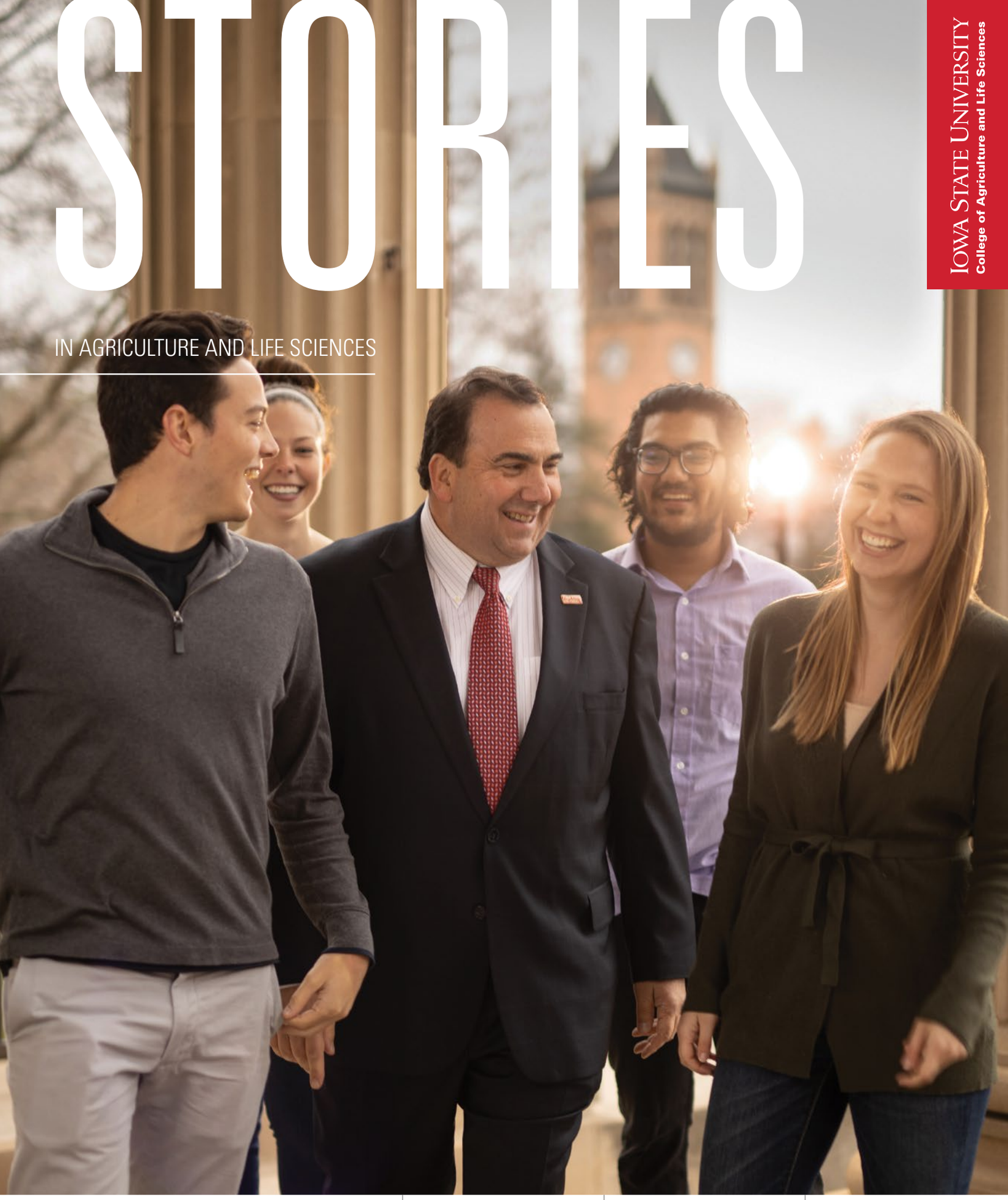
STORIES

IN AGRICULTURE AND LIFE SCIENCES

IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences



FORWARD, TOGETHER

VOL. 13 NO. 1, 2019

STORIES

IN AGRICULTURE AND LIFE SCIENCES

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IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences

"TEAMWORK MAKES THE DREAM WORK"

Collaboration fuels innovation, productivity and service in the College of Agriculture and Life Sciences. This issue features teams in teaching, research and extension who are working to move the college forward, together.

First of all, you're invited to get to know our new team leader Daniel J. Robison, holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences (page 20). He's a storyteller, and he's a great listener. He agreed to let me feature him on our cover, but also requested the entire team of former deans join him in this issue. Together they share their VOICES on page 18. Visit stories.cals.iastate.edu to catch a video of their discussion.

From service to Iowans by the Extension Crops Team (page 30) to study abroad and research collaborations in Rome (page 32) to efforts to connect our grads with careers (page 26) and care for our students (page 24), CALS faculty and staff are working together to make a difference on campus and across the globe.

I'm also pleased to introduce you to our CALS communications team (pictured below). I'm proud to work with this outstanding group of professionals and thankful to call them colleagues and friends. They bring STORIES to life through their thoughtful interviews, conscientious research, vibrant writing and dedicated administrative support. In addition to this crew, staff from other university units contribute to the magazine—Christopher Gannon, Tracy Schlater, Whitney Baxter, Grant Wall and Betsy Snow to name just those in this issue—as well as the professionals at PUSH Branding and Design who helped us launch a new look in this edition. I thank them, and all past contributors, for joining us in the meaningful work of sharing the college's STORIES. Feel free to drop me a note at stories@iastate.edu with comments about the new design or other feedback.

Please make plans to join Dean Robison and the entire CALS team at our annual alumni BBQ Aug. 31. The Hansen Agriculture Student Learning Center will be buzzing with live music and conversation as alumni and friends catch up with each other and visit student club displays. Look for more details in STORIES Online e-newsletter in the months to come. Shoot us an RSVP and we'll be sure to save a cup of Dairy Science Club ice cream for you.

Warm wishes from central campus,

Melea Reicks Licht

(Back, left to right) Ed Adcock, communications specialist; Melea Reicks Licht, director of alumni relations; Brian Meyer, director of college relations; Julie Stewart, communications specialist; (Front, left to right) Haley Cook, assistant director of alumni relations; Barb McBreen, communications specialist; Ann Robinson, communications specialist.

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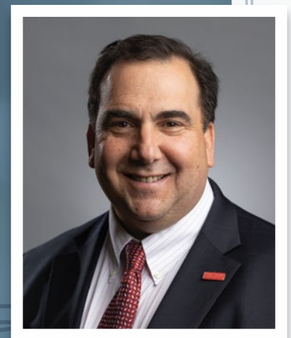
ON THE COVER

Dean **Daniel J. Robison** meets regularly with student leaders to touch base and gather feedback. From left to right: **Jose Borunda**, junior in agricultural business and vice president of the Agricultural Business Club; **Isabella Shehab**, senior in global resource systems, CALS ambassador and Dean's Leadership Scholar; Robison; **Vishesh Bhatia**, junior in genetics and vice president of the ISU student body; and **Jenna Rasmusson**, junior in agronomy, president of CALS Council, and Dean's Leadership Scholar.

Image by McClanahan Studio



I have been entrusted with something very special—this world-class College of Agriculture and Life Sciences. It's truly an awesome responsibility. I pledge to honor that trust and to work every day to enable the fullest success of our students, faculty and staff.

It's about no less than continuing to excel in the more than 161-year-old land-grant tradition of this college—to enliven the human spirit through education; to better our communities and industries through research-based extension; to sustain and improve the natural resources from which we draw agricultural productivity—our food, feed, fiber and energy; to discover what remains hidden in the underlying life and social sciences that explain how our world works; and, through insightful science, to develop the technologies that draw value from those resources.

We accomplish that by continuing to deploy something I've begun to call the "CALS advantage," which is true for our faculty and staff but especially to our students. The CALS advantage inspires them to:

- Advocate, finding their voice for what they know to be important;
- Innovate, having an entrepreneurial mindset in all things;
- Master their chosen discipline, so they also can be effective contributors to multidisciplinary work; and
- Become a leader. Because when CALS people do all these things, they lead!

I am humbled by this great opportunity and full of hope that the CALS advantage will enable us to act boldly and to reach farther. Please let me know what you're thinking or hearing about our college.

As Nobel Prize laureate and Iowan Norman Borlaug once said: "Reach for the stars. And although you will never touch them, if you reach hard enough, you will find that you get a little star dust on your hands in the process."

Daniel J. Robison
Endowed Dean's Chair, College of Agriculture and Life Sciences
Director, Iowa Agriculture and Home Economics Experiment Station

AG AND BIOSYSTEMS ENGINEERING #1

Iowa State University's graduate program in agricultural and biosystems engineering has reclaimed the top spot in U.S. News and World Report magazine's latest rankings of graduate programs. Iowa State's program shares the top spot with Purdue University.

ANTI-GMO SENTIMENT HAS REPERCUSSIONS FOR DEVELOPING WORLD

Anti-GMO sentiment may be holding back the progress of farmers in some African countries, but **Walter Suza**, an adjunct professor of agronomy, hopes a new study upholding the safety of Bt corn may help policymakers in Africa implement the technology to fight an emergent pest. The review included a risk assessment that found delaying the adoption of genetically modified crops such as Bt corn in the developing world presents risks to both humans and the environment.

BOOSTING BIOREACTOR BACTERIA WITH CORN COBS

With funding from the Iowa Nutrient Research Center, **Michelle Soupir**, associate professor of agricultural and biosystems engineering, is exploring the next generation of bioreactors. Soupir is assessing the potential of corn cobs as a carbon source to fuel helpful bacteria to denitrify water. She and colleagues monitor nitrate-nitrogen and phosphorus levels in water as it enters and exits the bioreactor.

ISU RECOGNIZED NATIONALLY FOR RESEARCH TO IMPROVE WATER QUALITY

Two Iowa State University scientists and a U.S. Department of Agriculture research partner have received a national honor for their roles in a multistate research collaboration finding solutions to water quality challenges related to agricultural drainage. The 2018 National Excellence in Multistate Research Award from the U.S. Department of Agriculture National Institute of Food and Agriculture was presented to the North Central Extension Research Activities 217 Committee on Drainage Design and Management Practices to Improve Water Quality. Representing Iowa State on the team are **Rameshwar Kanwar**, a Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences and professor of agricultural and biosystems engineering; **Matt Helmers**, professor of agricultural and biosystems engineering, extension agricultural engineer and director of the Iowa Nutrient Research Center; and **Dan Jaynes**, a soil scientist with the USDA Agricultural Research Service and affiliate professor of agronomy.

CELEBRATING 100 YEARS OF MEAT SCIENCE

Iowa State University's Department of Animal Science celebrated 100 years of meat science in November. One of the country's first land-grant meat science programs, Iowa State University has become well-known internationally for leadership in research, teaching and extension. The 100-year-old program celebrated a new milestone this year with the addition of a graduate certificate in meat science, expanding opportunities for working students.

ISU RESEARCHERS SEQUENCE GENOME OF SOYBEAN CYST NEMATODE

ISU researchers have sequenced the genome of the soybean cyst nematode, paving the way for better management practices to combat the number one pest that threatens Iowa soybeans. The research was published recently in the peer-reviewed journal BMC Genomics.

ACKER HONORED BY WORLD FOOD PRIZE FOR INSPIRING THE NEXT GENERATION

The World Food Prize presented the inaugural "Inspiring the Next Generation" award to CALS Associate Dean **David Acker**. Presented during the Laureate Award Ceremony on Oct. 18 at the Iowa State Capitol, this award recognizes the tireless dedication Acker has shown in encouraging students, through the World Food Prize youth programs, to follow in the footsteps of Iowa hero Norman Borlaug.

HEARTY HELLOS

Susan J. Lamont, interim director, Egg Industry Center

Patrick Hatting, farm management specialist, ISU Extension and Outreach

Beth Reynolds, beef program specialist, Iowa Beef Center

Charles Sukup ('76 ag engineering, '82 MS), associate professor, Department of Agricultural and Biosystems Engineering

James Schrader, agricultural specialist, Midwest Grape and Wine Industry Center

FOND FAREWELLS

Sue Blodgett, professor and chair, Departments of Natural Resource Ecology and Management and Entomology, retired in May

Elwynn Taylor, climatologist, ISU Extension and Outreach, retired in January

Hongwei Xin, C.F. Curtiss Distinguished Professor in Agriculture and Life Sciences; director, Egg Industry Center; CALS assistant dean for research; took a new position at the University of Tennessee Institute of Agriculture in April

Tong Wang, professor, Department of Food Science and Human Nutrition, took a new position at the University of Tennessee Institute of Agriculture in April

ALUMNI EARN **TOP NATIONAL HONORS**

- **Ben Albright** ('04 ag studies), Iowa farmer, National Outstanding Young Farmer Honoree, National Outstanding Young Farmers Awards Congress

- **Alan Blaylock** ('89 Ph.D. agronomy), senior agronomist at Nutrien, 2019 Soil Science Industry and Professional Award, Soil Science Society of America

- **Amanda DeJong** ('02 ag business), state executive director for the Iowa Farm Service Agency, Young Leader in Agriculture Award, Agriculture Future of America

- **April Hemmes** ('82 animal science), Iowa farmer, Executive Women in Agriculture Trailblazer Award, Top Producer magazine

- **Richard Isaacson** ('72 ag business, '75 MS ag economics), founder and owner of Agri-Management Services, Professional Farm Manager of the Year, American Society of Farm Managers and Rural Appraisers, Syngenta, Farm Journal's AgPro magazine

- **Neil Knobloch** ('92 ag and life sciences education, '92 ag extension education, MS '97), professor of agricultural sciences education and communication at Purdue University, National Experiment Station Section Diversity and Inclusion Award, USDA National Institute of Food and Agriculture

- **Don Latham** ('69 agronomy), Iowa farmer, United Soybean Board Outstanding Achievement Award

