Veterinarian, Food Animal Veterinary Incentive Program (FAVIP) supporter and former Georgia Gov. Sonny Perdue joins FAVIP alumnus Zeb Duvall at his family’s farm in Greensboro, Georgia. Learn about what CAES is doing to support the health of food animals on page 30.
Then & Now
Rinne Allen, Katie Walker

Calendar

Class Notes

Faculty Notes

Noteworthy

By the Numbers

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The University of Georgia College of Agricultural and Environmental Sciences
Southscapes is published semiannually for alumni, friends and supporters of the University of Georgia College of Agricultural and Environmental Sciences by the CAES Office of External Relations and produced by the CAES Office of Communications and Creative Services.

Online Exclusives

Hugh Acheson, celebrity chef, shares his collard greens gumbo (pictured far left) recipe as part of our “Science Behind Your Supper” section

The 2015-2017 AGL class begins their session to learn to become advocates for agriculture and forestry in Georgia

Departments recognize Outstanding Seniors for 2015 in 19 of the college’s majors

Lew Hunnicutt named to the post of assistant provost and campus director of UGA Griffin

Late dairy farmer Thomas Bredlove Sr. and former Sem. Sadie Chambloka inducted into Georgia Agricultural Hall of Fame

In the spring edition of Southscapes, we asked for your responses to the question, “How can the UGA College of Agricultural and Environmental Sciences community contribute to the world food supply and food security to ensure 9 billion people, globally, are fed?”

I believe one of the ways the University of Georgia College of Agricultural and Environmental Sciences community can help feed 9,000,000,000 by 2050 is by recruiting and retaining high quality students from Latin America. These students are both central to the enrichment of education programs in the U.S. and to future programs for the needs assessment, research planning, implementation and evaluation of solutions to problems of food security, environmental degradation, and economic and social sustainability in the Americas and the world.

—David Funderburke (BS – Animal Sciences, ’81; MS – Animal and Dairy Science, ’85)

“We could feed 9 billion by 2050 with research into transferring and fixing nitrifying bacteria into grain crops, such as corn and wheat. This, the hope goes, would produce their own nitrogen. If this were accomplished, yields of grain would rise across the world. Would this project be difficult? The answer is yes, but all things are possible.”

—Ridley Monk (BSA – ’42)

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“As the economies of emerging nations improve and individual incomes increase, the consumption of protein (in the form of food animals) generally increases as well. Both the quantity and efficiency of the production of food derived from animals will need to improve to keep pace. Students trained in production practice, research scientists, and veterinarians working together will all play a critical role in helping meet the future demands that will be placed on animal agriculture.”

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‘Till’ We Meet Again

During the decade that Dean J. Scott Angle led the UGA College of Agricultural and Environmental Sciences, he expanded CAES enrollment by 30 percent, attracted nationally known researchers and teachers and created an environment that strengthened UGA Cooperative Extension. These challenges were tackled during some of the most formidable budget crises Georgia has seen in decades. In September 2015, Angle left CAES to serve as president and CEO of the International Fertilizer Development Center, an organization focused on increasing food security and agricultural productivity in developing countries. His expertise as a soil scientist and experience working with land-grant universities will be invaluable in this new role, he said.

Anyone who has heard Angle speak over the last decade knows that he believes the only way the world will meet the nutritional needs of the future is through land-grant research and shared with farmers through Extension. he believes the only way the world will meet the nutritional needs of the future is through land-grant research and shared with farmers through Extension.

GEORGIA AGRICULTURE

Angle’s refrain over the years has been that Georgia is perfectly situated to become the leading food producer for the world. “As California and the South—west run out of water, and the northern part of the country is just too cold to push productivity past where it is, it really is coming down to the Southeast,” Angle said. “Georgia, being the biggest state in the region, is going to be the major player.”

The right geography, paired with deep ports and intricate transportation systems, will allow farmers to easily export their goods. Coupled with strong institutional support for agriculture, the stage is being set to make the state’s largest industry even larger.

DEAN ANGLE’S LEGACY

44 YEARS WORKING IN AGRICULTURE
30 PERCENT INCREASED CAES ENROLLMENT
292 STUDENTS BENEFITTING FROM DEANS’ PROMISE

College researchers have always focused on developing more resilient and more productive crop varieties, perfecting water- and soil-saving production methods, controlling pests and automating farm work. That work will continue, but it will have to become more technology centered to meet the needs of a growing planet, Angle said. “Agriculture has the potential to grow, but can’t without high technology. (Colleges of agriculture) are going to be the ones in the perfect position to ensure that agriculture can continue to grow,” he said. “We’re really getting into some complicated problems, and no one discipline, and probably no one college or university, can solve them alone.”

Farming with advanced technology will necessitate more information from UGA Extension agents and the Extension county delivery system on demand. “There’s going to be a need for a lot of new information,” he said. “So much of what Georgia is going to require means people in the field, looking at the problems and making recommendations. The fact that we maintained our county Extension delivery system turned out to be a really good decision, a fortuitous one, because what is going to be needed in the future is what we have maintained.”

Angle’s final hope is that CAES will continue to increase enrollment to train the people needed in research and Extension. “The average person in Atlanta doesn’t know there are good, high-paying, morally responsible jobs feeding the world right here in Georgia,” Angle said. “We just don’t have enough kids studying agriculture to meet future needs. Someone will have to find a way to light these young people up in the urban and suburban areas in this industry.”

“We’re always going to be a big producer of cotton and peanuts,” Angle said. “But, we’re going to be stacking a more diverse mix of crops on top of that, and that’s where the vegetables come in. The specialty crops like tree nuts and ornamentals, they’ll all continue to grow as they have for the last couple of years. What I’m predicting isn’t actually that hard to predict because we’re in the middle of it.”

The key will be growing these new agricultural sectors while planning for the future. There are many lessons to be learned from the growth of vegetable and fruit agriculture in California and Florida. CAES research will help Georgia agriculture grow in a sustainable way that preserves water and soil health for the next century.

LEADING CAES

As the college moves forward, more research will focus on producing more with less—higher yields with less water, fewer inputs, fewer farm workers. “A big part of our future is going to be helping farmers reduce inputs,” Angle said. “That’s a place where land-grant institutions can shine.”

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Eddie Remsberg / Remsberg.com

Dean Angle talks with Young Scholars participants during the “Day with the Dean” on May 15, 2015.

“I have been an honor to serve you all as dean and director of the college for the past 10 years. I have learned so much from this experience and gained many treasured friendships that I’m fortunate to take with me on this grand adventure in my life. I am leaving Georgia to lead an international nonprofit that helps farmers in developing countries improve soil productivity. This move allows me to return to my roots in soil science, while exploring my passion for working in Africa. I’m excited to be charting this new course in my career and am confident that the college is in capable hands with Joe Broder at the helm as interim dean during the national search for a new leader. Joe has been a part of this college for most of his life, first as a Henry County 4-Her, then as a CAES student, a revered agricultural economics professor and as an administrator. He knows every facet of the institution and all the intricate rigging that keeps the college afloat. He knows the role of dean well, too, having served as interim dean prior to my arrival. He has been outstanding as our associate dean of academic affairs for the past 10 years, helping to grow our student body to new heights in both numbers and quality. Under his guidance, we have improved diversity among our students and faculty, and now graduate some of the highest paid, most employable students on campus. We lead UGA colleges in percentage of students going to graduate studies and professional programs. Joe has a special personal story in agriculture and exemplifies what this college means to the university, to the state and to the people we serve. He will bring that wealth of personal experience, knowledge and wisdom to keep the wonderful things we have started together moving forward.

I know you will show him the same strong, unwavering support you have graciously shown me over the past decade. Your support is irrevocable to the success of any dean and to this college. Fair winds and following seas, my friends.

