in Teaching Award. Six winners were announced at the annual meeting of the Association of Public and Land-Grant Universities in November. Winners are selected for their ability as classroom teachers, use of innovative teaching methodology, service to students and their profession, and scholarship.

University, state, and industry officials came together in October to celebrate a unique facility coming to the U of I campus. The Integrated Bioprocessing Research Laboratory, or IBRL, will be a flexible, plug-and-play, pilot-scale facility and analytical laboratory. The facility, housed in ACES, will bring faculty, students, and industry together to develop efficient and economical strategies for producing renewable bio-based products.

Elizabeth (Liz) Koehler, a senior in agricultural communications, is the first recipient of the National Association of Farm Broadcasting’s Orion Samuelson Scholarship. Koehler was honored with the $5,000 NAFB Foundation scholarship, sponsored by CME Group, at the association’s 2014 convention.

Nancy McElwain, associate professor in Human and Community Development, received a National Science Foundation grant through the foundation’s Interdisciplinary Behavioral Social Sciences-Exploratory mechanism. The funding will support collaborative research that integrates human development, physiological processes, and linguistics to better understand how language, emotion, and physiology are intertwined in mother-child interactions. McElwain’s collaborators are from psychology, educational psychology, and linguistics.

Kale Monk, a Ph.D. student in Human and Community Development, received the 2014-2015 Jewell L. Taylor National Fellowship from the American Association of Family and Consumer Science in recognition of his academic achievements and potential contributions to the profession of family and consumer sciences.

Taylor Person, a senior in animal sciences, participated in the Mayo Clinic Summer Undergraduate Research Fellowship (SURF) program. During the 10-week internship, Person was fully immersed in the research and culture of a major medical center, with a focus on immunology. Since 2010, up to five SURF fellowships have been reserved for Illinois students each summer.

Lanae Ringle, Nicholas Steppig, and Mark Holmes were named 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 study agronomy, crop, and soil sciences by matching them with scientist-mentors.

Sandra Rodriguez-Zas, professor in the Department of Animal Sciences, was named a 2014 University Scholar at Illinois. Her research on statistical genomics and bioinformatics resources focuses on understanding the genetic architecture of health and social behavior in humans and livestock. Her work offers novel insights into critical molecular processes. She is the principal investigator of the Bioinformatics core of the Illinois NIH Neuroproteomics Center.

Professor Kelly Swanson received the 2014 Campus Distinguished Promotion Award. Made on the recommendation of the Campus Committee on Promotion and Tenure, the award recognizes particularly exceptional cases during the promotion review process. Of all the 100+ cases reviewed, Swanson was one of only four faculty recognized in this way for their exceptional achievements.

Eric Swenson, a U.S. Army veteran and current graduate student in Natural Resources and Environmental Sciences, traveled to San Francisco in October to be the keynote speaker at a dinner benefiting the Chez Family Foundation Center for Wounded Veterans in Higher Education. The center, slated to open at the U of I in the fall, will provide live-in campus accommodations for 14 disabled student veterans and will extend additional services to hundreds more. The center will build on U of I’s unique experience serving persons with disabilities since 1948, when veterans of WWII entered higher education using the GI Bill. It will focus today on helping wounded and injured veterans and their families successfully navigate the higher education landscape.

Assistant professor in agricultural education Erica Thieman was invited to participate in an October discussion on women’s leadership in agriculture, hosted by the White House Rural Council in partnership with AGree: Transforming Food and Ag Policy. Thieman and other agriculture leaders known for mentoring and supporting women addressed ways our country can better support the next generation of women leaders in food and agriculture.
Every field of corn or soybean contains a staggering amount of information. Technology, both on the farm and in the research lab, has increased our ability to measure details at a finer and finer level, resulting in huge data sets. Answers to some of today's biggest dilemmas in agriculture may be found in the data.

How can this information help farmers make better decisions? How can plant breeders find insights to develop crops with higher yields? Ultimately, how will big data help us feed the world’s growing population?

**WHAT MAKES DATA “BIG”?**

“Big data” refers to extremely large data sets that must be analyzed computationally to find patterns, trends, and associations. Many industries use big data to better understand consumers’ wants and needs.