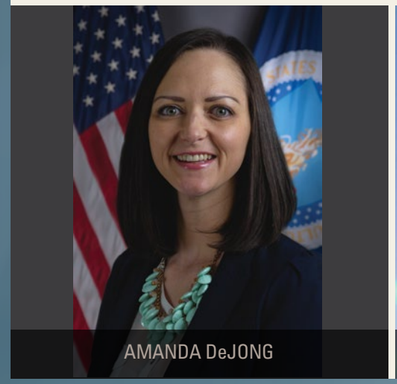
- **Tom Miller** ('61 animal science), executive director of the Arizona Pork Council, Hall of Fame Honoree, National Pork Producers Council

- **David Nielsen** ('77 meteorology, '79 MS agronomy) retired research agronomist with USDA Agricultural Research Service Central Plains Research Management Unit, 2018 Soil Science Applied Research Award, Soil Science Society of America

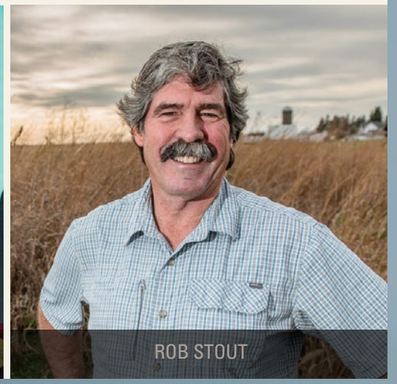
- **Rob Stout** ('78 farm operations), Iowa farmer, American Soybean Association National Conservation Legacy Award

- **Steven Brockshus** ('17 ag and life sciences education), founder and CEO of FarmlandFinder, 2019 American Farm Bureau Federation Ag Innovation Challenge winner

- **Mitchell Hora** ('17 agronomy, ag systems technology), founder and CEO of Continuum Ag, 2019 American Farm Bureau Federation Ag Innovation Challenge semi-finalist


AMANDA DeJONG


DON LATHAM


ROB STOUT

TUNE IN AS ISLEY PRESENTS ANNUAL HERTZ LECTURE

Ken Isley ('84 ag and life sciences education), head of the U.S. Department of Agriculture's Foreign Agricultural Service, presented the 2019 Carl and Marjory Hertz Lecture on Emerging Issues in Agriculture on April 9 at Iowa State. As administrator of the USDA Foreign Agricultural Service, he leads offices around the world in expanding trade and export opportunities for American agriculture. Isley's presentation, "The Role of the U.S. in the Global Food and Agriculture Marketplace," is available online at www.stories.cals.iastate.edu (read more about Isley on page 36).

ALUMNI HONORED WITH TOP ISU FOUNDATION AWARDS

Jay Jacobi ('89 agricultural business), program analyst at Rain and Hail Insurance, and **Julie Jacobi** ('88 agricultural business), start-up investor, received a 2018 ISU Foundation Order of the Knoll Emerging Philanthropist Award.

Doug Jeske ('89 agricultural journalism and public service and administration in ag), president of The Meyocks Group, and **Karen Jeske** ('89 distributed studies, Ph.D. '10 sociology), pastoral residency and connections coordinator for Plymouth Congregational Church, received a 2018 ISU Foundation Order of the Knoll Emerging Philanthropist Award.

Dana Robes ('67 dairy science) and **Martha Robes** ('15 honorary) received the 2019 ISU Foundation Order of the Knoll Cardinal and Gold Award. Robes began his career in animal nutrition and went on to start Dana Robes Woodcraftsmen, a successful furniture business that he and his wife, Martha, owned for 22 years.

YOUNG ALUMNI NAMED STATEMENT MAKERS BY ISU ALUMNI ASSOCIATION

Iowa 'STATEment Makers' is an honor bestowed by the ISU Alumni Association that recognizes the early personal and professional accomplishments and contributions to society of Iowa State graduates 34 years of age and under. 2019 awardees from CALS are:

Majd Abdulghani ('18 MS genetics, development and cell biology) is the first-ever Saudi Arabian person to earn the prestigious Rhodes Scholarship. A research assistant at the Howard Hughes Medical Institute and the University of Michigan, Abdulghani is among the 100 scholarship recipients for 2019 who are studying this year at the University of Oxford.

Karl Kerns ('14 animal science), is conducting research to improve in vitro fertilization and other assisted reproductive technologies for both humans and animals. Kerns, who recently earned his Ph.D. in animal science with an emphasis in molecular reproductive physiology from the University of Missouri, has 14 manuscripts published or under review and two provisional patents.

STORIES Online E-newsletter

Get updates like these, news from campus, class notes and invites to CALS events sent directly to your inbox between issues of STORIES magazine by subscribing to the monthly STORIES Online E-newsletter.

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FOREVER TRUE FOR IOWA STATE

The Robert T. Hamilton Poultry Teaching and Research Farm is one of several projects included in the innovative animal agriculture facilities initiative, a high priority for the college during the university's Forever True, For Iowa State campaign. The college's goal to raise $230 million will help grow six key areas: global agriculture, agricultural business and entrepreneurship, student and faculty enrichment, biosciences, sustainability and new innovative facilities for animal agriculture teaching and research. In strengthening these areas, the campaign will ensure the college continues to provide a world-class education that meets the needs of tomorrow's students.

NEW FARM DRIVES IOWA STATE INTO SECOND CENTURY OF POULTRY EXCELLENCE

Story by Betsy Snow Hickok
Images Contributed

Not everyone is aware of Iowa's place at the forefront of the poultry industry: In fact, Iowa is the number one egg producer in the nation, exceeding the second and third largest producing states combined.

To support this key industry, Iowa State University has long been a leader in poultry expertise. For over a century, university curriculum has included a focus on layer and poultry production. And, Iowa State boasts one of the world's strongest research programs in poultry genetics, breeding, nutrition and management.

The Robert T. Hamilton Poultry Teaching and Research Farm will build on these strengths. In late 2019, the new facility will be dedicated, replacing the Iowa State University Poultry Science Farm south of campus, combining several outdated buildings into one state-of-the-art space.

The new facility will support key areas such as genetics, breeding, nutrition, air quality and environment control. It will include classrooms, a hatchery and a poultry nutrition space. An atrium and public viewing area will welcome visitors of all ages to participate in educational tours and learn about current commercial layer production methods.

Students and scientists from across the university and from the USDA's Agricultural Research Service will use the new spaces. The farm is expected to become a destination for continuing education related to extension and outreach and for state licensing requirements by providing professional training to help the industry respond to emerging issues and maximize opportunities.

"The Hamilton Poultry Teaching and Research Farm will be a modern facility where we'll begin writing the next chapter of Iowa State poultry science history," says Daniel J. Robison, holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences. "It will ensure we can provide the best hands-on education for students and the infrastructure to pursue new scientific discoveries."

The project, which broke ground in 2018, will be built solely through support from donors. Thanks to a lead gift from the Robert and Arlene Hamilton Charitable Foundation, the farm will be aptly named in honor of Iowa Falls farmer Robert Hamilton. Hamilton, together with his wife, Arlene, built a successful poultry and hog operation and are considered pioneers of the modern layer chicken industry.

> "We have always felt it important to support the industry that helps support us."

The Iowa Egg Council also provided substantial support. The Iowa Egg Council Layer Research Wing will support internationally critical research on the performance of various housing systems, including caged hen, enriched colony and cage-free production research.

"The Hamilton Farm will offer much improved facilities, and it provides our poultry and egg farmers a terrific resource for important and relevant work," says Kevin Stiles, executive director of the Iowa Egg Council and Iowa Poultry Association. "We also see it as a tremendous asset to the university and students who will become an integral part of our poultry and egg farming operations."

Hy-Line International is the largest selling layer genetics company in the global egg industry. The company, known for its groundbreaking genetics program, provided a generous gift in partnership with Hy-Line North America, the largest commercial layer chick distributor in the U.S., to support the Hy-Line Genetics Research Wing. It will focus on unique genetic lines developed and maintained at Iowa State for decades.

Iowa State is home to the Egg Industry Center, a national research and education resource, and the world's oldest inbred research lines. The poultry lines date back to the 1920s, and even include genetics imported from birds of Egyptian and Spanish origins in the 1950s. They are a valuable source of genetic diversity and have provided genes and markers linked to reducing salmonella and E. coli infections and improving egg production and muscle growth.

"Adoption of new technology and improvements in the science of genetics drives progress for Hy-Line, as well as economic progress in our state and industry. It allows for faster and more efficient genetics to be delivered to the market," says Jonathan Cade, president of Hy-Line International. "This facility also will be key to promoting attractive careers in the poultry industry and supplying a sustainable protein around the world, which is increasingly more welfare friendly and aligned with consumer demand."

Support for the atrium and viewing area was provided by Jeff ('71 engineering) and Cynthia Henning. "Our family has benefited positively from our interactions with the vibrant poultry industry across this nation and in Iowa," says Jeff Henning, who has served on the Midwest Poultry Consortium and Egg Industry Center boards of directors. "We have always felt it important to support the industry that helps support us. And our alma mater, Iowa State, was the perfect place to do that by providing a facility to train future leaders in the poultry industry."

Left: The Fayoumi chicken (pictured) is an example of one of Iowa State University's most scientifically valuable genetic lines that will be housed at the new Robert T. Hamilton Poultry Teaching and Research Farm (see concept design below). The college's poultry lines have provided genes and markers linked to reducing salmonella and E. coli infections and improving egg production and muscle growth.

SELF-REFLECTION TO SOCIAL CHANGE

Story by Barb McBreen
Image by Christopher Gannon

A high school student exchange trip to Brazil changed the direction of Carmen Bain's life.

"I was in a very impoverished area in Brazil for one year when I was 16 years old. When I came home I wanted to do something about it," says Bain, a sociology professor.

Bain, who grew up in New Zealand, said she returned home with a drive to change the inequities she'd seen in Brazil. In college she changed her major four times and finally found sociology as a way to work toward social change. She shares that story with students to help them understand the need to search for the right major.

Her influence helped Emily Hugen, a senior in agronomy, chose the agriculture and society major as part of her double major. Hugen says Bain introduced her to sociology.

"She really opened my eyes to learn how to evaluate social constructs that could be a factor in the development of individuals," Hugen says. "Overall Dr. Bain's influence has made me more mindful in how I interact with others and society in general."

Bain says she wasn't interested in agriculture when she first entered college, but her first research project at the University of Canterbury focused on meat safety and the challenges farmers faced.

"Sociologists are interested in questions of power and inequality. I would never have thought I would address those questions working with meat safety standards," Bain says.

Bain earned her bachelor's and master's degree from the University of Canterbury in New Zealand. She earned her doctorate at Michigan State University where she focused on global ag policy and how it affects developing countries.

Bain joined Iowa State University in 2013, and today she's challenging students to address social problems.

> "It's to help them reflect on themselves, but also to help them understand others."

The key, she says, is helping students understand themselves.

"Everyone has a set of values or beliefs about agriculture and food," Bain says. "If we can understand what's shaped our attitudes and behaviors we can do a better job of addressing the grand challenges."

To help students understand their viewpoints Bain has them write self-reflective papers on how their experiences shaped their attitudes and behaviors.

"It's to help them reflect on themselves, but also to help them understand others," Bain says.

Bain's New Zealand accent tips off her students that she isn't from the United States, although she is a U.S. citizen. She shares her background with students, so they have a better understanding about how she developed her view of the world.

Bain has expanded her food safety research to attitudes about GMO labeling and gene-edited foods. Leana Bouffard, professor and chair of sociology, says Bain just received a $495,000, three-year USDA National Institute of Food and Agriculture grant to analyze the attitudes and policy surrounding gene-edited foods.

"Her work looks at how people understand gene-edited foods, government regulation, industry messages and how people decide if they'll consume those foods or not," Bouffard says.

It's that cutting-edge research that attracts students to Bain's classes. And, according to Bouffard, Bain helps students personally connect with data and concepts presented in the class.

"When students connect to the material, they will look for solutions and make a difference. She has the ability to make that happen," Bouffard says.

One of her former students, Lakeisha Perkins ('18 agriculture and society), says Bain helped expand her potential. Perkins received the Bill Emerson National Hunger Fellowship and is working in Washington D.C. with the Food, Research and Action Center, a non-profit organization working to eradicate poverty-related hunger and undernutrition in the U.S.

"Dr. Bain is one of the reasons I was confident enough to take my passion for ending poverty and hunger in this country, fueled by my own experiences with it, and turn it into a career," Perkins says. "Without her support and encouragement, I would not be where I am today."

Analyzing issues of inequality led Bain to develop one of the first classes nationwide to examine the history and the changing roles of women in agriculture within the United States. The course critically examines women's identities, roles and gender relations in agriculture and food systems. Bain says women have always played an invisible role on the farm.

"They've often been categorized as simply doing the books or as farm wives. Their role has not been viewed as critically important to sustaining the farm household," Bain says.

Along with research and teaching, she advises students majoring in agriculture and society. In all these roles she hopes to help students better understand how they developed their attitudes and views.

"Sociologists believe if we understand where people come from we can do a better job of solving the problems they face," Bain says.

CARING CONNECTIONS
AWARD-WINNING TEACHING

Story by Barb McBreen
Images by Christopher Gannon

In a large lecture hall in Lagomarcino, Steven Lonergan returns assignments to students in his sophomore meat science class. There are 60 students in the class. The professor of animal science calls each by name before handing back their graded work.

"I work hard to get to know their names and I make sure I grade and give feedback on their work. That helps me keep track of what they are understanding," Lonergan says. "I care. It's how I was raised. I think a lot of faculty care, and they work hard to make sure our students learn the material and are prepared to apply it in their chosen work."

According to Lonergan ('88 animal science, '91 MS), there's no secret sauce to building rapport with students. He explains that it's about building a good learning environment, which starts with trust.