Joe J. Scott Angle
Dean and Director
College of Agricultural and Environmental Sciences

Merritt Melancon

J. Scott Angle
Dean and Director
College of Agricultural and Environmental Sciences
Female mosquitoes take in between 0.001 and 0.01 milliliters of blood in a meal. Male mosquitoes don’t consume blood at all. Both male and female mosquitoes feed on plant nectar for energy.

—AMERICAN MOSQUITO CONTROL ASSOCIATION

The yellow fever mosquito, *Aedes* *aegypti,* has a worldwide distribution in the tropics and subtropics, where it is the main vector of both the dengue fever and yellow fever viruses.

—GEORGIA DEPARTMENT OF PUBLIC HEALTH

Mosquitoes don’t travel more than a half-mile from their breeding place.

—GEORGIA DEPARTMENT OF PUBLIC HEALTH

Georgia is home to 63 mosquito species.

—“STINGING AND BITING PESTS,” BY BEVERLY SPARKS

and revised by ELLEN GRAY, UGA EXTENSION

Female mosquitoes take in between 0.001 and 0.01 milliliters of blood in a meal. Male mosquitoes don’t consume blood at all. Both male and female mosquitoes feed on plant nectar for energy.

CAES RESEARCHERS DECODE MOSQUITO REPRODUCTION

CAES ENTOMOLOGISTS unlocked a hormonal mechanism that allows *Aedes aegypti,* or the “yellow fever mosquito,” to reproduce. This work may lead to better mosquito control and insecticides. Female mosquitoes, including *Aedes aegypti,* have to consume a blood meal from a vertebrate before laying eggs. The consumption of blood triggers the mosquito’s brain to produce two hormones that stimulate egg production—insulin-like peptides, known as ILPs, and ovary ecdysteroidogenic hormone, or OEH. In 2008, work by co-authors Mark Brown, a UGA entomology professor, and Michael Strand, a UGA Regents Professor of entomology, identified the ILP receptor of *Aedes aegypti,* revealing details about its role in egg formation. OEH is equally important, but its receptor was more difficult to identify. The group compared the genomes of *Aedes aegypti* and two species of fruit flies, one that produced OEH and one that did not, in order to identify candidate genes for the OEH receptor, said co-author Kevin Vogel, a postdoctoral fellow in the UGA entomology department.

The researchers identified a gene in *Aedes aegypti,* named “AEL001915,” as an OEH receptor. Studies showed that disruption of AEL001915 inhibited egg formation. “This receptor fills a major gap in our understanding of the regulation of mosquito reproduction,” Strand said. “Going forward, we are well positioned to better characterize the steps leading to egg production and potentially identify points where we can disrupt reproduction and control mosquito populations.”

—Mark Brown

UGA Office of Sustainability awards grants to campus environmentalists

Two College of Agricultural and Environmental Sciences students used their academic experiences to effect lasting change on the university’s Athens Campus.Crop and soil sciences doctoral candidate Chase Straw, of Frankfort, Kentucky, and Mitch Reynolds, a senior from Stone Mountain, Georgia, studying environmental economics and management, received grants from the UGA Office of Sustainability to tackle on-campus projects.

Straw used his $5,000 grant to create site-specific management plans for some of the campus’s lawns and intramural sports fields to reduce the use of water and other inputs necessary to maintain these landscapes. Reynolds is using a $2,921 grant to build a biodiesel processor for a tractor to be used at UGArdens, a student-run farm on campus.

SMARTER TURF MANAGEMENT

Straw used technology and research pioneered by the UGA Turf Sciences Team to improve the management of the university’s fields and lawns. He developed site-specific management plans for about a dozen of the campus’s large grass areas used for everything from club rugby to Frisbee games. Straw’s management plans use water and energy more efficiently while keeping the campus beautiful.

“I created a map of each field,” Straw said. “They’re visual maps so they’ll be able to use them however they’d like.” Straw used a state-of-the-art mobile multi-sensor sampling device, the Toro Precision Sense 6000, towed by a utility vehicle, to create a set of compaction and drainage maps for each field and lawn. This new technology, which is still being studied, has been deployed at high-end golf courses and collegiate and professional sports complexes.

The P56000—equipped with varied sensors—allows for rapid measurements of soil moisture, soil compaction and plant performance, all while using GPS to create a detailed map of each field. The maps will help the university’s facility maintenance crews better manage each field by “focusing inputs only where, when and in the amount needed to reduce turf, labor and costs, and also for a more sustainable approach to turfgrass management,” Straw said.

Continued on next page

More than 1 million people die from mosquito-borne diseases annually, according to the American Mosquito Control Association. In a college lecture in March 2015, U.S. Global Malaria Coordinator Admiral Timothy Ziemer, of the U.S. President’s Malaria Initiative, talked about the last decade’s 40 percent worldwide reduction in malaria deaths. Learn more at [http://go.uga.edu/1J1](http://go.uga.edu/1J1).
Most of the fields on campus tend to be in better shape than other community sports fields that Straw and his advisor, UGA Athletic Associates-endowed Associate Professor Gerald Henry, have mapped, largely because the university’s fields get a break from heavy use in the summer.

Straw did find that different intramural fields and areas on campus had very diverse compaction and drainage characteristics. Knowing this will help facility crews cycle game play around the intramural complex so individual fields won’t be overburdened during recovery, he said.

“Field to field, we did see a lot of variability,” he said.

Knowing about that variability will allow crews to focus irrigation, fertilizer and mechanical maintenance efforts on the fields that need it, making the entire process more sustainable.

Good Grazes

Rotational grazing reduces carbon footprint by rapidly restoring soil

S
oil contains the largest terrestrial reservoir of carbon, and tilling fields to plant crops releases soil carbon into the atmosphere. Transitioning cropland to pasture-based means grazing livestock to replenish the soil’s carbon, and a study by college researchers showed this process to be much more rapid than previously thought.

“In less than a decade, management-intensive grazing restores these soils to levels of organic matter they had as native forests,” said Aaron Thompson, CAES associate professor of environmental soil chemistry and senior author of the study. “These farms accumulate soil carbon at rates as fast as ever measured globally.”

In the first six years after converting to intensively managed pasture land, the rate of soil carbon increase was so high that capturing the carbon in the soil could help offset the planet’s rise in atmospheric carbon dioxide. Pastures that are managed using intensive-grazing principles can capture up to 6 tons of carbon per acre annually in the soil.

The study, published in the journal Nature Communications by Megan Macbennol, who worked on the project as a doctoral student in the university’s Odum School of Ecology, tracked changes in soil organic matter on Georgia farms that converted from growing row crops to producing milk as grass-fed dairies within the last six years.

On most North American dairies, hay and silage crops are cultivated to store biomass and reduce carbon dioxide emissions through crops. Research has found that rotational grazing, the cows spend 90 percent of their time in the pasture. While the retrofitted tractor made its debut in late July, the project is still in the works.

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“Knowing about that variability will allow crews to focus irrigation, fertilizer and mechanical maintenance efforts on the fields that need it, making the entire process more sustainable.”
Used by livestock producers, students celebrates fifth edition in 2015

"Southern Forages," Go-to book

"Southern Forages," Modern Concepts for Forage Crop Management. Co-authored by the university's own Carl Hoveland, professor emeritus in the College of Agricultural and Environmental Sciences Department of Crop and Soil Sciences, the book is used as the course text at 60 universities across the United States, and is printed in Chinese and Spanish as well as English. In taking on the project in 1991, the approach by the book's three authors—Hoveland, along with Auburn University's Don Ball and University of Kentucky's Garry Lacefield—was to pen information about forages, their establishment, production and use, in a manner easily understood by the common livestock producer. Charts, tables and color photos illustrate and help to explain the text. Measurement conversions are also available.