“Within agriculture, ‘big data’ means different things to different people,” says Matthew Hudson, associate professor of bioinformatics in the Department of Crop Sciences. “How big is ‘big’? What kind of data is ‘data’?”

To most scientists, Hudson says, data is big if it is at least several terabytes—which most crop fields easily contain, he adds. (To give you an idea of scale: A terabyte could contain more than 4 million 200-page books.)

In agriculture, research involving remote sensing, satellite imaging, environmental monitoring, crop yield predictions, plant health, or weather or climate measurements creates very big data sets. All that data must be stored until it is determined which parts are needed.

With the advent of precision agriculture, or site-specific crop management, farmers themselves collect field data of various sorts using technology like yield monitors and in-field and remote sensors. The raw information is then analyzed by software that enables farmers to make production decisions. Once analyzed, the data determines practices like variable-rate seed planting and differential application of fertilizer and herbicide.

“It used to be that to use precision ag techniques, you had to do expensive and time-consuming experimentation on your farm,” Hudson says. “Now the instrumentation makes it possible to collect data you need without experimenting, and it is advancing to the point that it’s probably cheap enough for farmers to use. It might even pay for itself.

“A lot of this is new technology, and nobody’s quite sure how valuable it is yet. But it produces lots of data,” he adds.

Data related to genetics is more the concern of seed companies and breeders. Two types of data are usually collected for genetics studies, Hudson says. One is information that comes from monitoring every plant in a breeding program as it grows. The other is produced by genome sequencing, a process that maps out an organism’s entire genetic code.

Hudson’s bioinformatics group deals mainly with genome sequencing. “Sequence data is getting bigger,” he says, “and even though the cost of genomic sequencing is falling, the volume of data is growing faster than today’s computers can keep up with.”

To provide a comparison, Hudson notes that the human genome is made up of 3 billion base pairs of DNA, corn 2.2 billion, and wheat (which is not yet complete) 17 billion.

“The data isn’t actually all that big in genome sequencing. The genome file might fill 5 GB, which you could fit on your phone,” Hudson says. “But to get that result, we have to break the genome up into molecules, sequence them one at a time, then put everything back together again. And the putting back together isn’t ever perfect, so we like to keep the short pieces [called reads] around in case we need to reprocess them. These files can be terabyte size, because to get a good-quality sequence you usually have to sequence 50 to 100 times.”

Because of new sequencing technology, data is being produced faster than computers can process it.
“These didn’t used to be challenging problems in computer engineering,” Hudson says. “But now genomics is up there with fields like astronomy in terms of how dense the data is coming out of these instruments.

“Astronomy produces big data in the form of images of the sky. Astronomers want to find just one star within that data and determine how the star is changing. Work with the genome, in contrast, is more interrelated. A lot of our analysis involves getting all that genome data in one place, comparing it with genomes from other lines, and looking for associations between desirable aspects of those lines.”

THE DATA IS IN—NOW WHAT?
As with all big data, the follow-up question to gathering the information is “Now what?” Emerson Nafziger, a professor and extension agronomist also in the Department of Crop Sciences, sees potential for both farmers and seed companies in the data collected on farms, but says it may be too early to tell its true value.

“The models that big data will produce will be very good at describing, but they may not be good at predicting,” Nafziger says. “Predictions might get better, but we’ve been expecting improvement in weather predictions for a few decades, and they still aren’t good enough to help us manage with a lot more precision.

“Until you can use data to make better decisions, progress will be slow. Sometimes in agriculture the machinery—in this case, the ability to gather huge amounts of data—runs ahead of our ability to use it.”

Nafziger does see potential insights from big data in several areas. “Variable-rate nitrogen application and variable-rate planting might be helped by the use of big data and precision agriculture,” Nafziger says. “But both of these areas have value that is closely tied to what the growing season turns out to be, and to a large extent that is still unpredictable.”

Yield is also important to farmers, of course, and some companies estimate they can increase yields by 15 percent using big data and precision agriculture. But, Nafziger adds, they must show profitability to gain farmers’ trust. “If companies could demonstrate 10 percent higher yield or profitability on every field every year, then that would be a pretty powerful demonstration that this application of big data is working.”

Agronomic skills are still important for those going into crop production careers, Nafziger says, while the need for competence in dealing with data collection and management has grown rapidly.