This morning's lecture includes a wrap up of Hazard Analysis and Critical Control Points, HACCP, rules and kicks off the unit on muscle development. Lonergan paces back and forth in front of the lecture hall sharing information, asking questions and inserting a joke every now and then.

Although teaching is only 25 percent of his position, Lonergan was awarded one of two 2018 national United States Department of Agriculture Food and Agriculture Sciences Excellence in Teaching Awards.

Aubry Grimm and Karla Kubesh, who are both seniors in animal science, describe Lonergan as one of the best professors they've had at Iowa State. They say he makes class interesting and his sense of humor makes him approachable.

"Even though some of the concepts he teaches are difficult to comprehend, he understands his students and teaches in a manner that doesn't insult the class's intelligence," Grimm says.

"He genuinely cares about students and about making connections with all of us," Kubesh says.

Lonergan teaches about 100 undergraduate students in two classes per year in meat science and muscle biology. He also mentors several graduate students and serves as Director of Graduate Education for the Department of Animal Science.

One of his favorite classes is the Dean's Global Agriculture and Food Leadership Program (see story on page 32)—a study abroad experience with the Food and Agriculture Organization (FAO) of the United Nations in Rome.

LONERGAN'S IOWA STATE LEGACY

Lonergan, who grew up in West Liberty, Iowa, and his twin sister are the youngest of seven children—all graduated from Iowa State.

"My oldest sister started at Iowa State when I was in kindergarten, so there has been a Lonergan at Iowa State since 1971," he says.

Lonergan's mom was a preschool teacher and his father's love of livestock, gardening and fruit trees introduced him to agriculture. He was drawn to animal science by his brother-in-law, John Carlson ('74 animal science, '78 MS, '80 Ph.D.) who was a professor in animal science at Western Illinois University.

"The application of science to real problems caught my attention as an undergraduate," he says.

Lonergan received his bachelor's and master's at Iowa State and then earned his Ph.D. in animal science from the University of Nebraska in 1995.

MEAT SCIENCE MENTORS

Lonergan says he learned from the best.

"I found meat science while I was on the meat judging team at Iowa State with Dr. F. C. Parish," Lonergan says. "My interest was also piqued by several meat science classes with Dr. Joe Sebranek. I still consider Dr. Joe as a mentor and example of an amazingly impactful teacher."

Lonergan contributed to the first textbook for the beginning meat science class with Dennis Marple, Iowa State University animal science professor and former department chair, and David Topel, former dean of the College of Agriculture and Life Sciences.

"We just published the second edition of our textbook," Lonergan says. "Working on that project with those two was fun."

Topel says Lonergan provided the students' perspective and he described Lonergan as an outstanding educator and meat scientist.

"He excels in teaching, research and advising, which is exceptional," Topel says. "He's also a cordial cooperator who works well with faculty and staff. He's just a special person."

SCIENTIFIC SYNERGY

Lonergan says scientists are collaborating more to share escalating amounts of data and find interdisciplinary solutions to problems. That's something that works well at Iowa State.

"We are very interested in the connection between how muscle grows and how muscle in livestock responds to its environment. This has implications for producers and consumers, and research serves both groups, Lonergan says. "We have good colleagues to collaborate with and great students. There's a synergy here and that's important."

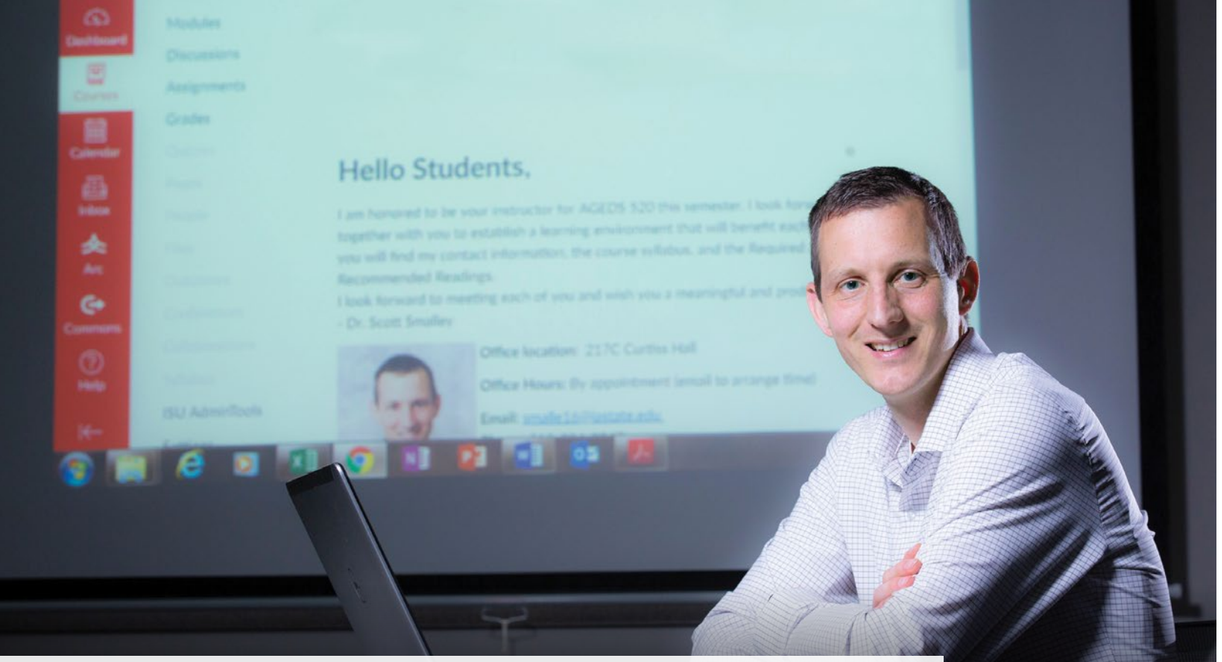
One of his colleagues is his wife, Elisabeth Huff-Lonergan ('91 MS meat science, '95 Ph.D.). The two met while they were working on their master's degrees at Iowa State, and they married in 1993. Today they share a lab in Kildee Hall and an interest in meat science research.

"We are both very passionate about research and teaching. We have a shared curiosity and love of learning," says Huff-Lonergan. "It is such a privilege to share that with your best friend."

Above: Professor **Steven Lonergan** is a celebrated teacher known for connecting with his students. The CALS grad says there's no secret to building rapport with students—it all starts with gaining their trust.

Right: **Steven Lonergan**, animal science professor, and **Carl Frame**, a graduate student in animal science, work in the Lonergan lab analyzing pig muscle. Lonergan was honored in 2018 with a U.S. Department of Agriculture Food and Agriculture Sciences Excellence in Teaching Award.

> "He genuinely cares about students and about making connections with all of us."



EDUCATING THOSE WHO **SEEK TO TEACH**

Story by Ed Adcock
Image by Christopher Gannon

A growth in agricultural programs in Iowa high schools encourages Scott Smalley, who coordinates the teacher education programs in the Department of Agricultural Education and Studies as an assistant professor.

"Many of these schools will tell you, we want to teach leadership and that comes with FFA," says Smalley ('11 Ph.D. agriculture and life sciences education).

There are about 100 undergrads in the department's teacher preparation program. Last spring, the department had 27 student teaching, more than the typical 20.

"I enjoy seeing students' growth and development as they progress, watching them discover their passions and experience the excitement that comes with student teaching," Smalley says. "Throughout our teacher preparation program, I hope students are able to learn agriculture content, pedagogy and become comfortable as an educator."

It's easy for Smalley to identify with his students. From the time he was a freshman in high school, he knew teaching ag was what he wanted to do. Growing up in Michigan he was involved in 4-H and FFA, which developed his "teaching mode."

But when the ag teacher in his high school retired and the program was cut, Smalley had to adapt. As a senior, he watched VHS tapes sent from another school of the previous day's class. It was his first taste of "distance education."

After getting a bachelor's degree in agricultural education at Michigan State University in 2001, he taught at the high school in Oelwein for six years. After earning a master's, and while finishing his doctorate at Iowa State, he went to South Dakota State University for three years to coordinate its agricultural teacher preparation.

In 2016, Smalley returned to Iowa State to continue educating those who seek to teach. He also teaches an online graduate course called Adult Education in Agriculture, designed for those already in the classroom such as extension specialists and business people.

Mike Retallick ('05 Ph.D. agriculture and life sciences education), chair of the agricultural education and studies department, calls Smalley a "dedicated faculty member who is committed to student success and the agricultural education profession, especially in Iowa." He says students seek out Smalley as an adviser and major professor.

His performance has earned early accolades. This year he earned the college's Early Achievement in Teaching Award, and was named a distance education teacher of the year in 2018 by the Brenton Center for Agricultural Instruction and Technology Transfer, an honor nominated by students.

Student nominators say Smalley does "a great job facilitating learning in an online environment" and that he has "provided prompt feedback and was always willing to answer questions and solve problems efficiently."

Smalley also frequently advises practicing ag teachers—alumni and non-alumni alike. He says he's happy to help anyone in the "tight-knit profession."

CREATING COMMUNITY
STUDENT TO STUDENT

Story by Ed Adcock
Image by Barb McBreen

Paulina Padrón's journey to Iowa State started more than 2,000 miles away, in her home in San Juan, Puerto Rico. She built herself a new community at Iowa State through her service to others.

She was inspired to take the first step after researching undergrad institutions, and learning about Iowa State's reputation for excellence in animal science and veterinary medicine.

Earning a George Washington Carver scholarship with its full tuition made the choice easy. Padrón was one of 100 U.S. ethnic minority freshmen selected for the scholarship program based on her class rank, grade point and entrance exam scores.

"I'm just thankful for the opportunity," she says. "My parents always instilled in me a deep desire for education, and understanding what a privilege it is to be educated."

Being so far from home and speaking English as her second language gave Padrón empathy for those who might be homesick or overwhelmed at Iowa State. The senior in animal science used her experiences and her empathy to help her fellow students.

As a peer mentor during her freshmen year, she helped first-year students with 100-level orientation courses, showing them the ropes and working through four-year plans.

"You just want to help them succeed, which is the goal of the orientation classes, but also the goal of the peer mentors," she says.

In her second year, Padrón asked to mentor other multicultural students.

"As someone who went through it, I thought it might be more helpful for them to have me as a peer mentor," she says.

Padrón helped more students feel at home during her junior and senior years as a resident hall community adviser in Maple Hall and the Frederiksen Court Apartments. She worked with staff and other advisers to build an inclusive and supportive student community by providing resources and advice.

"Paulina helps students by being available to them to answer their questions or concerns," says Dakota Simons, apartment community manager. "She's well acquainted with resources and opportunities at Iowa State, and works to connect her fellow students with them."

She also keeps in touch with other Puerto Rican students at Iowa State.

"When we get together and speak Spanish, it's like being home again," she says. "We like helping each other out in ways that culturally other people might not understand. We're there for each other."

Jodi Sterle, holder of the Eldred and Donna Harman Endowed Professorship in Animal Science Excellence in Teaching and Learning, says there is a pipeline of students from Puerto Rico, who are known for taking care of those new to the Iowa State community.

Padrón stood out when she was a student in Sterle's intro class.

"She is a great ambassador for student recruiting and excelling," Sterle says. "Paulina has been a leader."

Padrón graduated magna cum laude in May. Her next stop is vet school at Tufts University.

Above: Animal science senior **Paulina Padrón** takes a study break during finals week with ISU Department of Public Safety dog, Zosia, at the Barks for Parks event in Parks Library. Padrón used her spirit of service to support fellow students as a peer mentor and resident hall community adviser.

NEW GROWTH

INTERN RENEWS LANDSCAPE SCORCHED BY WILDFIRE

Story by Tracy Schlater
Image by Natural Resource Conservation Service

The hills were blackened. What was once a house, now a cement slab.

Wildfires brought destruction to the lush hillside vineyards, rangelands and forests of Napa County, California, in the fall of 2017. Six months later, Jacob Wright, a junior in agronomy, found himself in the midst of a Natural Resources Conservation Service (NRCS) team dedicated to the recovery of the landscape.

"Often people just didn't know where to start," says Wright. "We would visit the property and point them in the right direction. We worked together with multiple agencies at both the state and federal level."

When looking for an internship, Wright was particularly interested in working with soil and had his sights set on the NRCS. He hoped to expand his perspectives beyond the dairy farm in Virginia where he grew up and the row crop systems of the Midwest. He applied for a NRCS Pathways Program internship in soil conservation which could place him anywhere across the country from New Hampshire to Hawaii.

His first offer came from Nebraska, but he was really hoping to experience something completely different than the corn and soybean production he was now familiar with at Iowa State. Then came the offer from California. He was thrilled.

"We did some work with vineyards," says Wright. "Cover crop plans and replacing burned irrigation systems, but probably 80 percent of our work was in forests. They have programs for forested ground just like the Conservation Reserve Program in the Midwest."

Navigating the federal systems, policies and procedures to get landowners moving toward recovery was a tremendous learning experience for Wright.

"As his supervisor, I was pleased with Jacob's curiosity and genuine interest to learn," says Emma Chow, NRCS district conservationist. "I was better able to tailor his workload because he expressed interests and was open to new experiences."

The Napa County NRCS team exposed Wright to as much as possible in a relatively short amount of time. NRCS and partner positions in the office gave Wright insight into the bigger picture as well as the day-to-day work. He was able to spend a day assisting Major Land Resource Area soil scientists with soil characterization and lab sampling. And, neighboring county offices offered Wright unique perspectives with rangeland and pasture management.

"It's incredible how just one county away agriculture can be so different," Wright says. "I was so fortunate to gain exposure to so much in such a short time."

Wright credits his experience to advisers and mentors in agronomy. His adviser agronomy professor Lee Burras ('81 agronomy, '84 MS soil science) guided Wright to classes in soil science. Lecturer Amber Anderson put him in touch with alumni who helped him navigate federal application systems.

"Jacob asks good questions and builds on everyone's insight," Burras says. "He is incredibly motivated and sees long-term. He had a goal to work for NRCS and went after it."