"We were taking hard-to-understand scientific principles and breaking them down in a language that more people could understand," Hoveland said. Feedback from producers indicates that the approach, the information and the language in which it's presented make a difference, according to Hoveland.

"They're (producers) come up and said, 'Well, it's helped me and my farm,'" Hoveland said. "I remember one who came up to us at a meeting in north Georgia and said, 'I want you to know I was losing money here, farming. (After reading the book) I'm in the profit column.'"

Initially published specifically for livestock producers, Hoveland started using "Southern Forages" as his course text when he noticed the prescribed textbook wasn't effective.

"I started using it, then others started picking it up. Students just weren't reading that other, expensive textbook. Other teachers tell me their students are reading the book now," he said. "I've checked, and very few of these (are sold back to the bookstore at semester's end). There are very few used copies for sale."

Beyond developing a better understanding of the science of forage management, Hoveland hopes the book changes the way producers think about forages.

"So many (producers) think of pastures simply as a place you turn animals in to and it's not managed as a crop," he said. "Look upon that grass as a crop to be managed with the animal."

Though he retired from the university in 2007—he taught and did research and Extension work for 25 years, and was at Auburn University for 22 years before that—Hoveland leads an active life, at age 87, enjoying music, theater, reading, cooking and friends, and he continues his writing projects in his office in the Miller Plant Sciences building on campus.

"Of all the things I've done in my career, I consider this (co-authoring 'Southern Forages') to be of the most value to my profession," he said. The book continues to sell well in the South and around the country, according to Hoveland.

Hoveland has also published a personal book, "Sand Creek: A Childhood Legacy," about growing up on a dairy farm in a Norwegian-speaking community in northern Wisconsin. He is a 2011 inductee into the Farm Foundation of Wisconsin and the American Dairy Science Association's Hall of Fame.

"We were taking hard-to-understand scientific principles and breaking them down in a language that more people could understand."

CARL HOVELAND

PARTNERSHIP HELPS NEW FARMERS GROW SKILLS

CAES, ALONG WITH the UGA Small Business Development Center, Georgia Organics, Fort Valley State University, AgSouth Farm Credit and other partners, developed the Journeymen Farmer Certificate Program to help beginning farmers achieve success and sustainability. The partnership, which includes UGA Cooperative Extension agents, the U.S. Department of Agriculture and the Georgia Fruit and Vegetable Growers Association, will use a $652,000 USDA grant to provide three years of statewide training starting this fall.

"Many young people interested in farming don't come from a farming background," said Julia Gaskin, UGA's Sustainable Agriculture Program director. "We have been interested in developing a training program to help this group and those currently farming who want to improve their operations. We are also reaching out to limited resource farmers and veterans."

The UGA Small Business Development Center and AgSouth will provide business planning workshops. CAES, UGA Extension and Georgia Organics are providing fruit and vegetable production training and coordinating mentorships. Tom Terrill and Nikki Whitley, small ranchers at Fort Valley State University, will lead small rancher training development.

"To assure a continued sound national agricultural industry in our nation it is essential that we provide financial literacy and risk management training for the next generation of farmers," said Van McCall, AgSouth's AgAware program director. "AgSouth made a commitment to agriculture's future through development of our national award-winning AgAware program."

Merritt Melanson

Field Log

Anthropologists bridge the gap between research and farmers

Using a broader lens than most quantitative researchers, anthropologists have filled an important niche in research at the College of Agricultural and Environmental Sciences Department of Crop and Soil Sciences. Jennifer Jo Thompson, a cultural anthropologist, joined the faculty in 2013. Carrie Furman, an environmental anthropologist, has been working at UGA in biological and agricultural engineering since 2008 and in the department since 2012.

Furman studies local food networks through food hub development in Georgia. She investigates the ways farmers are—or are not—changing their practices to adapt to weather and climate change. Furman is also looking for better ways to connect them with new agricultural research.

Thompson studies public engagement with agricultural science, specifically the impact of the farm-to-school boom, from the impact of school gardens on students to the barriers that keep local food out of cafeteria kitchens. Both researchers also get called on to weigh in on research and outreach, and to answer the question, "Did it work?"

Thompson said:

When anthropologists investigate an issue, they often observe “real-world” behavior and conduct interviews of groups of people to create an ethnography, or description of how people live and what matters to them. This is often different from program evaluation surveys, which ask a predetermined list of questions. Using that set list of questions may produce quantifiable data on a program’s impact, but it also may miss unforeseen benefits or harm that the program may cause. Sound ethnographic and qualitative research contributes to the development of better instruments to measure programs’ impact.

“Sometimes I feel like my job is, maybe, uncovering what things we are taking for granted—but that isn’t really the case—or identifying unexpected barriers or challenges,” Thompson said. “If it’s unexpected, any survey that we built up front would not have caught it. That’s the beauty of what cultural anthropology brings to the table... I bring the perspective that we may not know what we’re looking for when we walk in the door.”

Merritt Melanson

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A newly endowed professorship, by food scientist and D.W. Brooks Distinguished Professor Emeritus Larry Beuchat, will promote further horticulture research and partnership between the College of Agricultural and Environmental Sciences Department of Horticulture and the university’s State Botanical Garden of Georgia.

The Larry R. Beuchat Professorship for Annual and Perennial Ornamental Plant Research will help to supplement and eventually fund one, primarily research, position in the Department of Horticulture housed at the State Botanical Garden in Athens, Georgia, and further strengthen the ties between the department and the garden.

“While the relationship between (the Department of) Horticulture and the (State Botanical) Garden has been and continues to be close and collegial, the Larry Beuchat Professorship solidifies our research and teaching partnership in perpetuity,” said Wilf Nicholls, director of the State Botanical Garden.

“This professorship mandates there will always be a professor here with one foot in the horticulture department, and one foot in the State Botanical Garden.”

A food scientist who has conducted research at the Center for Food Safety on the CAES Griffin Campus for 43 years, Beuchat developed an interest in horticulture early in his career and even received his bachelor’s degree in horticulture. “I’ve always had an interest in horticulture, and I’d like to contribute to advancing the science through research,” he said.

In addition to research on ornamentals in the garden, considered a 320-acre “living laboratory,” the professorship will also include a teaching element. Graduate students will help with research related to the professorship. “I hope the research will include students and interns who might contribute as part of the research that will be done using the funds I have provided,” he said.

A Living Laboratory
Faculty member establishes research position at State Botanical Garden

“The Beuchat Professorship will further expand the Department of Horticulture’s world-class prominence in ornamental plant breeding and plant introductions,” said Doug Bailey, head of the Department of Horticulture.

“We are excited about the potential research and ornamental plant releases that will now be possible through Dr. Beuchat’s generous support.”

• Kathryn Schiliro

2015 Congressional Agricultural Fellows

1. Ethan Perkins, of Brooklet, Georgia, an agricultural communication major—Rep. Rick Allen’s office
2. Matthew Pace, of Lyerly, Georgia, an agricultural and applied economics major—Sen. Johnny Isakson’s office
3. Kelsie Bickett, of Chickamauga, Georgia, an agricultural communication major—Sen. David Perdue’s office
4. Dowdy White, of Cordele, Georgia, an agricultural communication major—Rep. Sanford Bishop’s office
5. Katelin Benkoski, of Madison, Georgia, an animal science and agribusiness double-major—Rep. Buddy Carter’s office
6. Casey Chastain, of Helen, Georgia, an agricultural communication and agricultural education double-major—Rep. Doug Collins’ office

(not pictured) Nicole Holden, of Greensboro, Georgia, an agribusiness major—Rep. Austin Scott’s office

Each summer, they take up residence among the sun-soaked, neoclassical structures—homes of the country’s lawmaking bodies, regulatory agencies and monuments—that flank the Potomac.