Hudson observes that, in addition, such disciplines as high-tech biotechnology, information technology, and electrical engineering are becoming more and more important to crop sciences. “The challenge of integrating fields as diverse as agronomy, biology, engineering, software, and information is what makes crop sciences the dynamic, well-paid profession that it is.”

HOW WILL BIG DATA SHAPE THE FUTURE OF AGRICULTURE?
As the population numbers continue to climb, intensifying the demand for greater food production, Hudson says technology related to big data in agriculture will become more of a priority for governments, companies, and producers.

“Big data is already combining with genomics to increase the yield of seed that may not be available this year but will be in the next 5 to 10 years,” he says. “A lot of individual improvements in the grains farmers buy for seed have been put there because big-data analysis showed they were the optimal combination. I think the idea of locally optimized agriculture using big data that individual farmers have uploaded to the cloud, involving robotic planters and harvesters, is coming, too.

“The result will be precision agriculture to optimize what genetic traits are grown on which farms, and maybe even in different parts of fields, as well as optimizing fertilizer and seeding rates at very high precision. The sum total will be a major agricultural revolution.”

Hudson also expects big data to spur new levels of collaboration between agriculture’s academic disciplines.

“There may not have been as much overlap as there could have been, even between such disciplines as agronomy, soil science, and crop genetics, because they have had different languages and been working toward different goals. More and more, historically different academic disciplines will have to start collaborating to try to move with the potential of these new technologies. It’s an interdisciplinary problem to solve.”
A year ago Ron Lloyd was right where many ag grads would like to be: in high-level management with an international corporation. But he walked away from this secure position to return to his roots on the farm and take a job with no title for an agricultural start-up with no name.

“I couldn’t resist the opportunity to support the vision of Gregg Sauder to find and develop new farming methods and technologies to capture more yield, and ultimately higher returns, for farmers,” Lloyd says.

In April of 2014 Lloyd joined what is now known as 360 Yield Center as the agronomy and field research lead. The company is growing at “E-speed” (entrepreneur speed), with more than 60 employees in its first year, including many Illini in key positions.

“360 Yield Center helps farmers take control in ways they haven’t always been able to,” Lloyd says. “We’re developing systems and products around three activities: sense, decide, apply. We help farmers sense what is happening with their crop and soil, use that information to make a decision, and apply that decision to increase their bottom line.

“ My job is to spearhead research and development and manage a highly talented and experienced agronomy team,” he continues. “It’s an opportunity to provide game-changing technologies and products that make a difference for farmers.”

Lloyd says this is not a job he could have done right out of college 20 years ago. “My personal and professional experiences have equipped me to be ready at this point in time to help make major changes in ag production. The people in production agriculture have a passion to produce a plentiful crop and provide a safe food supply. To work beside them and continue to fine-tune our production systems is what drives me every morning.”

He graduated from the University of Illinois with a degree in agronomy in 1994. Lloyd began his career with United Agri Products, but in 1996 left that job to begin an 18-year career with Monsanto. It was, he says, a “very exciting time” in agriculture.

“That was right before Roundup Ready soybeans were launched,” he says. “The first biotech product was about to hit the market, and I went to work for the company that was launching it.”

Lloyd’s first position with Monsanto was as a local sales representative, and after several years he began taking graduate classes two evenings a week. Soon he had the opportunity to become a technical representative—a position he had coveted since day one. “My responsibilities were split, about half conducting field research and the rest providing technical support for six western Illinois sales reps. I loved it.”

Seven years later, Lloyd began managing 12 sales reps across eight states. That opened the door for other management and leadership opportunities, including director of the National Accounts Group in the animal ag division,
Join the effort to transform Turner Hall and help prepare students to go on to solve some of the world’s greatest challenges. Financial support and in-kind donations of equipment are still needed to complete phases one and two of this project. For more information on how you can get involved, contact Marise Robbins-Forbes at mrforbes@illinois.edu.


Despite his success and satisfaction with Monsanto, Lloyd left in April last year. “It was the toughest professional decision I had made. I thought I would retire there. I always made my own choices at Monsanto, and as I moved on to different levels of responsibility and leadership, I was spending more time away from home. I was getting removed from the farm and not seeing my family as much as I wanted and needed to.”