Wright is involved in the soil judging team and has served as the Soil and Water Conservation Club vice president and publication editor. He is active with the College of Agriculture and Life Sciences Student Council, Agronomy Club and the Iowa Corn Growers Collegiate Club.

He is one of 55 students from across the United States selected for a prestigious Udall Scholarship—chosen based on leadership, public service and commitment to issues related to the environment or Native American nations.

"Jacob's passion for environmental issues and soil science is matched by his incredible communication skills," Anderson says. "As my teaching assistant, he works with fellow students from differing backgrounds and has an innate ability to reach them in a meaningful way."

Wright first spoke with representatives from NRCS at the College of Agriculture and Life Sciences Career Fair, the largest of its kind in the nation.

"My friends at school back home in Virginia were astounded I had an internship as a junior," he says. "That's part of why I chose Iowa State. The curriculum in agronomy required an internship."

Wright's experience at Iowa State also includes field and lab work with the National Laboratory of Agriculture and the Environment as well as soil data work within the agronomy department.

Now he can add wine-making to the list as well. While not the focus of his official internship, he lived with a wine maker for the summer, and that informal experience offered tremendous knowledge as well.

"My second day in California I was bottling pinot noir," Wright says. "I rarely turn down an opportunity to learn something. When they asked if I wanted to help I was all in."

As part of the Pathways Program, he'll spend another summer in California, this time in the central part of the state, in Fresno, working for the NRCS. And, he'll have a full-time job opportunity waiting for him after he graduates in May 2020.

Image by Christopher Gannon

Below: **Jacob Wright** helped restore California vineyards, rangelands and forests devastated by wildfire as part of his internship with the Natural Resource Conservation Service (NRCS). He first connected with the NRCS at CALS Career Day and says the college's commitment to internships attracted him to Iowa State.

DIAGNOSIS INSPIRES **PURPOSE AND SERVICE**

Story by Ann Y. Robinson
Image by Barb McBreen

Scarlett Eagle speaks forcefully as she describes the intricate genetics shared by humans and fruitflies as explained in a poster about her research. She's examining a class of small molecules that may be linked to a number of genetic diseases—including hers.

"One in 10 Americans has a rare disease. Since this doesn't involve a lot of people, they often go unrecognized," says Eagle. "That makes them seem even more rare, so there isn't much money for medical research into cures or treatments. It's frustrating."As she talks about her work—and some of the activities she's been a catalyst for—it's easy to understand why she has earned notice on campus. Eagle, a senior in genetics, was selected to present her research at the Iowa Capitol and has received a number of awards, including a prestigious Roy J. Carver Trust Scholarship to support students overcoming significant challenges.

A SENSE OF PURPOSE

Her challenges aren't immediately apparent, but they're with Eagle every moment. She has a rare disease known as Hypermobile Ehlers-Danlos Syndrome (hEDS), an inherited disorder that affects the connective tissue and collagen in skin, joints and blood vessel walls. Those who have the syndrome have overly flexible joints and stretchy, fragile skin. Other symptoms can include fatigue, dizziness and severe joint pain.

It was the joint pain that sent Eagle and her parents looking for answers when she was 12. As a budding competitive cheerleader, it was a benefit to be unusually flexible, but she was starting to have pain that doctors couldn't explain. It took several years before a physical therapist suggested she might have Ehlers-Danlos Syndrome. That diagnosis was soon confirmed.

"Unfortunately, there aren't any treatments," says Eagle. "Like so many rare diseases, you mostly treat the symptoms. I have to take a lot of medicines. Sometimes they help, and sometimes the side effects just make things worse."

Eagle says there's a plus side, though. "Until I was diagnosed, I didn't really know what I wanted to do with my life."

After struggling to be taken seriously by medical professionals before her diagnosis, Eagle wanted to make the world a better place for those with rare conditions.

As a junior, she worked with her Pre-Med Club to host Iowa State's first Rare Disease Day. They invited students to share information and stories about their rare diseases. Nearly 300 students participated, overwhelming the event space.

"That strong interest gave me the idea to create a Rare Disease Awareness Club to spread awareness on campus year-round," Eagle says. Each month, the club spotlights a different disease through a presentation, display at the library and a feature in the club's newsletter, which Eagle edits.

"Scarlett has a passion for raising awareness of rare diseases and advocating for research into underlying mechanisms and, ultimately, the development of cures," says Marna Yandeau-Nelson ('05 Ph.D. genetics), Eagle's academic adviser and an assistant professor in the Department of Genetics, Development and Cell Biology. "I have been very impressed by Scarlett's commitment, organization and her ability to communicate to make an event like Rare Disease Day happen."

Such extracurriculars represent a lot of extra work for a student with chronic symptoms that sap health and energy. Even so, Eagle says it's worth it: "I have always wanted to use my experiences to help others."

SOMEDAY IS TODAY

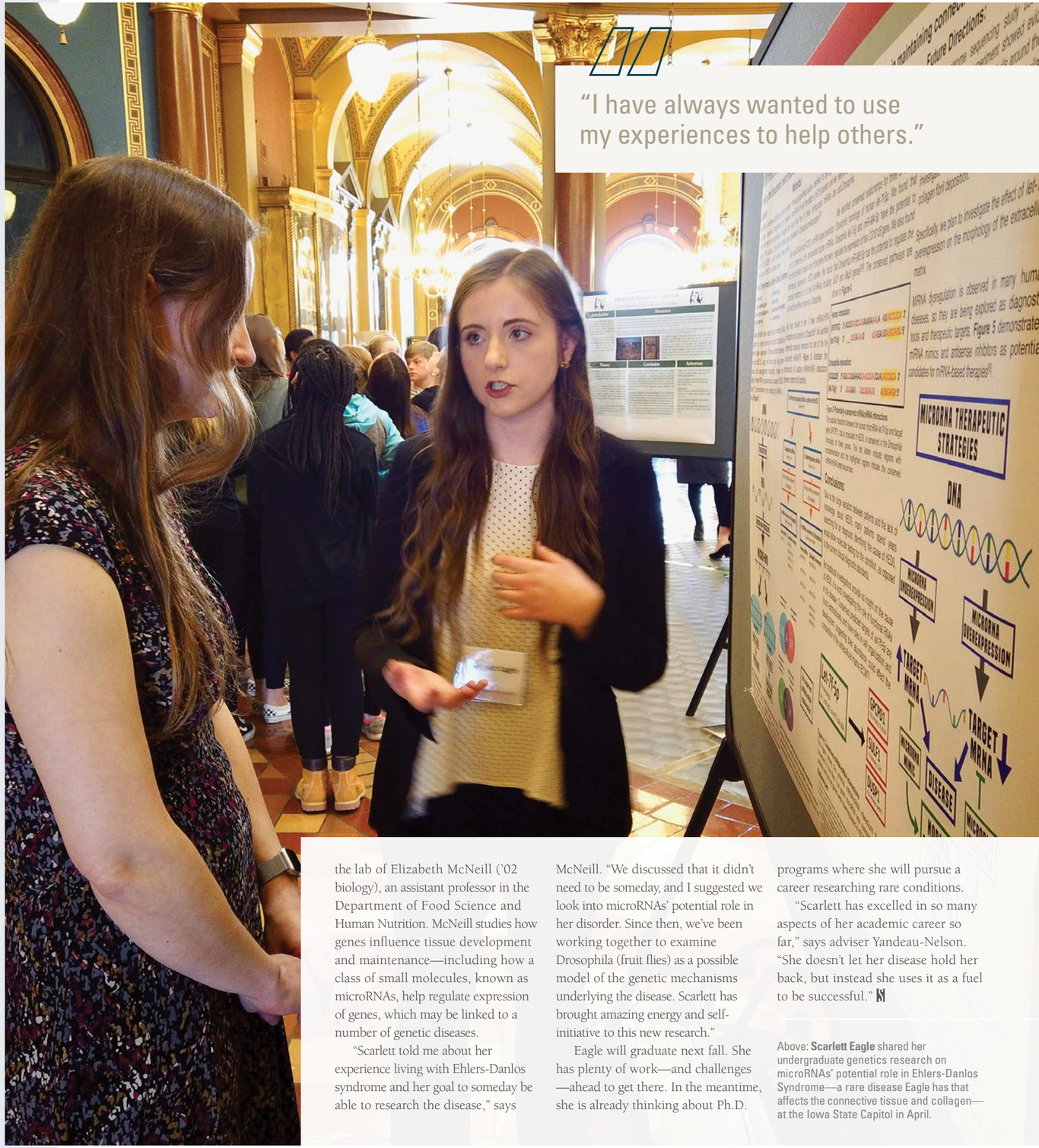
Since entering college with the goal to become a doctor, Eagle was slowly pulled towards research.

Last year, Eagle had the serendipitous chance to work in the lab of Elizabeth McNeill ('02 biology), an assistant professor in the Department of Food Science and Human Nutrition. McNeill studies how genes influence tissue development and maintenance—including how a class of small molecules, known as microRNAs, help regulate expression of genes, which may be linked to a number of genetic diseases.

"Scarlett told me about her experience living with Ehlers-Danlos syndrome and her goal to someday be able to research the disease," says McNeill. "We discussed that it didn't need to be someday, and I suggested we look into microRNAs' potential role in her disorder. Since then, we've been working together to examine Drosophila (fruit flies) as a possible model of the genetic mechanisms underlying the disease. Scarlett has brought amazing energy and self-initiative to this new research."

Eagle will graduate next fall. She has plenty of work—and challenges—ahead to get there. In the meantime, she is already thinking about Ph.D. programs where she will pursue a career researching rare conditions.

"Scarlett has excelled in so many aspects of her academic career so far," says adviser Yandeau-Nelson. "She doesn't let her disease hold her back, but instead she uses it as a fuel to be successful."



Above: **Scarlett Eagle** shared her undergraduate genetics research on microRNAs' potential role in Ehlers-Danlos Syndrome—a rare disease Eagle has that affects the connective tissue and collagen—at the Iowa State Capitol in April.

STANDING ON THE SHOULDERS OF GIANTS

Story by Melea Reicks Licht
Image by McClanahan Studio

The former deans go through a round of hugs and handshakes. They warmly welcome Daniel J. Robison, the current holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences. The room buzzes with conversation. Portraits of all those who have led the college during its 160-plus years look down from the walls, quiet observers to history still in the making. Robison gestures for the group to take their seats.

ROBISON: Colleges are really not about the bricks and mortar that make up their buildings and facilities, they are about the people that inhabit them and what they're thinking and doing. Each of us works on behalf of those that were here before us, and those yet to be here. We're all standing on the shoulders of giants in some way or another. I want to extend my personal gratitude to each of you for this wonderful place that you've allowed me to inherit. It's wonderful to have all of you in the same room together.

WHAT MADE BEING DEAN SO MEANINGFUL TO YOU AS AN INDIVIDUAL?

WINTERSTEEN: It was a meaningful experience to me because I love agriculture so much. This is a great college not only because of leadership like those who surround us, but because of the faculty, staff and students. We go out in the state and hear from our partners and stakeholders about the difference we've made in their lives. Every day the importance of our work is reinforced through those interactions. It truly is a great college.

WOTEKI: What makes being a dean here so special is the people. When I was dean, we developed a list of alumni from other countries who had done their graduate training here and then returned to their homelands. There were a surprisingly large number of men and women who are now ministers of agriculture or holding other offices in parliament or government. Our graduates have gone on to have such an important impact in Iowa, throughout this country and this world. Their education here has had impacts we can't begin to fully understand.

COLLETTI: As an associate dean, I did not fully appreciate the depth of the love our alums and friends have for this institution. It's immense, deep and meaningful. I got to know a lot of them as interim dean. They are so committed to the future of our students.

TOPEL: The most important observation I had as dean was when the old Soviet Union was busted and all these countries became independent. Many of them, including Russia, came to Iowa State for help. CARD (the Center for Agricultural and Rural Development) played a major role in helping develop programs for them. The College of Veterinary Medicine and Dean Ross were particularly helpful. The state of Iowa helped in the effort to establish freedom and a free economic structure for the people of these countries. That was the beginning of the freedom for teaching, research and extension in Russia and its former republics. Iowa State was a major, major factor in providing the atmosphere for that freedom.

ROBISON: THE DECISIONS THAT I'LL MAKE, JUST LIKE YOU MADE, WILL INFLUENCE WHAT KIND OF INSTITUTION WE WILL BECOME. PLEASE COMMENT ON OUR OBLIGATION AS UNIVERSITY LEADERS TO THINK ABOUT WHERE THE FUTURE LIES.

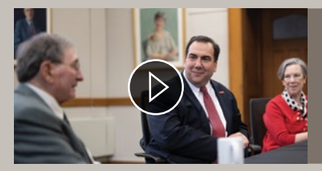
ROSS: This college has led the university in recruitment and retention of female students. You can look to our current president who came up through agriculture and our former deans who helped make that happen. Just recently, a woman led the world in proving Einstein's hypothesis of black holes. It's because this country opened its arms to a Jewish immigrant, Albert Einstein. It's important we continue that culture, starting here in the College of Agriculture and Life Sciences.

COLLETTI: We added an assistant dean of diversity about five years ago. We needed a point person to expand the job of cultural competency training, including for our faculty and staff. Now there's a smorgasbord of activities, training and discussion. We're continuing to improve cultural competency and inclusivity in the college.

WOTEKI: Universities are a place to create new ideas, science and technologies. That new technology can be used for good purposes or it can be used for mischievous or malign purposes. An important role of the university is that we are laboratories for innovation and we instill values about the appropriate use of technologies. We need to instill these concepts of values, our national values, and how we should be using these new inventions for good purposes.