As interns, they get a front row seat to legislation—the process, the gridlock, the communication and relationships that make it work.

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3. Kelsie Bickett, of Chickamauga, Georgia, an agricultural communication major—Sen. David Perdue’s office
4. Dowdy White, of Cordele, Georgia, an agricultural communication major—Rep. Sanford Bishop’s office
5. Katelin Benkoski, of Madison, Georgia, an animal science and agribusiness double-major—Rep. Buddy Carter’s office
6. Casey Chastain, of Helen, Georgia, an agricultural communication and agricultural education double-major—Rep. Doug Collins’ office

(not pictured) Nicole Holden, of Greensboro, Georgia, an agribusiness major—Rep. Austin Scott’s office

Headed for the Hill

College of Agricultural and Environmental Sciences students are no exception. Since 1997, the college has sent nearly 90 students to the District of Columbia through the 12-week Congressional Agricultural Fellowship program.

“This is a premiere internship program at UGA, even in the country,” said Josef Broder, CAES associate dean for academic affairs and the college’s interim dean. “It’s the cream of the crop.”

THE LATEST CONGRESSIONAL AGRICULTURAL FELLOWS
This year’s crop of Congressional Agricultural Fellows was tasked with everything from researching agricultural issues, to writing legislators’ speeches, letters and memos, to attending meetings. “Each day I went into work, I never knew what to expect,” said fellow Kelsie Bickett.
Expressing her interest in furthering agricultural education, Casey Chastain, an agricultural communication major, was encouraged by a legislative assistant in Rep. Doug Collins’ office to compete for research and reporting internships. Advanced Placement (AP) agricultural classes. “After a few weeks of research and several drafts, I was able to send a letter to (Congressman Collins) to the CEO of the College Board requesting information on AP classes and the next steps that needed to be taken,” Chastain said.

She also was asked to write a speech for Rep. Collins, and her work was recognized while Collins was making the speech on the floor of the U.S. House of Representatives. “While he was giving the speech, Congressman Collins gave me a personal shoutout,” she said.

Karin Benkoski, a double-major in animal science and agribusiness, worked in Rep. Buddy Carter’s office. She was asked to weigh in on the Safe and Accurate Food Act of 2015 (H.R. 5159) and its proposed amendments. “Through my experiences in my own animal science courses, I was more knowledgeable when the COOL (Country of Origin Labeling) issue was introduced and discussed. I was better able to write quality memoranda and co-sponsor sheets,” she said. “It’s not every day that a college student is asked for their opinion on something so big.”

Bickett, an agricultural communication major, prepared Sen. David Perdue’s staff for his trip back to Georgia “to see firsthand the devastation of the porcine (avian influenza) outbreak felt by pork producers of his state,” Bickett said. “I hope that the pork producers there are able to learn and learn about both Georgia’s poultry industry and the recent AI (avian influenza) outbreak. I feel as if it incorporated skills that I learned in the field, but also stretched me in a way that stimulated mental growth.”

Fellows agree that the program provided better comprehension—and an understanding of the importance of—government and agriculture’s relationship. “With agriculture supporting such a large part of our state economy, it is vital that we understand how legislation, regulatory affairs, and applied economics major Matthew Pace, who worked in Sen. Johnny Isakson’s office. “It’s important for Georgia agriculture to maintain a strong and respected presence on and off the Hill, and I hope to join the team that represents Georgia so well.”

HOW IT WORKS

The Congressional Agricultural Fellowship was established in 1997, when then-Rep. Saxby Chambliss approached then-Guy Culhane Buchanan about an internship from the college of agriculture and environmental sciences. Buchanan was a select classmate of his from Washington State University, and the two became friends. “Guy wanted me to get a sense of what goes on in the Hill area, and he helped me understand how our nation’s essential economy is a very special learning opportunity. The college has a long history of successes stories because of this program, and they continue to improve with time,” he said.

In Rep. Austin Scott’s office in 2012, Zellie Duvall (BSA – Agricultural Economics, ’10) worked as a fellow for Sen. Saxby Chambliss. She said, “I was so intrigued and, after I graduated, I had to move back.”

She now works as professional staff for the Senate Committee on Appropriations’ Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies. Since graduating from the college, she’s worked as a legislative assistant for Sen. Saxby Chambliss and David Perdue.

Driven by an interest in public policy, specifically relating to agriculture and federal policy, current Georga Sen. Tyler Harper (BSAE – Agricultural Engineering, ’09) worked as a fellow for Sen. Chambliss in 2007. At the time, he was the Republican ranking member of the Senate Committee on Agriculture, Nutrition, and Forestry and had just completed his term as chairman of the committee. Harper “worked under folks writing agricultural policy at the federal level,” he said. “These were the guys crafting the farm bill.”

“It’s hard to teach true public policy in the classroom, but to experience it is an opportunity to understand how one knows the process is all about,” Harper said. “If you’re like me, with a little bit of a farm kid, you can’t escape the deep involvement in the legislative process.

In 2010, Mark Smith (BSA – Agricultural Communication, ’10) served in Rep. David Scott’s office, where the fellowship tested his education. “Knowing how to produce quality research and writing, quickly, was the most valuable skill I used on the Hill every day,” he said. “The experiential learning opportunities and dedicated support network of the college have continued to pay dividends, even five years out.”

Kathryn Schilén

THE GEORGIA LEGISLATIVE INTERNSHIP PROGRAM

The Georgia Legislative Internship program is a perfect fit for students interested in the big picture of production agriculture,” said Bryan Tolar, Georgia Agribusiness Council president, of why the council contributes to the program. “Engaging in policy issues with leaders who influence the agricultural landscape, enhance economic development, and advance our nation’s most essential economy is a very special learning opportunity. The college has a long history of success stories because of this program, and they continue to improve with time. We thank CAES and the members of Congress for partnering to provide this insider experience.”

During his fellowship year, former Sen. Chambliss said, “I needed someone who knew something about Southern agriculture—peanuts, cotton and tobacco. I created this agricultural internship program with the university to develop a pool of potential staff members who knew about agriculture, but they all knew Midwest agriculture as opposed to Southern agriculture,” he said.

Bickett wondered if the program was a witness to the full committee markup of the farm bill that did not pass until 2 a.m.—a day that most would not want to take part in. “This is the full committee markup of the farm bill that did not pass until 2 a.m.—a day that most would not want to take part in. This is the full committee markup of the farm bill that did not pass until 2 a.m.—a day that most would not want to take part in.”

Closrly to home: georgia legislative internship

Learn more about these programs at http://ugaag.org/weston.
Beacon of South Campus

Construction of UGA’s $44.7 million Science Learning Center is nearing completion.

All of 2016 will mark a change to the face of South Campus. In an effort to accommodate students intending to major in the sciences, a new Science Learning Center is being constructed. Existing science buildings, many built in the 1960s, reached maximum capacity and are no longer as suitable for teaching science. The center moved to the top of the university’s capital list in 2014, and ground was broken on the site, on the D.W. Brooks Mall across from the Miller Plant Sciences building, in August of that year.

“We say on this campus that every decision we make should be for the benefit of our students; that the students should come first,” said UGA President Jere W. Morehead at the groundbreaking ceremony. “The Science Learning Center is certainly emblematic of that philosophy.”

The $44.7 million, state-funded, 122,500-square-foot facility will house biology, chemistry, organic chemistry and physics classes in its 33 laboratories, two 280-seat lecture halls and two 72-seat Student-Centered Active Learning Environment for Undergraduate Programs (SCALE-UP) classrooms, which facilitate interactions among students and with their teachers.