Lloyd says it’s been invigorating to get back to his agronomy roots. “The change has given me the opportunity to be home almost every night and to reengage in the family farming operation. I’m an only child and an only grandchild. Right now, four generations of our family live on the farm—my grandparents, my parents, my wife, Michelle, myself, and my two boys.”

Multiple generations tie Lloyd’s family to the University of Illinois. Both a great-grandmother and great-grandfather have Illinois degrees, along with his father, grandfather, two great-uncles, and a great-aunt.

In addition to serving on the ACES alumni board, Lloyd has held alumni leadership roles in his ag fraternity, IlliDell of Alpha Gamma Sigma. His alumni connections aren’t all business, however. For 20 years, he and a dozen of his IlliDell friends have been taking annual ski trips to locations as far away as Austria.

Lloyd’s passion and commitment to ACES also led him to join the Turner Hall Transformation Committee.

“Not only is Ron one of our superstar ACES alums, but he’s nationally respected for his agronomic expertise. We have been fortunate to work with him on the Turner Hall campaign,” says Marise Robbins-Forbes, director of development for the Department of Crop Sciences.

Lloyd says he jumped at the opportunity to serve on the team. “I’m happy they’re giving Turner Hall the attention it deserves. Agriculture is an essential and viable profession. If we want to recruit the best and the brightest to the University of Illinois, we need the newest and best equipment and facilities to prepare them to go out and make a difference.

“It’s not a small task to feed the world,” he continues. “While that may sound grandiose, it’s literally what we are charged with in agriculture. It’s been very rewarding to use the relationships, networks, and knowledge I’ve established over the past 20 years, engaging others to help accomplish the important task of updating Turner Hall for current and future generations.”

Lloyd is speaking about the Turner Hall renovation, but you know the sentiments run much deeper when he says, “I think we need to climb to the tallest peak and shout about what we’re doing, because we’re proud of it. We’re excited about it. It’s a great time for the university and the college, and it’s a great time for agriculture.”

Noteworthy headlines during Lloyd’s years at Illinois

- [04/90] The Hubble Space Telescope is launched.
- [11/90] Producers confirm Milli Vanilli singers were not the voices recorded on a Grammy-award winning album.
- [08/91] Operation Desert Storm begins, led by the United States against Iraq.
- [08/91] Patrick Swayze, mullet and all, is named People magazine’s Sexiest Man Alive.
- [10/91] Thousands riot in Los Angeles after police are acquitted in the beating of Rodney King.
- [04/92] U.S. president George H.W. Bush and Russian president Boris Yeltsin proclaim an end to the Cold War.
- [11/92] Bill Clinton is elected the 42nd president of the United States.
- [10/93] Michael Jordan retires (the first time) from professional basketball.
- [01/94] U.S. president Bill Clinton and Russian president Boris Yeltsin sign the Krasnaya Accords, intended to reduce both countries’ nuclear arsenals.
- [09/94] Friends, one of the most popular TV sitcoms of all time, begins its 10-year run.
- [12/93] Schindler’s List, the recipient of seven Academy Awards, depicts one man’s resolve to rescue Holocaust victims.
- [05/94] The “Chunnel” opens, connecting Britain and France by train beneath the English Channel.
As the new president of the College of ACES Alumni Association, it is truly humbling to try to fill the shoes of my predecessors. As a board member, I’ve seen firsthand the capable leadership of Angie Eckert, Greg Oltman, John Huston, and Kenny Eathington. They set the bar high, and they have challenged the new executive committee to be good stewards of the relationships between ACES alums and our “Dear Old Illini.”

We all share a love for the University of Illinois, and for the College of ACES in particular. Most ACES grads feel that some of the best years of their lives were the ones spent on campus. Illinois and ACES helped prepare us for everything that has come after, whether that’s 10 years or 50.

We hope you are as excited as we are for this summer’s launch of ACES Family Academies, when alumni can share their college experiences with the next generation. In a day-and-a-half on campus, we will live in the dorm, eat in the dining hall (wait till you see the difference!), and enjoy hands-on learning together.