WINTERSTEEN: People are starting to question the value of higher education—there is a questioning of whether we're providing a good value for the investment. What's unfortunate about this conversation is it should never be about only one right path—it should always be a portfolio of opportunities. We have our work cut out for us to continue to help people see what a great value a degree is from Iowa State or any institution of higher education. We need to work at demonstrating that there is a great return on investment of every aspect of what we do here in teaching students to live a life, and be prepared for change that will occur. I like to remember what I read in Iowa State's first president Adonijah Welch's installation speech, where he said we would welcome everyone to Iowa State regardless of race, gender or social-economic status. This is our history, and this is our future, as well.

Left: **Richard Ross** ('59 DVM, '60 MS veterinary medicine, '65 Ph.D.), distinguished professor emeritus of veterinary medicine; **David Topel**, professor emeritus and emeritus M.E. Ensminger Endowed Chair of Animal Science; **Wendy Wintersteen** ('88 Ph.D. entomology), president, Iowa State University; **Daniel J. Robison**, CALS Endowed Dean's Chair, Experiment Station director and professor of forestry; **Joe Colletti**, senior associate dean, Experiment Station associate director and professor of forestry; and **Catherine Woteki**, professor of food science and human nutrition.



STORIES EXTRA: www.stories.cals.iastate.edu
Hear the entire conversation and catch scenes from the discussion with Daniel J. Robison, CALS Endowed Dean's Chair and director, Agriculture Experiment Station, and former CALS deans in a video online.

Story by Brian Meyer
Image by Barb McBreen

LEADING WITH PURPOSE

DEAN ROBISON ENCOURAGES ALL TO LEARN MORE, ASPIRE GREATLY

"I try to be a person of purpose."

Daniel J. Robison says it and means it. It gets him going when he wakes every morning.

"Working in higher education is all about enhancing the future—making it better and more sustainable," Robison says. "There are enormous needs in our growing population to grow standards of living for those still wanting. All that needs to happen on a worldwide landscape that is not getting any bigger. It's our job to help figure it out. We must always learn more and aspire greatly. That's what excites me. Every day I get to go to work and participate in something that's so tremendously important to the future."

That's why he accepted the offer to be Iowa State's 11th dean of agriculture and life sciences: "I wanted the opportunity to have a broader, deeper impact, and that's what folks in the College of Agriculture and Life Sciences do."

When Robison talks to you about being a person of purpose—whether you're a prospective student, current student, faculty or staff, alumni or friend—he means that, too.

"People in CALS are, almost by definition, people with purpose," he says. "They want to make the world a better place, to discover how the world works, to advance the techniques and technologies we use, and to help communities and industries thrive."

Robison, the holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences, began his duties on Jan. 21, 2019. As might be expected, "whirlwind" aptly describes his first few months.

He's traveled across the state of Iowa. He's met alumni and donors in Florida and Arizona and many places in-between. He visited a new sow farrowing facility in northeast Iowa. He toured an Iowa Cage Free egg facility in Goldfield, Iowa. He discussed funding priorities with legislators at the state capitol and with Iowa's Congressional delegation in Washington, D.C. He's held listening sessions with multicultural students on how the college can foster a more welcoming environment for people from all walks of life. He's met with the CALS student council and numerous faculty groups. He held a town hall meeting for college faculty and staff and gathered up dozens of suggestions on how the college can improve, and he's organized the college's first-ever family picnic.

> "People I've met across the state, no matter what they do, are fluent and conversant in agriculture… the story of Iowa is written in agriculture."

Robison's professional journey to Iowa has taken him through New York, Maine, Wisconsin, North Carolina, West Virginia and more than a dozen countries. He grew up in New Jersey; the Garden State. His father was a soil microbiologist and pharmaceutical microbiologist and his mother was a nurse and school teacher. As a boy, he loved to be in the woods and working in the garden. Boy Scouts was a big part of his life. By the time he finished high school, his family had visited 42 states on summer camping vacations, and he was determined to have both agricultural and forestry experiences over the next several years.

Robison likes to say his story really began with an unforgettable morning in his father's life—May 11, 1934. On that day, a young Robert S. Robison looked out his window in Manhattan to see the western sky filled with dark, billowing clouds: The impact of the Dust Bowl on the Great Plains had reached New York City.

"My father needed to know more about the phenomenon he was seeing," says Robison. "Later on, he attended Cornell and Rutgers, studying agronomy and soil microbiology. His love for natural resources and the environment certainly affected me and my interests. Both my father and my mother cared deeply about the natural world and how it's put to work on behalf of people and communities."

Throughout his career in higher education, he's been more than aware of Iowa's importance in the realm of agriculture and natural resources.

"What happens in Iowa matters everywhere, not just within the state," Robison says. "Our agricultural programs are among the strongest in the world. Iowa has an extraordinary landscape and Iowa State is an extraordinary university doing tremendously important things for the benefit of Iowa and the world."

One thing that's surprised him about Iowa in his first few months is the phenomenal interest and commitment of people to agriculture, in all its dimensions.

"People I've met across the state, no matter what they do, are fluent and conversant in agriculture. I'm not sure you could find somebody in Iowa for whom agriculture is not part of their world, in some way or form. That's not true in other states. It's like: Wow, agriculture is the story here. The story of Iowa is written in agriculture."

CONTINUE READING ▸

Image by Haley Cook

Robison has been formulating what he perceives to be key priorities for the College of Agriculture and Life Sciences. These include:

Grow enrollment. Robison wants to build on what he's been calling the "CALS Advantage," which he defines as: equipping students to find their voice and advocate for what they feel is important; encouraging students to be innovators and adopt an entrepreneurial mindset in everything they do—locally and globally; ensuring students are masters of their chosen disciplines, in order to effectively contribute their knowledge in interdisciplinary ways; and graduating the leaders of tomorrow.

Make the students' experience the best it can be. "Our students are our number-one reason for being here. I want our students to be able to make a deep, broad and positive impact on the world, which is what our college is all about. We want them to have the advantage of the very best curricula, and then synergize it with all kinds of value-added experiences, from study abroad, to domestic travel, to undergraduate research, to entrepreneurship, and more."

Be a powerful agent for economic development. "We do that through each of our land-grant missions of teaching, research and extension. We facilitate it through an understanding of science and technology. Our college needs to be a player in all those areas."

Rev up our research powerhouse. "An aspirational goal is to double the size of our research enterprise. More proposals, more graduate students, more patents and innovations derived from research results. That's a huge task, but sometimes a goal needs to be out of reach so you can work on bringing it closer to reality."

Serve Iowans better through Extension. "Extension and our college are deeply entwined. We need to be science-driven and service-driven. That should exemplify everything we do as extension professionals and extension educators."

Be more collaborative. "We need to push the boundaries of what it means to be a land-grant university by interacting in new ways with each other on campus, and with the public and private sectors. Collaboration has to be a pillar of who we are and what we do. It will lead to new partnerships, new revenue streams and exciting innovations. We should reach out to those we've not traditionally been engaged with, because we're seeing the diversity of people and communities reflected in our students, faculty and staff."

Robison will continue to refine his priorities and vision for the college and share it with the 45,000-plus agriculture and life sciences alumni around the world.

"Whenever I meet our alumni, I'm always impressed—and encouraged—by their devotion and dedication to our college. Many tell me that their time spent at Iowa State was one of the best times of their lives, and one of the most meaningful and important to them. That's a beautiful, wonderful thing. That's powerful."

And those are the kind of purposeful people Robison wants to continue to develop in the College of Agriculture and Life Sciences.

"Solutions to today's challenges are in the minds of our diverse, energetic students and our great faculty and staff," he says. "They're in the minds and actions of our graduates we send out into every corner of the globe. We help them be purposeful. That's one of the great blessings of our college."

Above: Dean **Daniel J. Robison** meets with three generations of the Smith family to learn about their farm operation near Nemaha, Iowa. From left **Seth Smith** ('02 ag systems technology), **Robison, Bill Smith** and **Lynn Smith**.

DEANS OF THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES

- Daniel J. Robison, Forestry and entomology, 2019-
- Joe Colletti, Forestry economics, 2017-19 (interim)
- Wendy Wintersteen, Entomology, 2006-17
- Wendy Wintersteen, Entomology, 2005 (interim)
- Catherine Woteki, Human nutrition, 2002-05
- Richard Ross, Veterinary medicine, 2000-02
- Richard Ross, Veterinary medicine, 2000 (interim)
- David Topel, Animal science, 1988-2000
- John Pesek, Agronomy, 1987-88 (interim)
- Lee Kolmer, Agricultural economics, 1973-87
- Marvin Anderson, Agronomy, 1972-73 (interim)
- Floyd Andre, Entomology, 1949-72
- H.H. Kildee, Animal husbandry, 1933-49
- Raymond Hughes, Chemistry, 1932-33 (interim)
- Charles F. Curtiss, Animal husbandry, 1902-32
- James "Tama Jim" Wilson, Self-educated, 1897-1902
- Seaman Knapp, Classical education, 1879-85

Others served in agricultural leadership capacities in Iowa State's early years, but did not hold the title of "Dean."

THE ROBISON FILE

PERSONAL

- Grew up in North Brunswick, New Jersey
- Married to Julie Robison, an urban, regional and community planner
- Two daughters:
  - Sophia, a city planner in Pittsburgh
  - Hannah, a graduate student in kinesiology and athletic training at Indiana University

EDUCATION

- B.S., forestry, State University of New York, College of Environmental Science and Forestry (SUNY ESF), Syracuse
- M.S., silviculture and forest influences, SUNY ESF, Syracuse
- Ph.D., entomology, University of Wisconsin-Madison

EXPERIENCE

- Dean, Davis College of Agriculture, Natural Resources and Design, West Virginia University
- Associate Dean of Research, College of Natural Resources, North Carolina State University
- Professor, Hardwood Research Cooperative, North Carolina State University
- Senior Research Scientist, SUNY ESF, Syracuse

PROFESSIONAL BACKGROUND

- Expertise: Forestry and forest entomology
- Leadership Fellow, American Council on Education, 2007-2008
- International experience in 12 countries, including China, Brazil, Cote d'Ivoire, Ghana, Kenya, Myanmar, Israel and South Africa
- Outstanding Teaching Award, North Carolina State University; Outstanding Service Award, SUNY ESF, Syracuse
- Published and presented widely with colleagues and students
- Member, Entomological Society of America and Society of American Foresters

11 THINGS TO KNOW ABOUT DANIEL J. ROBISON

1. Best advice ever received: "My dad told me to be generous with ideas. A person needs to have the guts to share ideas and let them be tested, found worthy or lacking, and then move on."
2. Enjoys nothing better than a hike with his family.
3. An avid reader and "amateur student" of history and geography. (A recent book he recommends: "Founding Brothers: The Revolutionary Generation" by Joseph Ellis, on the intertwined lives of John Adams, Aaron Burr, Benjamin Franklin, Alexander Hamilton, Thomas Jefferson, James Madison and George Washington.)
4. Hosted Norman Borlaug for dinner at his home in Cary, North Carolina, in 2005, where Borlaug sat on the back deck with Robison's children and bunches of the neighborhood kids and told them stories of agriculture and encouraged their success.
5. Looking forward to getting back into bike riding in Iowa ("You needed to be like Charles Atlas to be a bike rider in West Virginia.")
6. A favorite quote: "Food is a moral right." — Norman Borlaug
7. His father-in-law grew up in Cresco, Iowa, and his wife's family is all in Wisconsin.
8. Worked two summers after high school on a dairy farm in upstate New York.
9. First visited Iowa State in 1986 as a State University of New York researcher to attend a scientific meeting on the use of hybrid poplar trees for biomass development.
10. Favorite tree: "The almost-grows-anywhere, majestic, emergent and fine-feathered five-needled eastern white pine."
11. Most fascinating insect: "I loved working on the forest tent caterpillar for my doctoral research given its social characteristics. Calasoma beetles are pretty cool, too."

RETENTION EFFORTS STEER STUDENTS TO SUCCESS

Story by Melea Reicks Licht
Images by Barb McBreen

At 90%, the student retention rate in the College of Agriculture and Life Sciences is higher than any other college at Iowa State University, and far exceeds the national average of 53.5%. A closer look reveals nearly 83% stay within the college—79% is the next highest in-college retention rate by the College of Engineering at Iowa State.

These figures represent people—students with unique abilities, needs and dreams. Caring and dedicated departmental advisers, student services personnel and administrators work together to keep the college's 4,400 undergraduates on the road to success.

"Retention really starts with recruitment," says Andy Zehr, director of marketing and new student programs. "Marcie Fahn ('14 agricultural business, economics, and international agriculture, '16 MS economics, sustainable agriculture) organizes our orientation programs. Breanna Wetzler communicates key information and resources. Beth Foreman ('12 Ph.D. agricultural and life sciences education) introduces students to peers, shows a successful student experience and provides critical research. And, I'm a resource for navigating students' financial scenarios and helping direct resources."

Zehr, and the rest of the new student programs crew, team up with Howard Tyler, assistant dean of student services; Elizabeth Martinez-Podolsky, minority liaison officer; David Ross, record analyst; and student services specialists Tim Carey, Charley Turner and Audrey Kennis to round out the college's student services team.

SUPPORTING EVERY STUDENT

While the college's retention rate is the envy of peers, student services staff noticed recent data showed room for improvement. Specifically, the college retains urban, multicultural and female students at a comparatively lower rate.

Data also reveals a changing student demographic with females making up more than 50% of the student body and a 99% increase in multicultural students from 2010 to 2016. The college currently has 10% multicultural students.

Daniel J. Robison, the holder of the endowed deanship in the College of Agriculture and Life Sciences, is moving forward with a plan to address student retention put together by former dean and Iowa State University president Wendy Wintersteen ('88 Ph.D. entomology).

"Retention is everyone's job," says Robison. "We owe it to every student who gains admission and everyone who cares about them to do everything in our power to help them succeed."

Tyler says the main reasons students withdraw (either voluntarily or by dismissal due to low grade point averages) are because of medical, mental, family or financial crises. Iowa State data shows the best ways to support students battling these crises are through mentoring and tutoring.