- Samantha Anderson

View a time-lapse of the construction at tiny.cc/scibuild.

SCIENCE LEARNING CENTER BY THE NUMBERS

- 33 INSTRUCTIONAL LABORATORIES
- 72 SEATS IN EACH OF TWO SCALE-UP INTERACTIVE CLASSROOMS
- 122,500 TOTAL SQUARE FEET

ALUMNI: WIN A SHIRT! TO ENTER, SEE PG. 47

FITS TO A ‘T’
NEW CAES SHIRTS IN BOOKSTORE

Wear your support! The college has new T-shirts available at the UGA Bookstore, next to the Tate Student Center on the Athens Campus. Created by student designer Caitlin LeMoine (pictured at left), the black-and-white illustration depicts the subjects of CAES majors on a red shirt with the college’s logo on the front. You can also purchase the shirt in the bookstore’s online store at tiny.cc/agshirt.

With each academic year, the College of Agricultural and Environmental Sciences names new CAES Ambassadors at the college’s three campuses. Interested undergraduate students go through a rigorous application process, including a written application and in-person interview. Throughout the year, CAES Ambassadors speak to school and community groups about the college and agriculture, assist at events and help with recruitment efforts.

Kathryn Schiliro

ATHENS CAMPUS
Alexis Barnes, of Decatur, Georgia, food industry marketing and administration
Haley Cook, of Franklin, Georgia, agribusiness
Eythran Franklin, of Dacula, Georgia, food science
Tess Hammock, of Forsyth, Georgia, agricultural communication
Courtney Jackson, of Barnesville, Georgia, agricultural communication
Andrew Lovett, of Sparks, Georgia, agriscience and environmental systems
Erich Meyer, of Winterville, Georgia, agribusiness and applied economics
Matthew Pace, of Lyerly, Georgia, agricultural and applied economics
Ethan Perkins, of Brooklet, Georgia, agricultural communication
Kristen Purvis, of Glennville, Georgia, animal science and biological science
Charice Stroed, of Stone Mountain, Georgia, agribusiness and food industry marketing and administration
Michael Thompson, of Toccoa, Georgia, agribusiness
Sarah Jane Thomsen, of Salem, Virginia, animal science
Jake Todd, of Adel, Georgia, agribusiness
Dowdy White, of Cordele, Georgia, agricultural communication

GRIFFIN CAMPUS
Ryan Hodgson, of Griffin, Georgia, environmental resource science
Kaitie Mays, of Peachtree City, Georgia, agribusiness

TIFTON CAMPUS
Sydni Barwick, of Boston, Georgia, agriscience and environmental systems
Kailie Bennett, of Douglas, Georgia, agricultural education
Will Burt, of Moultrie, Georgia, agricultural education
Ashley Carroll, of Moultrie, Georgia, agricultural education
Jared Gilles, of Waycross, Georgia, agribusiness
Lindsey Hall, of Woodstock, Georgia, agricultural education
Hannah Queen, of Smyrna, Georgia, agricultural education
Ray Sanders, of Brooklet, Georgia, agricultural education
Jodie Stringer, of Thomasville, Georgia, agricultural education
Roseanna Vola, of Ringgold, Georgia, agricultural education
Martin Watt, of Perry, Georgia, agricultural education
Chris Webb, of Adel, Georgia, agriscience and environmental systems
Painting the Town Green

Georgia 4-H Gala in Atlanta breaks fundraising record

With Grammy-award-winning artist and Georgia 4-H alumna Jennifer Nettles as honorary chairperson and former state leader Roger C. “Bo” Ryles receiving the Georgia 4-H Lifetime Achievement Award, the 2015 Georgia 4-H Gala was the organization’s most successful event to date.

More than 600 Georgia 4-H alumni and supporters gathered at the Loews Atlanta Hotel on Aug. 8 and raised over $313,000 through sponsorships, ticket sales, auctions and gifts.

“We’re thankful to the volunteers, 4-H youth development professionals, alumni and friends who support Georgia 4-H and make it grow,” said Mary Ann Parsons, executive director of the Georgia 4-H Foundation. “The gala gives us a platform to share our latest 4-H stories and celebrate the generosity of the individuals who understand how their support can make a remarkable difference in a young person’s life.”

Proceeds from the event will be used to enhance leadership development and performing arts programs, including Clowers and Company. The program was co-founded in 1981 by Ryles, of Bogart, Georgia, whose work with the University of Georgia 4-H youth development program spans more than 35 years, including his service as the state 4-H leader from 1994 to 2009. Ryley still volunteers with 4-H, while also working part time for both the National 4-H Council in alumni relations, and UGA as a senior public service associate, teaching about leadership and Cooperative Extension administration in the College of Agricultural and Environmental Sciences Department of Agricultural Leadership, Education, and Communication.

“Leadership is one of our hallmarks and permeates much of what we do in 4-H, so I see it as very important that we provide funding, resources and opportunities,” Byles said. “What we have learned is that, when young people are given that opportunity to perform, and they see 4-H as a forum for that, they’ll stay and do all of the other great stuff we have to offer. Performing arts projects are now the largest ones (in project achievement) year after year.”

Nettles was a member of Clowers and Company from 1986 to 1993, an experience to which she attributes her professional skills. She was a 4-H state officer, counselor at Rock Eagle 4-H Center and achieved the title of “Master 4-H'er,” the highest award offered by 4-H, for her performing arts talent. Today, she’s a national spokesperson for the organization. She was joined on stage at the gala by Byles and, later, a handful of current Clowers and Company members to perform a few of her well-known songs.

Clockwise, from far left: Jennifer Nettles, Georgia 4-H alumna and Grammy-award-winning singer, was named honorary chair of the Georgia 4-H Gala. She performed with members of Clowers and Company during the event. Mary Ann Parsons, executive director of the Georgia 4-H Foundation (left), and Arch Smith, state 4-H leader (right), present the Georgia 4-H Lifetime Achievement Award to former 4-H state leader and current volunteer Bo Ryles.

Photos by Ronnne Owings

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Seven former Georgia 4-H’ers have taken the program’s lessons to heart and are serving as college student government presidents.

“During my time as a 4-H member, I gained the leadership and communication skills that motivated me to take on the role of Student Government Association (SGA) president,” Caitlan Coleman said. “I became involved with student government because I wanted to encourage and empower the student body to stand up for what they believe in and also strive to do their very best in all endeavors.”

“I want to influence others to get out of their comfort zones, try something new, get involved and build relationships with people who may not even be in their particular school of study,” Taylor Martin said. “I want to see an open-mindedness and a strong desire to make a difference, an aspiration influenced by my experience in 4-H.”

State 4-H Leader Arch Smith is not surprised by the students’ presidential rankings. “There are many leaders in business, industry and public sector entities who learned their leadership skills in 4-H,” Smith said. “Georgia 4-H has been training future leaders for 110 years. We offer many opportunities for 4-H members to develop leadership and other life skills.”

“My vision is to be in a position to empower others in order to promote their growth and personal development,” Johnelle Simpson II said. “Without the public speaking and professional skills gained in 4-H, I would not have been able to accomplish all that I have in college.”

These students stay connected to Georgia 4-H. Simpson is on the Georgia 4-H Board of Trustees, and Jackson is a Georgia 4-H Advisory Committee member and program assistant for Baldwin County Extension. Slaton worked as a camp counselor this summer at Wahsega 4-H Center, and Price worked as a camp counselor at Fortson 4-H Center. • Sharon Doxey
Teaching on My Mind

College hosts North American agriculture teachers conference

A n associate professor and graduate coordinator in the College of Agricultural and Environmental Sciences Department of Agricultural Leadership, Education, and Communication, Nick Fuhrman inspired fellow educators this summer. During his keynote speech at the North American College and Teachers of Agriculture (NACTA) conference, Fuhrman advocated “turning down the noise” of distractions in the classroom. He encouraged thinking outside of the box with activities like acting out a skit or teaching with animals, all demonstrated with the help of his friend, Misty. Misty is Fuhrman’s gopher tortoise.