Doesn’t it sound tempting? Mark your calendars to join us on July 9 and 10. If you don’t have a child to bring to campus but want to be involved, I encourage you to register as a volunteer or contact the ACES Alumni Association office to find out how you can help. Find out more at acesalumni.illinois.edu/familyacademies.

ACES and the University of Illinois face stiff competition for top high school graduates, especially as college costs continue to increase. It is our hope that the 8- to 12-year-olds who attend ACES Family Academies with an ACES alum—a grandparent, parent, aunt, or uncle—will be so strongly hooked that they won’t even consider other colleges when the time comes.

I look forward to serving you as ACES Alumni Association president and working with our dedicated board of directors to engage you with your alma mater.

Francis named new Alumni Association president

After voting in December by the ACES Alumni Association, Bill Francis, a 1971 graduate in agricultural economics, was named the group’s new president. Francis, who also earned a law degree from the U of I in 1974, is retired from Tryner, Francis & Tryner Law Office. He and his wife, Rita, live in Wilmington, Illinois.

Francis has previously been District 4 director, secretary, and vice president for the association. As a U of I student, he was president of Alpha Gamma Rho fraternity and a Sunday school teacher for the Wesley Foundation.

Other officers are Sue Gray, vice president; Dawn Bohn, secretary; Kirk Builta, treasurer; and Kenny Eathington, past president.

The district directors are Jim Endress, District 1; Kim Morton, 2; Holly Spangler, 3; David Brown, 4; Katheryne Rehberg, 5; Alan Puzy, 6; Roger Sanders, 7; and Trudy West, 8. Kirk Builta was named the young alumni director and Ellie Kuhrt the Chicago young alumni director. The international director is Vivek Damle, and the Extension director is Patty McGlaughlin. Rebecca Ries was appointed the ACES Council representative.

Representing the ACES departments are Chad Yagow, Agricultural and Biological Engineering; Randy DeSutter, Agricultural and Consumer Economics; Lee Denzer, Animal Sciences; Molly Cline, Crop Sciences; David Wengerhoff, Food Science and Human Nutrition; Amy Leman, Human and Community Development; and Jim Testin, Natural Resources and Environmental Sciences.
ON THE HORIZON

April 13 :: ACES Award of Merit Luncheon and College of ACES and Paul A. Funk Recognition Awards

May 17 :: Tassel Turn

May 18 :: ACES Alumni Board Meeting

June 16–19 :: NAADA Annual Meeting, Texas A&M, College Station, TX

July 9–10 :: ACES Family Academies

September 1–3 :: Farm Progress Show, Decatur, IL

December 4 :: ACES Alumni Board Meeting

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 2015 ACES Award of Merit, its most prestigious award, during a luncheon on April 13. These are our newest award winners:

- **Dan E. Hoge**, B.S. '66 Animal Sciences, M.S. '68 Animal Sciences; Cambridge, IL
- **Susan L. Johnson**, Ph.D. '93 Nutritional Sciences; Louisville, CO
- **Daniel R. Kittle**, M.S. '78 Plant Pathology, Ph.D. '80 Plant Pathology; Carmel, IN
- **Gregory R. Oltman**, B.S. '72 Ornamental Horticulture; Barrington, IL
- **Kenna B. Rathai**, B.S. '93 Ag Communications; Saint Anne, IL

ACES FAMILY ACADEMIES

Join us for ACES Family Academies on July 9 and 10. Alumni are invited to bring youth ages 8 to 12 years old to the University of Illinois and College of ACES campus for a 1½-day educational experience. Relive and share your college days as well as create new memories with your little Illini. Register now at acesalumni.illinois.edu/familyacademies.

ACES E-Alumni Newsletter

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, or complete the Class Notes survey on the ACES Alumni Association website at acesalumni.illinois.edu.

ACES Alumni Class Notes

Check out Class Notes online at go.illinois.edu/acesclassnotes! Be sure to share any special times in your life with the ACES Alumni Association to keep your fellow alumni updated. Newly married or a new parent? A different job or a promotion? Publication of a book? We hope to hear from you!
Change – it’s taking place now in Turner Hall. Students will enjoy bright new classrooms as phase one renovations wrap up late this spring, including a state-of-the-art Crop Sciences Dry Lab and Soil Sciences Wet Lab, funded by gifts to the Turner Hall Transformation Project.