"These students need us to be their advocate. It's like being a parent

Image by Christopher Gannon

or foster parent—it's not all happy. We help when we can and show up when they need us, but we don't always say yes. The students need to get their priorities straight, too," says Tyler.

CLOSING THE GAP

The college's plan to close the achievement gap among urban, multicultural and female students is multifaceted.

To start, the college created the Leaders Enhancing Agriculture, Diversity, Inclusion and Trust (LEAD IT) Collective—a peer-to-peer educational program about cultural competency and a multicultural peer mentor program.

Next, CALS hired Kennis as a student retention coordinator. Tyler says she's able to connect with students with many different backgrounds and life experiences.

"In my and Audrey's role we have to inspire trust during a single interaction with a student. We have to make them feel comfortable to share things they wouldn't otherwise so we can offer them the best service and support," Tyler says.

After joining CALS, Kennis held listening sessions throughout the college, then collaborated with advisers and student service staff to reach out to students slated for dismissal.

"I invited 46 students to apply for a new program we're calling Smart Steps. Sixteen accepted the invitation. The program provides one-on-one mentorship and free tutoring," Kennis says.

Zachary Anderson ('19 animal ecology), an employee of the City of Muscatine, Iowa, was among the program's first cohort.

"Getting that call from Audrey was amazing," Anderson says. "I was so relieved. I had a really difficult semester struggling with financial issues, anxiety and depression. I expected not to be allowed back."

Anderson says Kennis and his academic adviser John Burnett, student services specialist in natural resource ecology and management, held him accountable and provided emotional support. The college also provided financial aid.

"During my weekly meetings with John and three meetings a week with Audrey they checked in to make sure everything was going well," Anderson says. "Audrey really cares. You may think you're going to fail, but she's like, 'you're not going fail me.'"

DOING THE RIGHT THING

To further support student retention, the college amped up efforts to provide completion grants to students struggling to pay for their last semester.

"We are very fortunate to have donor support for these completion grants," says Tyler. "These resources allow us to consider the individual student, and our administration empowers us to do the right thing."

In one special initiative, Carey reviewed student records from the past 15 years searching for former students who were just inches away from graduation.

"Tim uncovered students who had completed all requirements, but were just a few hundred dollars short of paying their last U-Bill. And, he found students who left in good standing to handle a family crisis then never returned," says Tyler. "In a lot of these cases we were able to offer a completion grant or reconsider graduation requirements to help propel these students across the finish line."

CALS will continue to offer additional training for advisers and work to strengthen partnerships with student affairs professionals across the university to best support all students as they make their way to graduation.

Left: **Howard Tyler**, assistant dean for student services, leads the college's efforts in student retention. He says departmental advisers, student services personnel and administrators all play essential roles in equipping students with the tools needed to graduate.

Above (Left): **Audrey Kennis** recently joined CALS as a student retention coordinator. She co-led a team in hosting a retention summit in March. The event brought together staff from across campus to review college priorities, data trends and strategies to address barriers to student success.

Above (Right): The retention rate in CALS is higher than any other college at Iowa State, and far exceeds the national average. And, more students like these new grads choose to stay within the college than any other college at Iowa State.

STRONG RELATIONSHIPS, SUCCESSFUL PLACEMENT

Story by Ed Adcock
Image by McClanahan Studio

Teamwork gets the job done at Career Services, says Mike Gaul.

After 21 years as director, his team has grown the largest job fair of its kind in the country, even through difficult economic times. Above all, the office has helped maintain a consistent placement rate of at least 97 percent spanning two decades.

Gaul succeeded Roger Bruene ('56 agronomy) as director in 1998. Their tenure has provided a continuity in leadership stretching 45 years that is necessary for "establishing and building relationships," he says. Lois Benning has been Gaul's assistant for 17 years.

The office runs lean. Three part-time students round out the staff. An integral part of the team is CALS students and career day volunteers, who Gaul can't praise enough.

"It's amazing the quality of students we have, absolutely mind-boggling how good these students are," he says. "Of course, it makes my job easier and makes coming to work a lot more enjoyable."

Tim Heiller ('90 animal science), a senior account manager in charge of college recruiting for PIC (Pig Improvement Company), says the college does an "excellent job producing marketable students, many with great internships."

Erin Chalupa says her crop scouting internship with Nutrien Ag Solutions expanded her horizons. "It really opened my eyes to how many job options there are to explore in agriculture, and made me excited to see where I will end up in the future," she says.

The students' smarts and maturity are only part of the story; Gaul says most are very motivated to find employment. He says the largest group attending last year's fall career day was first-year students.

"I've had to bring extra recruiters to the career fair because there are so many freshman students looking for opportunities," Heiller says.

Kent Krager ('02 agricultural business), commercial director of U.S. Retail for Cargill Feed and Nutrition, says turnover takes a lot of time and can be very costly.

"Getting the right placement early and often is a must," Krager says. "I've appreciated the partnership with Iowa State. Their students are hardworking and not only bring strong technical and leadership experiences, but also a real passion for the industry."

Advisers, faculty and peer mentors make up another part of the campus team stressing career prospects.

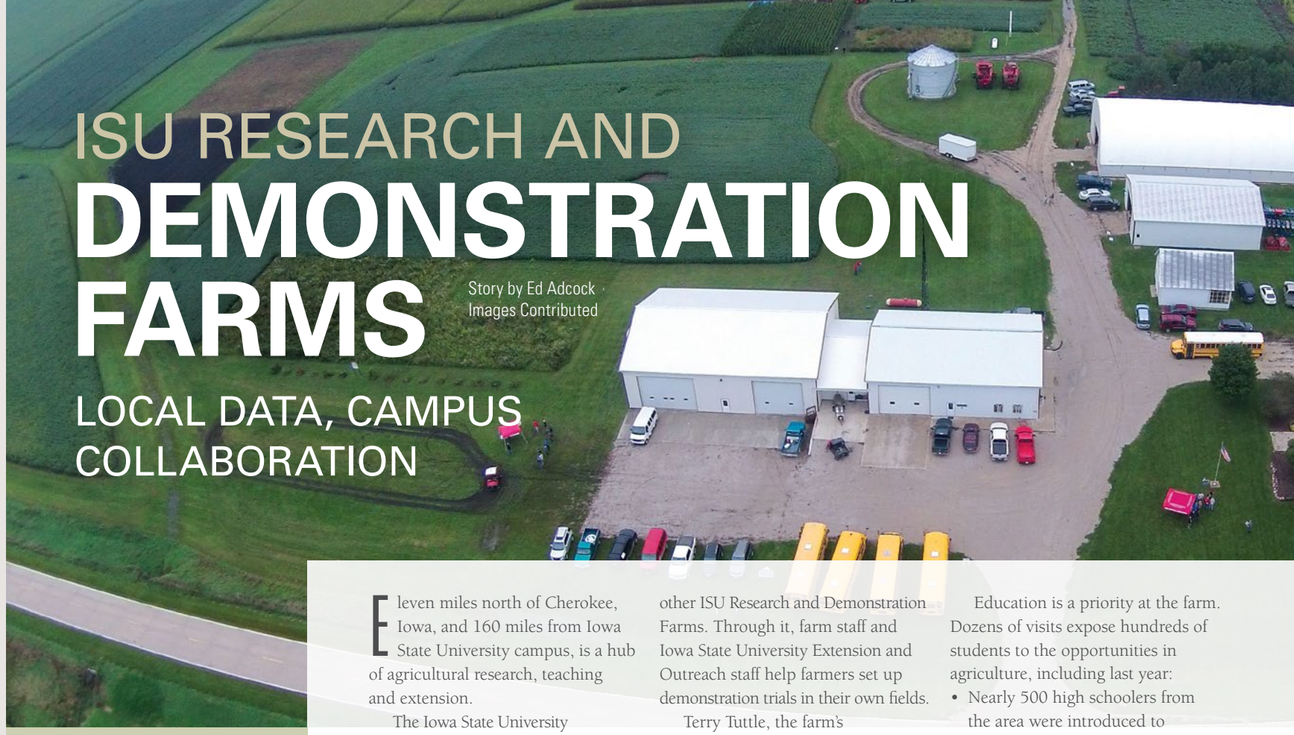
"There's collaboration with faculty and staff within CALS. I'm invited to probably about 90 percent of our orientation classes. They'll have me come in and talk about our office and how to get ready for the fall recruitment season."

Internships have become increasingly important for students since Gaul started as director.

A few years ago, the office started offering scholarships to students accepting unpaid summer internships. Typically, vet clinics, zoos, international organizations, non-profits and governmental entities don't pay interns, so the $750 scholarships funded from career day proceeds help provide some income.

Above: Career Services director **Mike Gaul** and administrative specialist **Lois Benning** team up with more than 40 CALS student volunteers to offer the nation's largest agriculture and life sciences career fair each fall. They also employ three student assistants who support their efforts, including **Trent Taglauer** and **Claire Campbell** (not pictured is **Hans Riensche**).

> "It really opened my eyes to how many job options there are to explore in agriculture."



ISU RESEARCH AND DEMONSTRATION FARMS

LOCAL DATA, CAMPUS COLLABORATION

Story by Ed Adcock
Images Contributed

ISU FARMS BY THE NUMBERS IN 2018

- **6** Types of livestock and poultry: horses, beef cattle, dairy cattle, sheep, swine and chickens (Turkeys will be added next year at the new ISU Poultry Farm—see story on page 6.)
- **8** Affiliate non-profit associations that own farms used for ISU ag research
- **9** Animal science farms near Ames
- **13** ISU Research and Demonstration Farms across Iowa
- **73** Field days
- **692** Research and demonstration projects
- **21,759** Visitors to farms
- **91,474** Research plots planted

Eleven miles north of Cherokee, Iowa, and 160 miles from Iowa State University campus, is a hub of agricultural research, teaching and extension.

The Iowa State University Northwest Research and Demonstration Farm sits on 272 acres in O'Brien County. Its owner, the Northwest Iowa Experimental Association, bought the original land that established the farm 65 years ago.

It is leased to the College of Agriculture and Life Sciences Agriculture Experiment Station and operated by college staff. The association includes farmers and agricultural businesses from 10 counties in Northwest Iowa.

The farm is one of 13 ISU Research and Demonstration Farms and the association is one of eight affiliate, nonprofits that own farms used for ISU agricultural research. The first association was formed in 1930 in north central Iowa near Kanawha.

In addition to field research trials conducted at the Northwest Research and Demonstration Farm, the association created an on-farm demonstration program—an innovation that has spread to most other ISU Research and Demonstration Farms. Through it, farm staff and Iowa State University Extension and Outreach staff help farmers set up demonstration trials in their own fields.

Terry Tuttle, the farm's superintendent, works with the association board to run the farm with full-time staff members, Andrew Weaver ('16 agricultural studies) and Landon Lenhart.

"The board shares hiring responsibilities with Iowa State and duties and work assignments are handled by the farm superintendent and researchers," says Brian Waldstein, the association board president. "The board participates on decisions about what to study on the farm, favoring research projects that cover current issues in agronomy."

Joel DeJong ('80 agricultural business, '88 professional agriculture), an extension field agronomist, says the association's board was "ahead of the curve" in emphasizing water quality research projects more than a decade ago.

In 2018, the farm conducted 35 research projects for 24 different project leaders (mostly CALS faculty) plus 30 on-farm demonstration trials.

Education is a priority at the farm. Dozens of visits expose hundreds of students to the opportunities in agriculture, including last year:

- Nearly 500 high schoolers from the area were introduced to agricultural occupations;
- 150 local fifth graders viewed farm equipment and machinery; and
- 40 local FFA members practiced soil judging in the farm's soil pit.

Dordt College students from Sioux Center, Iowa, visit the farm for labs, and Mike Schouten, steward of the Dordt agriculture stewardship center, says Dordt takes part in the on-farm research program.

The education extends to area farmers including field days on precision agriculture and crop-scouting. Tuttle says the farm hosted about 1,000 visitors last year at 10 field days.

"The farm helps area farmers with questions about water quality, soil pH and fungicide use," says Paul Kassel, extension field agronomist. "The farm keeps Iowa State visible and provides a way for researchers and extension specialists to stay in touch with issues in northwest Iowa."

Above: The Northwest Research and Demonstration Farm in O'Brien County is one of 13 ISU Research and Demonstration Farms across the state.

Left: Education is a main mission of the farm, which hosts scads of local students annually to learn about agricultural careers, farm equipment and machinery.

PROVIDING ANSWERS, ENSURING ANIMAL WELL-BEING

Story by Ann Y. Robinson
Image by Bob Elbert

A unique team is working together to answer questions about livestock well-being and help resolve any issues on behalf of the public, farmers and their animals.

Iowa Farm Animal Care Coalition, or IFAC, is a program of the Iowa Farm Bureau and the Iowa Pork Producers Association, in cooperation with the Iowa State University College of Agriculture and Life Sciences and the College of Veterinary Medicine. Four advisory council members are the Iowa Secretary of Agriculture, the Iowa State Veterinarian, executive director of the Animal Rescue League of Iowa and president of the Iowa Sheriffs Association.

"IFAC was launched in 2013 as a centralized place for Iowans to contact if they have questions about farm animal care," says Mike Telford ('76 animal science), executive director of IFAC. "Our shared vision is that every Iowa farm animal receives proper, humane animal care."

IFAC provides a helpline for calls and an online form for inquiries about farm animal well-being. Inquiries come from many sources, and the concerns range widely, but are often related to routine production practices, livestock health or weather-related issues and transportation.

"Unfortunately, there is a lot of misinformation about modern livestock production practices," says Telford. "Much of my job is to educate about what is proper care for that species.

When there does seem to be a problem, we work with producers to address issues, confidentially and in the best way possible."

"Part of our job is also to help law enforcement by keeping issues off their agenda, and in the rare case where there is a serious problem, we can assist local authorities with expert information."