A conference for teachers of agriculture not only means a gopher tortoise in a keynote speech, it includes Georgia 4-H’s Clovers and Company performing on stage and tours of numerous local farms and gardens. Members of NACTA, a professional society that focuses on the scholarship of teaching and learning in agricultural, food, and environmental sciences, gathered on UGA’s Athens Campus June 16–20, 2015, with more than 300 faculty and graduate students from across the U.S., Puerto Rico and Canada in attendance. The conference focused on service-learning strategies, curriculum development, student recruitment, experiential learning and other topics facing higher education instructors across the country. “We strive to provide engaging, challenging instruction that prepares our students to become the next leaders in the world of agricultural and environmental sciences. These types of professional development activities give faculty the opportunity to share their experiences and knowledge, and to learn from each other,” said Jean Bertrand, assistant dean for academic affairs at the college and planning chair for the event. “Hosting the NACTA conference for the first time at UGA was also a tremendous opportunity to showcase our college, as well as our beautiful campus and state.”

• Josh Paine

AG DAWGS COME HOME

About 10 former undergraduate and graduate students of the college returned to the university’s Athens Campus in June 2015 for the NACTA conference. Managing Editor Kathryn Schilio talked to these alumni about their accomplishments, the conference and coming back to Athens.

RAY SMITH (MS – Agronomy, ‘87; Ph.D. – Agronomy, ‘98) was the state feed grain specialist for UGA Cooperative Extension, based on the Tifton Campus, before moving to Carfill in 1992. In 1996, he worked as the vice president of a Tifton contract research company. He moved to Abraham Baldwin Agricultural College four years ago and now heads the Department of Agriculture and is an associate professor of crop science. “It’s energizing to be among other people who have as much passion as you about teaching agriculture,” he said about the conference. “It re-energizes you. It’s one of the reasons I come.”

GEORGINNA MANN (BSA – Animal Science, ‘11) received her master’s degree and is working toward her doctoral degree, both from Virginia Tech. She works on food policy in schools at a Virginia Tech laboratory. “There’s a culture of food where people think food has to come from boxes. We need to embrace food in its original packaging. We’re too quick to look for an easy fix,” she said. “We need to get people jazzed about food.”

CHRISTOPHER STRIPING (BSA – Agricultural Education, ’05; MAL – Agricultural Leadership, ’06) taught agriculture for three years in Henry County, Georgia. “I attribute part of my success to the great professors and mentors I had in the ALEC department,” he said. After doctoral degree work and an internship at the University of Florida, Stripling is now an assistant professor at the University of Tennessee. “To be an effective teacher, you need more than content knowledge,” he said. “This conference is a way to see what others are doing around North America related to teaching and pedagogy.”

NATALIE COERS (MAL – Agricultural Leadership, ’10) works at the University of Florida’s College of Agricultural and Life Sciences Leadership Institute and coordinates faculty development events. At the institute, she works with about 15 students per cohort on personal organization, global leadership development, mentoring and international travel. “One of the things I love about NACTA is just being able to connect with people, have conversations with colleagues and strike up potential partnerships,” she said about the conference. “I enjoyed the tour as well. One of the aspects of the NACTA conference I like is that it gets you out in the community.”

VICTORIA LEBEAUX (MS – Agricultural and Applied Economics, ’08) received a doctoral degree from Iowa State University and completed postdoctoral work at the University of Kentucky. She’s a national program leader for the U.S. Department of Agriculture’s National Institute of Food and Agriculture in Washington, D.C. “I can find out what’s working and what the continuing challenges are and compare that to what we’re funding,” she said about the conference. “I’m learning as much as I can while I’m here to make sure we’re on track.”

GEORGINNA MANN (BSA – Animal Science, ‘11) received her master’s degree and is working toward her doctoral degree, both from Virginia Tech. She works on food policy in schools at a Virginia Tech laboratory. “There’s a culture of food where people think food has to come from boxes. We need to embrace food in its original packaging. We’re too quick to look for an easy fix,” she said. “We need to get people jazzed about food.”

“Ranger Nick” Fuhrman begins his 2015 Blue Ribbon Speech with his guest, Misty, a gopher tortoise.

“Ranger Nick” Fuhrman begins his 2015 Blue Ribbon Speech with his guest, Misty, a gopher tortoise.

RANGER Nick Fuhrman inspires future educators this summer.
Larry Baldree, a College of Agricultural and Environmental Sciences research professional on the Tifton Campus, designed the newest addition to the university’s turf plots in Tifton—a 90-yard, par-3 golf hole to showcase the athletic turf, ornamentals and grasses that have shaped the program into the world-renowned facility it is today. "We wanted to showcase the grasses that are bred and developed here, and to demonstrate to people what each particular grass is for, from tee to green and 4 sports field in between," he said. "UGA is striving to meet the needs of our industries." Aptly named the “Dawg Bone,” the entire golf hole, needs of our industries.” Aptly named the “Dawg Bone,” the entire golf hole, was placed in the bunker in front of the green. In between the tee box and green, are plots of different varieties of turf. One long section of the fairway is for bermudagrasses, cultivated in previous years by turf breeders Brian Schwartz and Wayne Hanna. The other half of the fairway is reserved for zoysiagrasses, which were started by Schwartz when he arrived in Tifton in 2009. "The newest ornamental grasses, seedless, cold-hardy, and potential for ground cover, developed in Tifton, are also on display. Visitors may find it difficult to envision an athletic field when looking at small, square blocks of grass. Baldree said, but the Dawg Bone’s large plots allow visitors to anticipate what the turf would look like on their sports fields. "Larry and I give at least one tour a month out here. This is a place where, if you tell them it’s a football field, they start thinking football," Schwartz said. "Thus is an instructive look into what grasses may be available in the future.” The Dawg Bone could not have been developed without the financial support of the Georgia Seed Development Commission, South Georgia Golf course construction company, the University of Georgia Research Foundation and the university’s Tifton Campus. "I think we started out with a good plan. We had this idea and spent probably a year putting the plan together. Before you see the grass on top, there’s a lot of infrastructure work done—moving irrigation lines, setting up drainage. All that goes in before any grass is ever planted," Baldree said. "I think we’re pleased with the way it’s come together." Baldree and Schwartz have also preserved the Turf grass program’s history. From the new plots are blocks of grass varieties released during the years in planta breeder Gina Buxton and Hanna were running the program. Each block of grass is designated with a marker listing the variety and year of release. • Clint Thompson

Above: A photograph, taken by an unmanned aerial vehicle, shows the "Dawg Bone," created to showcase the Turf grass plots. Right: Brian Schwartz (left) and Larry Baldree pose for a photo in the bunker.

Land of the Rising Sun takes shine to Tifton turf

In March, representatives from Japan’s Chubu Company visited the university’s Tifton and Athens, Georgia, campuses as part of a licensing effort involving two UGA turfgrasses, TifGrand and TifSport. Chubu’s interest in licensing these varieties was spawned by the success of Tifton turf at recent World Cup events—TifGrand at the 2014 World Cup in Brazil and TifSport at the 2010 World Cup in South Africa. The 2019 Rugby World Cup and 2020 Summer Olympics are being hosted by Japan, and the decision-makers for these events must observe the turfgrasses in person. Chubu has licensed TifGrand and TifSport and tested them in Japan, and their performance was just as expected, based on previous results from around the world. Testing of the turfgrasses will continue until much closer to these international athletic events, when decision-makers see the turfgrasses and come to a conclusion. "It’s wonderful to see a country like Japan that’s very developed—they have these major events, and they want the best grasses. The Tifton grasses, it’s true, they’re pretty good. They’ve stood the test of time," UGA Tifton retired turf breeder Wayne Hanna said. "We test our grasses before we release them more than anybody else in the world, forage and turf. When they leave, we’re pretty sure they’re going to be good." TifGrand, which was developed by Hanna and Kris Braman, a scientist on UGA’s Griffin Campus, is popular because it can thrive in 60 percent shade. TifGrand is desirable in stadiums where sunlight is obstructed. TifSport is a quality turfgrass used worldwide. It’s a versatile grass used on golf courses, athletic fields and lawns under normal sunlight conditions. Hanna’s turfgrasses have helped grow turf breeding on UGA’s Tifton Campus into a world-renowned program. These turfgrasses have been used in past World Cup events, on golf courses, and on Southeastern Conference and other athletic fields across the globe. The Tifton turfgrass breeding program is now in the capable hands of Brian Schwartz, who, along with Hanna, recently released a drought- and wear-tolerant bermudagrass, called "ToTe." • Clint Thompson

EXHIBIT CELEBRATES TIFTON SCIENTISTS

Wayne Hanna

The Tifton Museum of Arts and Heritage featured UGA Tifton in a special exhibit in celebration of the history of the UGA Tifton Campus. From April 11 to May 3, 2015, the exhibit, titled “Tifton Scientists Impacting the World,” highlighted the accomplishments of UGA Tifton’s world-renowned scientists and commodity team members devoted to improving their respective crops.
Erin Burnett comes from Sale City, a small, rural community of less than 400 people in southwest Georgia. She stepped foot off of U.S. soil for the first time through the People to People Student Ambassador Program, traveling to Europe. She later went to China with a group from her high school.

Within two weeks of arriving on the Athens Campus of the College of Agricultural and Environmental Sciences as a freshman, Burnett was in the CAES Office of Global Programs (OGP), asking for their assistance in traveling abroad. “I feel it’s really important for freshmen to figure out what they want to do and go to see people to help them do that,” said Burnett, now a third-year agricultural communication major.

In fall 2013, Burnett was awarded The Arnold International Fellowship, one of the college’s highest honors. This three-year, $5,000 fellowship funds at least two international experiences, but requires at least one to have a significant service-learning component. Recipients must also have completed the college’s Certificate in International Agriculture.

“The Arnold Fellowship is the highest international scholarship awarded by CAES,” OGP Associate Director Vicki McMaken said. “Our fellows consistently amaze us with their dedication to global engagement and service. Erin is no exception. We are so proud of her and can’t wait to see what her future holds.”

Burnett and 18 other CAES students traveled to Uruguay during spring break 2014 to learn more about sustainable agriculture in the country. This spring, Burnett became a recipient of the Benjamin A. Gilman International Scholarship. A national, congressionally funded award, the Gilman International Scholarship is sponsored by the U.S. Department of State. Recipients receive up to $5,000 for international academic programs or internships.

Burnett boarded a plane this summer, this time to South Africa. The study abroad program, through UGA’s Center for the Study of Global Issues, took Burnett, 25 other students and two professors to Stellenbosch, South Africa, for four weeks.

Beyond the exotic wildlife and the surrounding vineyards, Burnett gained insight into the human experience through exposure to the South African story, its history and its people. “In South Africa, they have this concept, ‘ubuntu,’ and basically it means ‘I am because you are.’ It’s the concept of community and the way South Africans live their lives,” she said.

The trip involved service, fulfilling her Arnold Fellowship requirements, as well as academic study. After morning classes at Stellenbosch University and lunch, Burnett and her UGA classmates went into the nearby Kayamandi community to work with underprivileged children in an after-school program.

It was there that Burnett learned of the concept of ubuntu. “In South Africa, everybody shares,” she said, explaining that sharing is necessary to academic survival for school-aged children. “Ten children share one eraser, school books, pencils. Everything is communal because no one could afford to have everything by themselves.”

Exposure to the region’s agricultural heritage grew in the after-school program. Many of the students in the program were children of area farmers. “Basically, South Africa’s agricultural export is wine and that wine is grown on the Western Cape, where I was. It’s a remnant of the Dutch coming in and settling that area—they brought wine grapes with them,” Burnett said. “Most of the children were children of farmers who worked in the (nearby) vineyards. I chose this trip because it had a strong agricultural base, and I really like working with children.”

After their four weeks in South Africa, the UGA group explored Zimbabwe and Botswana for about six days. “It (travel) will change the way you see the world, and it will make you very thankful for what you have,” she said.

Burnett’s travels continue as she goes to UGA’s Costa Rica Campus for a six-month photojournalism internship starting in January 2016. “I know that I want to continue to travel for personal growth, but being so invested with the Office of Global Programs has inspired me, and I’m considering trying to do something like that for a career,” she said. “You get to help make kids’ dreams come true.”

Kathryn Schiliro
Green Plate Special

Homegrown vegetables always taste better, but get a professional chef involved and those veggies become even more droolworthy.

One College of Agricultural and Environmental Sciences horticulture class is bringing together organic techniques and local demand, with tasty results.

Chef Rob Harrison of the UGA Hotel and Conference Center in Athens, Georgia, turned vegetables grown by the Organic Agricultural Systems class into delectable plates of food.

This is the second year that students in Suzanne O’Connell’s horticulture class celebrated the end of the semester with a harvest lunch at the Georgia Center. The menu included edible flowers and herbs, carrots, salad greens, Swiss chard and broccoli rabe that the students grew in the UGArden fields and South Milledge Road greenhouses.

“Students came to this class with very different goals,” said O’Connell, assistant professor of horticulture in the college. “Some wanted to find a new way to support their families’ farms, to find new marketing opportunities. Others really dream of starting their own food business … They all wanted to understand the science and the reasoning behind organic production.”

O’Connell’s class is one of the core courses in the Certificate in Organic Agriculture program. The certificate program is open to students universitywide. About half of her students are horticulture majors, but others come from different fields of study, including agribusiness, biological science, plant pathology, genetics, ecology, English and pharmacy.

The class covers basic organic farming practices, including soil and pest management, how to extend the growing season and the marketing of products. Students raise seedlings in greenhouses before moving them into field plots they design and manage.

More and more often, marketing organic produce means growing directly for local restaurants and markets. Working with a chef like Harrison gives students valuable experience in growing with a restaurant’s needs in mind.

“It was a great way to integrate real-world issues and generate excitement,” O’Connell said. “Students had to select seasonally appropriate crops. They had to time planting with desired harvest dates for the lunch. They had to manage greenhouse and field situations with organic methods and deliver high-quality produce.”

Peter Hartel, a university soil scientist who helped start the certificate program before retiring in 2011, helped sponsor the luncheon. He taught the first organic production class at the university and started the harvest lunches then—this marked the fifth year of harvest lunches—and he still supports the program.

“I’m thankful for all of the opportunities we had outside the classroom, as a CAES Ambassador and through my internship with the Georgia Senate Agriculture and Consumer Affairs Committee chairman.”

— Weston Quintrell, BSA – Biological Science, ’16, Blue Ridge, Georgia
In 1985, Georgia’s poultry farmers produced 3.5 billion pounds of chicken. Thirty years later, they’ve doubled production to 7 billion pounds per year.

Mike Lacy, who will retire from his post as head of the UGA Department of Poultry Science this year after 30 years at the university, helped the poultry industry grow into the dominant force in Georgia agriculture.

FARMERS INCREASED PRODUCTION because of the nation’s appetite for poultry, but they were able to do so in part because of technologies produced by the College of Agricultural and Environmental Sciences poultry science department.