FOLLOW UP WITH WELFARE IN FOCUS

A key member of IFAC's advisory group and On-Farm Swine Evaluation Team is Anna Johnson, professor of farm animal behavior and well-being in the Department of Animal Science at Iowa State and former director of swine welfare for the National Pork Board. The On-Farm Evaluation Team also includes Iowa State veterinary medicine professor Suzanne Millman, who serves as ISU's lead contact, and cooperating veterinarians who specialize in different livestock. The team is called in for the small number of cases identified for follow-up. When this happens, a farmer is contacted and must invite the team for a free, confidential assessment. Out of 76 inquiries since 2017, IFAC has conducted nine on-farm evaluations.

"Our role is to work with the marginal cases, where the wheels are just beginning to squeak," says Johnson. "We try to be a resource to identify any legitimate problems and get them fixed when they are easier to manage."

Johnson is proud of the different interests that have come together on behalf of the public and the livestock industry: "It's been a very respectful process, and the farmers have been very welcoming and appreciative of the help they have received."

"People care about animals and that's not going to change," says Johnson. "We want to give farmers the tools and resources they need to learn and address any issues. Our attitude is, let's get better together."

FLAGSHIP PROGRAM IN U.S.

IFAC, the only program of its kind in the United States, has been modeled after similar programs in Canada. Millman came to Iowa State's College of Veterinary Medicine familiar with one of those programs in Ontario. She pitched the idea to the Farm Bureau and the Iowa Pork Producers, whose farmer members saw the need. An advisory council was formed and detailed protocols were developed to guide the organization.

"Our role at Iowa State is to serve as an objective, independent third-party advisor with expertise in animal care standards and livestock health," says Millman. "Situations that require our attention are rare and can be very sensitive. They are almost always due to extenuating circumstances, usually financial or health problems or weather-related issues. I'm really proud of how we've been able to work with farmers to get ahead of and resolve such situations to everyone's benefit."

Sara Payne, an Iowa State College of Liberal Arts and Sciences alum, agrees. As chief marketing and communications officer for the Iowa Farm Bureau Federation, she has been part of IFAC since the beginning.

"Agriculture touches everyone, but there's often a disconnect between the public and farms," says Payne. "Iowa farmers take good care of their animals and often go to extraordinary lengths to do so. IFAC is a great resource to engage Iowans in discussions about appropriate farm animal care and provide help if needed."

> "We want to give producers the tools and resources they need to learn and address any issues. Our attitude is, let's get better together."

Above: **Anna Johnson** (left), professor of farm animal behavior and well-being, and veterinary medicine professor **Suzanne Millman** (right), partner with the Iowa Farm Bureau and the Iowa Pork Producers Association on the Iowa Farm Animal Care Coalition, or IFAC, to give Iowans a central point of contact for questions about farm animal care. CALS grad **Mike Telford** (center) serves as IFAC executive director.

STORIES EXTRA: www.stories.cals.iastate.edu
Visit STORIES online for links to learn more about the collaborative Iowa Farm Animal Care coalition including videos with animal welfare experts. IFAC invites questions or concerned citizen reports regarding Iowa livestock via its toll free number, 1-800-252-0577, or at iowafarmanimalcare.org. Those who call can be assured their information is confidential. Questions about companion animals, including horses, should be directed to local animal control or rescue leagues.

ROAD-TRIPPING TO STRENGTHEN PARTNERSHIPS & BETTER SERVE FARMERS

Story by Grant Wall
Image Contributed

Image by Rachel Kennedy

Each summer, over a dozen agronomists and agricultural engineers from Iowa State University pile into a fleet of cars for an annual trip around Iowa.

The trip is organized by ISU Extension and Outreach field agronomists and provides a glimpse into current practices being implemented and challenges faced by farmers throughout the state. And, while the trip helps increase individual knowledge, it also serves as an opportunity to do something more—further strengthen relationships between field and campus staff who rely on each other in their quest to provide timely, research-based information.

Extension programming at Iowa State flows along a two-way street; researchers on campus provide field staff with updated information on broad topics like weed control, crop production, fertility management, plant diseases and more. At the same time, field agronomists located across the state feed localized information back to campus, allowing faculty to tailor their research to current conditions.

This approach is applied throughout ISU Extension and Outreach, with the agricultural engineering, dairy, farm management, horticulture, beef and pork teams also employing field specialists across the state who work closely with faculty on campus.

"The ability for information to flow both ways is critical," says Joel DeJong ('80 agricultural business, '88 MS professional agriculture), an extension field agronomist in northwest Iowa. "There has to be new research conducted to improve crop production, and that research needs to be shared with farmers. Without research behind something you are just guessing, so having current research gives me the confidence to give better answers when I'm talking to farmers."

Mark Licht has traveled this information highway both directions. Licht ('00 agronomy, agricultural extension education, '03 MS soil science, '15 Ph.D. crop production and physiology) was a field agronomist for nearly 10 years before coming to campus, and today he is an assistant professor in agronomy and extension cropping systems specialist.

"An individual in a statewide system can't be everywhere," Licht says. "To have field agronomists reporting back needs and information on current conditions helps us on campus be in tune with what's going on across the state. It allows us to provide feedback that is more regionally specific and direct our research accordingly."

Helping to facilitate this connection is Erin Hodgson, associate professor and extension specialist in entomology and leader of the crops team.

"We work hard to provide frequent interaction between faculty and statewide specialists, so there are a lot of opportunities to share information," says Hodgson. "Field agronomists have the pulse of what is happening locally, and campus faculty provide broader information on issues that haven't been seen in that area for a few years. It provides a great back-and-forth and strengthens our ability to provide research-based advice to farmers."

> "Field agronomists have the pulse of what is happening locally, and campus faculty provide broader information on the issues..."

This fosters open communication benefiting both campus and field staff.

The crops team meets weekly during the growing season to share information, while also hosting team in-services during the spring and fall. Formal sessions allow members of the team to present new information while industry specialists are brought in to provide insight into new trends and updates on their technology and its application.

Along with the structured sessions comes plenty of time to network and bounce ideas off fellow extension colleagues.

"I really look forward to those unstructured times where we can keep the conversation going," Hodgson says. "That's when some of our most collaborative efforts are sparked. I've learned to build in those open times because we want to keep the relationships within the team strong."

It's those unstructured moments—along with the careful research and attention to detail in the field—that allow members of the crops team to function as individuals within a much larger whole.

"We're a network and you have to spend time maintaining that network," DeJong said. "If you only work in your specific area then your vision can get narrow. Having a team across the state and on campus helps us keep our vision wide. It's never bad to look outside yourself or your region to get answers to questions."

And while the road trip in the summer is about professional development and team building, campus specialists hit the road again each winter as part of Iowa State's Crop Advantage Series—bringing information on their research to all corners of the state.

Crop Advantage Series meetings are held across the state each January, providing a solid foundation of current, research-based crop production information to help farmers make smart, informed decisions for their farming operation. More than 2,000 people attended 14 Crop Advantage Series meetings in 2019, with sessions specifically planned for the growing conditions present at each location, making the information of critical value to those who attend.

"Crop Advantage Series allows farmers to have access to research-based topics close to home," Hodgson says. "And it's another great way for farmers to have access to expert faculty and staff from Iowa State."

Above: The crops team, as well as other extension field and campus teams, travels the state to hold learning sessions like this one to review local conditions and research needs. Campus specialists also hit the road to share their research at summer field days and via Iowa State's Crop Advantage Series each winter.

TRAVELING ABROAD TO
TEAM UP
FOR UNITED NATIONS FAO

Story by Barb McBreen
Images Contributed

> "It's an amazing place - you meet all these people from all over the world working on large, complex problems."

The ability to work on real-world, global challenges is transformative for students.

"We have a program that can take undergraduate students and develop them into high-functioning teams to work on projects with global impact," says Joe Colletti, senior associate dean of the College of Agriculture and Life Sciences and associate director of the Agriculture Experiment Station.

For the past 10 years, the Dean's Global Agriculture and Food Leadership study abroad program has prepared a new team of students to travel to Rome. Each year since 2009, six to 12 students have enrolled in the "Rome program," been organized into teams and worked on projects for the Food and Agriculture Organization (FAO) of the United Nations. A total of 80 students have participated in the program completing challenging projects with global impact that are implemented by the FAO.

"This is an important program that's impactful. It's not a big program with regard to the number of students, but our Iowa State students have made a big contribution," says Steven Lonergan ('88 animal science, '91 MS), an animal science professor who has accompanied students on the trip for six of the 10 years.

The idea for the program started when Colletti began thinking of ways to incorporate a capstone study abroad program for agriculture and life sciences students. The program would be designed to give students an opportunity to work for clients as consultants and in high-functioning teams.

Rome was selected because the College of Design had a place for students to stay and Iowa State University had contacts at the FAO. That made it easy for Colletti and Shelley Taylor, director of study abroad for the College of Agriculture and Life Sciences, to approach the FAO.

"It was an opportunity to put something together that was unique and added value for everyone involved," Colletti says. "It came together perfectly and it's working very well."

Taylor says watching students become confident researchers and presenters is fulfilling.

"At the beginning of the class you can see that they doubt they can learn about the research and give a presentation to professionals in Rome," Taylor says. "By the end of the program they go above and beyond and you can see the confidence they've gained."

Alumni who have gone through the program are pursuing a broad range of professions.

"We have a lot of accomplished alumni in this program," Taylor says. "One student is working at the White House and contributes to ag trade policy and another is a National Geographic digital storyteller in the bogs of Ireland."

Celize Christy ('16 animal science and global resource systems) traveled to Rome in 2015 and now works for Practical Farmers of Iowa as the swine and poultry coordinator. She says working with the FAO was the ultimate experience for someone aspiring to work in international development.

"FAO is the mecca for me. It's similar to someone who wants to work in political science and wanting to be in Washington D.C.," Christy says. "It's an amazing place—you meet all these people from all over the world working on large, complex problems."

The secret to the program's success is helping students operate as successful teams. To develop those teams, faculty spend a semester preparing students for the trip. Lonergan says students need to know each other's strengths and weaknesses to succeed.

"High-functioning teams trust each other and challenge each other—once they know each other," Lonergan says. "Our goal is to make sure they are comfortable and perform as a high-functioning team before they arrive in Rome."

The Iowa State faculty and FAO staff work together to identify a list of projects for students. The students receive their research projects about halfway through the semester before their trip to Rome. The faculty also provide oversight to ensure the projects are feasible and can be accomplished in the time available.

To give students a break from their consulting work, the program includes a trip to the Tuscany region midway through their month-long visit to Rome. That trip offers students a chance to view the area's agriculture first-hand and do some taste testing.

"The best meal I ever had was in Tuscany," says Jake Swanson ('14 global resource systems), the legislative liaison for the Iowa Department of Agriculture and Land Stewardship. "The whole experience was life changing. I learned skills I continue to use."

The program's success is evident after every final presentation at the FAO. Taylor says the FAO staff often ask if the students are really undergraduates and if they can get a team to work on their division's projects.

"I've had the personal pleasure of watching the presentations and it's made me feel proud of our students. The students always hit the ball out of the ball park," says David Acker, associate dean, academic and global programs and Raymond and Mary Baker Chair in Global Agriculture.

Past projects have ranged from analysis of seed security in India, Brazil and the Ivory Coast, to contributing to a global livestock biodiversity database, to an analysis of bee health in southern Europe.

Colletti says the program's success is due to the commitment of faculty and staff who prepare students and travel with them to Rome. Alumni who have gone through the program appreciate that commitment.

"We have to thank our advisers and faculty. They made a difference and the resources they provide are working to improve the state of Iowa and the world," Swanson says.

Left and Above: For the past 10 years, the Dean's Global Agriculture and Food Leadership study abroad program has prepared a new team of students each year to travel to Rome. The students work intensely on challenging projects for the Food and Agriculture Organization (FAO) of the United Nations.

STORIES EXTRA: www.stories.cals.iastate.edu
Hear from alumni participants and organizers of the Dean's Global Agriculture and Food Leadership program online in a special 10 year anniversary video.

GROWING TRUST TO BETTER SERVE VEGETABLE GROWERS

Story by Grant Wall
Image by Christopher Gannon

The ability to partner with organizations outside Iowa State provides Ajay Nair and the horticulture team with Iowa State University Extension and Outreach an avenue to reach vegetable growers across Iowa.

Working with organizations like the Iowa Fruit and Vegetable Growers Association (IFVGA) and Practical Farmers of Iowa (PFI), allows ISU Extension and Outreach horticulture specialists to provide research-based information to a larger audience.

"The IFVGA and PFI have embraced us and our research and help a great deal by disseminating our information," says Nair, an associate professor of horticulture and extension vegetable production specialist.

"Many of the field days and workshops we hold are done in partnership with one or both of those organizations."

One of the biggest advantages to these partnerships is that it allows Iowa State researchers to keep their ears to the ground so they are familiar with issues growers are facing in their fields.

"We get to know growers' needs on a real-time basis," Nair says. "They provide great input into areas where there is additional research or extension programming needed. That input helps keep us grounded in the reality of the field."

They have also worked hard to gain the trust of Iowa growers.

"We have a strong network of farmers that are very open about what will help them and what won't," says Liz Kolbe, horticulture and habitat programs manager with Practical Farmers of Iowa. "Ajay is often requested as a speaker from Iowa State because farmers feel that he listens to them and addresses their questions in his research."

Extension staff also present at conferences across the state, providing information to growers in a classroom setting. The presentations help growers get more comfortable with Iowa State specialists, which helps them become more receptive to the information presented.

"When growers see that Iowa State isn't there to just tell, direct and give instructions, they see that we are working with organizations across the state for the betterment of the industry as a whole," says Nair. "That allows them to see us as partners instead of just a top-down disseminator of information."

Above: **Ajay Nair** (right), an extension vegetable production specialist, says partnering with **Liz Kolbe** (left) of Practical Farmers of Iowa, and working with the Iowa Fruit and Vegetable Growers Association allows ISU Extension and Outreach to provide research-based information to a larger audience.

WAVING THE CYCLONE FLAG

Story by Melea Reicks Licht
Image by Jim Heemstra

While her home farm in Linn County, Iowa, flies the "house-divided" flag showcasing both sides of the University of Iowa—Iowa State University rivalry, there's no doubt where Elizabeth Burns-Thompson's loyalty lies.

The manager of corporate affairs for Renewable Energy Group (REG) has a knack for advocating for Iowa State wherever she goes.

Burns-Thompson ('11 agricultural business and international agriculture), of Altoona, Iowa, likes to say, "the busiest people get the most done." And, she gets a lot done.

"Elizabeth is a leading member of our college's young alumni program, the Curtiss League, and chair of the Iowa State University Alumni Association's Young Alumni Council. From guest lecturing, to writing recommendation letters, to supporting the college's student council, she positively impacts the college and our students in many ways," says Daniel J. Robison, holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences.

Her efforts earned her the 2019 Emerging Iowa Leader Award from the Iowa State University College of Agriculture and Life Sciences presented by Robison at center court of Hilton Coliseum during the college's sponsored Cyclone women's basketball game Feb, 9.

Burns-Thompson graduated from Drake University Law School in 2014, is a member of the Iowa State Bar Association and active in the American Agricultural Law Association.

Goals of working in Washington D.C. led her to a degree in agricultural law.

"As the disconnect between producers and consumers grows, it is more important than ever that our legislators understand the agricultural issues they are asked to vote on," she says. "I had a variety of internships, including one at the Council for Agricultural Science and Technology, but one of my favorites was working for a member of the U.S. Senate. That experience was a turning point, and I left wanting to get involved in public policy.

Originally drawn to Iowa State to pursue a career as an agricultural educator, Burns-Thompson was encouraged to consider agricultural business by advisers Ron Deiter, professor, and senior lecturer Ebby Luvaga.

Burns-Thompson has served as president of the Young Professionals in Agriculture central Iowa chapter and remains on their board. Prior to her position at REG she worked for the Iowa Corn Growers Association in government relations and regulatory affairs.

She says she appreciates how her position has allowed her to combine her agricultural upbringing, professional education and public policy interests.

"As the largest biodiesel producer in the U.S., born out of a western Iowa cooperative, we are regularly lobbying on issues to ensure a greener energy future," she says. "The best part of my job is knowing that each day I'm helping support an industry developed in the heartland by Iowa farmers."

Burns-Thompson says the definition of her dream job keeps evolving, but she'll keep waving her Cyclone flag as she charts the next course of her adventure.

Above: **Elizabeth Burns-Thompson** wears a variety of hats in service to agricultural industry groups, legal and professional associations. The agricultural business grad and manager of corporate affairs for Renewable Energy Group says that no matter the role, she's always wearing the hat of a proud Cyclone.

HEAD OF USDA FOREIGN AG SERVICE OFFERS

5 KEY TRAITS OF TOP LEADERS

Story and Images by Melea Reicks Licht

Ken Isley, head of the U.S. Department of Agriculture Foreign Agricultural Service, says countries should regulate food and agriculture based on science and data. His most powerful tool in international trade talks? The American farmer.

"Farmers have the most sincere voice in promoting U.S. ag exports. We love to engage them with overseas consumers whenever possible. They are our competitive advantage," he says.

Isley ('84 agriculture and life sciences education) has roots in his hometown, Pleasantville, Iowa, and his family's Warren County farm where he grew up showing cattle in 4-H and FFA.

As administrator of the USDA Foreign Agricultural Service, he leads 93 offices around the world in expanding trade and export opportunities for American agriculture—totaling approximately $140 billion in exports annually.

"We are working to reform long-term trade barriers with China," Isley says. "We are focused on free, fair and reciprocal trade. Agriculture should be the big winner."

Following graduation from Iowa State, he earned his juris doctorate from the University of Iowa College of Law and worked for a law firm before landing with Dow and Dow AgroSciences, where he worked for 29 years. Isley held various senior leadership roles, including vice president, general counsel and head of the company's global legal department. He also was a special adviser for Corteva Agriscience.

During his tenure in Indiana working with Dow, he became acquainted with the governor at the time—Vice President Mike Pence, and USDA undersecretary, Ted McKinney.

When the call to serve the USDA came from Washington D.C. Isley accepted and was appointed to his current position in March 2018.

He says the Foreign Agricultural Service has three main roles: agricultural trade policy, trade promotion and data gathering and analysis.

"We establish international trade standards, have programs to market agricultural products overseas, work with USAID (United States Agency for International Development) to implement capacity building and development programs and gather and analyze data," Isley says. "Our data is the gold standard around the world for tracking the supply and demand of key agricultural commodities."

He works to ensure market access for U.S. products around the world and his agency supports the Office of the United States Trade Representative in ongoing trade negotiations and matters before the World Trade Organization.

"Building successful relationships is all about connecting people intellectually and emotionally," Isely says. "We soak in the culture while on trade missions, hear from people and see key sites. These relationships lead to successful future trade opportunities."

Isley returned to Iowa State University to present the 2019 Carl and Marjory Hertz Lecture on Emerging Issues in Agriculture, "The Role of the U.S. in the Global Food and Agriculture Marketplace," on April 9.

Danaisa Green, a sophomore in agriculture and society from Salisbury, Maryland, was among the students Isley visited with while on campus.

"His comments relate to three of my classes right now. He really makes me appreciate the material we're covering and think about how I can apply it in real life," Green says. "Mr. Isley's position in the USDA demonstrates I can use my degree from Iowa State to pursue a diverse set of careers."

In addition to sharing his insights and experiences on global trade. Isely shared the five key attributes he believes are essential for successful leaders:

1) Communicate: Be a good listener with the ability to discern fact from opinion and construct your own position. Be persuasive. Inspire people to follow you.

2) Be assertive: Take advantage of opportunities presented and create your own. Seize the moment and make your voice heard.

3) Live with urgency: Life is not like a marathon—you don't know where the finish line is. Act with urgency in your faith, relationships, passion and mission.

4) Build trust: Be trustworthy with superiors, those you supervise and all around you. Work hard, confidently and with integrity.

5) Don't be a victim: Empower yourself. Move from fear and paralysis to courage and action. Remove yourself from the situation if necessary, overcome adversity and move forward.

Left: CALS students, many majoring in global resource systems and agriculture and society, visited with **Ken Isley** while on campus. As part of the informal Q&A Isley offered tips on navigating a career in foreign policy.

Above (Left): Isley presented the 2019 Carl and Majory Hertz lecture at Iowa State on April 9th.

Above (Right): Image by USDA.

STORIES EXTRA: www.stories.cals.iastate.edu
For a link to watch Ken Isley's full lecture and learn more about his experiences leading the U.S. Department of Agriculture Foreign Agricultural Service visit STORIES website.

DEVELOPING STELLAR FOOD FOR SPACE EXPLORATION

Story by Whitney Baxter
Images contributed

> "I hope to one day say I played a small role in getting astronauts back to the moon or maybe even to Mars."

Developing safe, nutritious meals to fuel astronauts' space exploration is no easy task, but Takiyah Sirmons is using her food science degree from Iowa State to take on the challenge.

Sirmons ('08 food science), began her journey to becoming a food scientist when she took part in Iowa State University's George Washington Carver Internship Program as a high school student from Oxon Hill, Maryland. She entered the summer-long "science with practice" program as a forestry and plant pathology intern, but soon became interested in food science after seeing the work fellow interns were doing in that area.

"By the end of that summer, I knew I wanted to pursue a degree in food science and Iowa State was the best fit for me," Sirmons says.

Following her time at Iowa State, Sirmons went on to earn her doctorate degree in food science and technology at Virginia Tech. She later accepted a food scientist position at ConAgra Foods in Omaha, Nebraska, where she spent a year reformulating Chef Boyardee brand pastas.

In pursuit of a more research-based position, she came across a job posting for a food scientist in NASA's Space Food Systems Laboratory at Houston's Johnson Space Center.

"I wasn't entirely sure what that entailed at the time, but understood space exploration was extremely challenging and a lot hinged on the crew's ability to obtain proper nutrition from the food system," Sirmons says. "I viewed the position as an opportunity to contribute not only to my field, but also to my country."

The position turned out to be a role on the operations team contracted to produce foods for consumption on the International Space Station. Sirmons initially coordinated production of NASA's thermally processed foods, then transitioned to her current position as a research scientist on the advanced food technology team.

The team works to identify novel solutions that improve the quality, nutrition and shelf life of foods in order to enable long-duration space missions.

"One of our biggest challenges is developing foods that last several years, meet the crew's nutritional needs and appeal to their senses at the same time," Sirmons says. "It's a unique opportunity to contribute to space exploration. I hope to one day say I played a small role in getting astronauts back to the moon or maybe even to Mars."

Sirmons says she extensively uses what she learned about safe food handling and product development, and is able to communicate effectively to the public due to her experiences and knowledge gained at Iowa State.

The late Sande McNabb, professor emeritus of the Department of Natural Resource Ecology and Management, and Thelma Harding, program director of the Ronald E. McNair Postbaccalaureate Achievement Program, each were instrumental in her success at Iowa State.

As her George Washington Carver faculty mentor, McNabb was the first person she met when she arrived in Iowa from Maryland. He later served as her faculty escort at graduation.

"He was an emeritus professor by the time I met him, but he was extremely passionate about mentoring and recruiting students into STEM fields," Sirmons says. "I couldn't thank him enough for his contributions to my life."

Harding provided Sirmons a platform to conduct graduate-level research and pushed her to achieve excellence in all her studies.

"Without her support and guidance, I wouldn't have gained the experience or confidence needed to succeed in a Ph.D. program," Sirmons says.

Harding recalls Sirmons being a "model" McNair Scholar who completed all of the program's goals and objectives in one year, instead of the standard two years.

"She was our first food science major, and she set the bar high for future McNair students," Harding says of Sirmons. "She was committed, determined and was ready to enter graduate school by the completion of her bachelor's degree, and she has gone on to earn the Ph.D.—the ultimate goal of a McNair Scholar."

Sirmons' journey came full-circle last summer when she had the opportunity to share her experience with Iowa State University George Washington Carver Internship Program participants—the same program that sparked her interest in food science.

"It's actually one of my fondest professional memories, because it brought me back to where my journey first began," Sirmons says.

Sirmons enjoys the challenges developing space food brings and encourages others to think outside of the box when considering a career path.

"If there's one thing I've learned from my career path, it's to be open to all possibilities—you never know where you'll end up," she says.

Above: **Takiyah Sirmons** is a member of NASA's advanced food technology team. She has helped produce foods for the International Space Station and researches ways to prepare foods for long-duration space missions.

CALS STUDENTS RECEIVE BARRON ALL-UNIVERSITY SENIOR AWARD

College of Agriculture and Life Sciences students and a recent alumna were honored with the ISU Alumni Association 2019 Wallace E. Barron All-University Senior Award. Recipients include **Brandon Hanson** ('19 agricultural business, economics, international agriculture), **Rachael Barnes** ('19 global resource systems, biological systems engineering) and **Joi Latson** ('18 global resource systems).

ALPHA GAMMA RHO MEMBERS TEACH AG THROUGH THE ISU 4U PROMISE PROGRAM

Members of the Iowa State University Alpha Gamma Rho chapter are partnering with the ISU 4U Promise Program to introduce King Elementary School students in Des Moines to agriculture. Members travel to the school once a month to coordinate activities related to the majors in the college. The program is a partnership between Iowa State University and the Des Moines Public School District's King and Moulton schools.

KEMP RECEIVES LEADING CHANGE AGENT AWARD

Megan Kemp received the U.S. Forest Service LEADing Change Agent award during the 2019 Minorities in Agriculture, Natural Resources and Related Sciences 34th Annual Career Fair and Training Conference April 6 in Overland Park, Kansas. Kemp ('19 agronomy, global resource systems) was one of five students nationwide to receive the award.

CALS TEAMS ARE TOPS

- **Block and Bridle Annual Convention**, first place, chapter activities; third place, yearbook, National Block and Bridle Convention
- **Collegiate Crops Team**, second place, Collegiate Crops Contest, Kansas City; second place, Collegiate Crops Contest, Chicago; second place, Regional Crops Judging Contest at Oklahoma Panhandle University; third place, Regional Crops Judging Contest at Nebraska College of Technical Agriculture
- **Industrial Technology Club**, Stephen Harris Cup and first place, robotics competition, Association of Technology Management and Applied Engineering
- **National Agri-Marketing Association Club (NAMA)**, Chapter Communications Award; Outstanding Professional Chapter Award; Best Product Name/Product Slogan; second place—John Deere Signature Award, NAMA Student Competition
- **Professional Agricultural Student Organization (PAS)**, first place - overall livestock team, second place - college bowl, National PAS Conference; Premier Chapter Award, Iowa PAS Conference
- **Student Subunit of the Iowa Chapter of the American Fisheries Society,** most active chapter award, Midwest Fish and Wildlife Conference
- **Turf Club**, first place, Sports Turf Managers Association Student Challenge Competition; second place, Golf Course Superintendents Association of America Turf Bowl; Spirit Award, Golf Course Superintendents Association of America

STUDENT SUCCESS

- Professional Ag Workers Conference, Tuskegee University, **Amali Stephens** (second from left), senior in biology, placed first in the poster competition; **Theresa Brehm** (second from right), senior in global resource systems, placed first in the oral presentation competition; **Valeria Cano Camacho** ('19 agronomy, global resource systems) (left), and **Megan Kemp** ('19 agronomy, global resource systems) also participated in the competitions
- **Kevin Falk**, graduate student in agronomy, first place, American Seed Trade Association video contest
- **Ambar Morales Cuadrado**, senior in dietetics and culinary food science, first place, Grain Processing Corporation Food Science Challenge
- **Macy Marek**, senior in ag and life sciences education, outstanding senior member award, National Block and Bridle Convention

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