“We have the most outstanding teaching, Extension and research faculty anywhere in the world,” Lacy said. “They are genuinely interested in working on problems that are applied, that really help poultry farmers and consumers, and will make a difference.”

COOL THOSE CHICKENS
Lacy came to the university in 1985 as a UGA Cooperative Extension poultry scientist. While earning his doctoral degree at Virginia Tech, he was trained to do research in poultry physiology. He wasn’t sure that background would help or hinder him when he started working directly with farmers.

That research background was key to tackling one of the first big challenges he faced up until the 1980s, farmers risked routinely lose thousands of birds each summer due to heat stress.

“We would write articles in the paper every year, right around the Fourth of July, where farmers would lose several hundred thousand birds,” Lacy said. “A heat wave would roll in where it would pretty much hover at around 100 degrees and just decimate entire flocks. And, of course, it affected the larger birds the most, so farmers would put all of this time and money into a flock and then lose them all just before they went to market.”

Lacy and Mike Czarick, an agricultural engineer now working in poultry science, teamed up to design poultry houses that kept birds cool, even during the hottest Georgia summers.

“We both saw that (heat stress) was a problem that needed to be solved,” Lacy said. “Neither of us had any experience yet, so we just started tinkering, first with fans and eventually with evaporative cooling pads and tunnel ventilation.”

Lacy knew what the birds needed physiologically and Czarick, as an engineer, knew how to move heat and air around. “We both had a true appreciation for each other’s disciplines,” Czarick said. “Mike started off college thinking he wanted to be an engineer, but decided he liked biology more than math. I worked with animals during my master’s program in agricultural engineering, but didn’t enjoy the smell of pigs. We looked at challenges facing the industry from different perspectives, which helped us find a number of unique solutions.” Their partnership helped design broiler houses using both ventilation fans and evaporative cooling systems and made the university a leader in poultry housing technologies.

Even as farmers’ concerns have moved past simple flock survival to energy efficiency and high-yield bird production, hundreds of poultry farmers from around the world flock to the university each year to attend poultry ventilation workshops started by Czarick and Lacy.

INNOVATION ALWAYS
Lacy’s desire to solve real-world problems followed him into his role as department head in 2001. He led the poultry science research and Extension faculty as they worked with researchers in the Department of Crop and Soil Sciences, agricultural engineers and poultry farmers to develop a voluntary nutrient-management framework to help farmers comply with the Clean Water Act before the imposition of new state and federal regulations.

“This voluntary program was a huge success and was considered a model program by state and federal agencies,” said Abit Massey, former president of the Georgia Poultry Federation. The development and adoption of those best practices helped keep poultry production in the state, Massey said.

Lacy also has excelled at attracting faculty to take on the major issues facing the poultry industry today, like bird health, food safety and increased sustainability. They are sought out for consultation by the world’s major poultry companies. Faculty members say Lacy hires smart researchers and teachers and lets them work independently.

“He believes that there is more than one way to be a successful poultry scientist,” said Robert Beckstead, an associate professor and molecular biologist who Lacy hired to work as a poultry geneticist. “Dr. Lacy is willing to take a risk on someone who wasn’t a classically trained poultry scientist, if they have the skill set that the department needs at the time. For instance, he brought me in to integrate molecular biology research into the department even though my training was not in poultry science.”

This has allowed the department to pioneer research into chicken genetics and endocrinology, new fields that may not have been tackled by other poultry science departments.

TEACHING SUCCESS
That focus on cutting-edge life science has drawn more and more undergraduates to poultry science, making it a standout among poultry science majors at UGA. That focus on cutting-edge life science has drawn more and more undergraduates to poultry science, making it a standout among poultry science majors at UGA.

Mike Lacy’s work improved poultry industry in Georgia, worldwide.

“There have been so many notable contributions, such as the institute’s involvement in broiler nutrition research, changes in the National Chicken Council position papers and the development of nutrient management guidelines for the poultry industry,” said Abit Massey, former president of the Georgia Poultry Federation. “That research background was key to tackling one of the first big challenges he faced up until the 1980s, farmers would lose several hundred thousand birds each summer due to heat stress.”

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“It has surprised everyone how quickly that has grown,” Lacy said. “I have to give the faculty credit for that. It’s been mostly word of mouth—students hear from other students about the excellent advisement they get from faculty who really care about them and their futures.”

A growing number of poultry science majors are hired rapidly after graduation and move up in the industry quickly. The department is attracting a growing number of international students as well. During Lacy’s tenure, most of these students initially came from Latin America, but now the majority comes from Asia because of the large population, expanding middle class and interest in modern poultry production.

“The poultry industry in Latin America has matured … Brazil uses the U.S. model of poultry production; they’re our peers,” Lacy said. “But the poultry industry is booming in Asia.”

From solving environmental concerns at poultry farms, to keeping chicken safe for the supermarket, to training new poultry professionals and helping nations grow protein sources, Lacy is proud of the department’s accomplishments.

note worthy
More than 20 College of Agricultural and Environmental Sciences alumni got behind the scenes at the Smithsonian Institution’s National Museum of Natural History’s Department of Entomology in April 2015, thanks to alumnus Floyd Shockley (Ph.D. – Entomology, ’09), the acting collections manager for entomology at the Washington museum. Alumni on the tour, put together by the CAES Alumni Association, saw a “pretty thorough sampling of insect and arachnid holdings”—flies, beetles, dragonflies, true bugs, butterflies, moths, spiders, scorpions and more—as well as examples of the various preservation methods used at the museum. The spiders and scorpions in an alcohol collection room seemed to provoke the strongest reaction, while the butterflies and beetles were the most photographed, Shockley said. “It (the tour) was my first opportunity to give back of my time, and I hope everyone enjoyed it,” he said. “It is also good to remind folks, especially alums, that though we all came through CAES, we have taken what we learned and moved into lots of other areas well beyond just traditional agriculture.”

—Kathryn Schiliro

Night at the Museum

We asked CAES alumni what they learned from their tour of the National Museum of Natural History’s Department of Entomology.

“The Smithsonian’s U.S. National Entomology Collection has a collection of beautiful Agrias butterflies so valuable that they are kept under high security watch and require multiple sets of keys to access.”

—Mark Smith
(BSA – Agricultural Communication, ’10)

“I learned that it only takes staff less than 45 minutes to move the most important part of the collection to safety in the basement in case there are security or weather problems—impressive organizational skills.”

—Lynette M. Thibodeaux
(BSA – Animal Science, ’79)

“I learned that the U.S. National Entomology Collection holds the most specimens out of all the national Smithsonian research collections, and is the second-largest (if not largest) insect collection in the world.”

—Cassandra Kusmisz
(BSA – Agricultural Communication, ’14)

“(I learned) how much of an impact CAES has everywhere. CAES is still impacting my life and providing me opportunities to experience new things, even after graduation.”

—Elizabeth Rowland (Davis)
(BSA – Agricultural Communication, ’08;
MAL – Agricultural Leadership, ’10)

Still Learning

Food quality is evolving. Beyond sustenance, the taste, nutrition and presentation are key characteristics of the food we love to eat. The College of Agricultural and Environmental Sciences aims to whet your appetite by developing research methods, tests and flavors that improve food quality. In this issue of Southscapes, explore the research and education CAES puts into the food on your plate.

Illustrations by Caitlin LeMoine

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FAVIP was designed to incentivize high school students interested in a veterinary career to pursue food animal practice as their focus in veterinary school. The competitive program enrolls up to five undergraduate students in veterinary school. These students must complete prerequisite classes and maintain a 3.2 GPA, with no grades below a C in required classes. They must also complete two practicums and still must go through the veterinary school application process. “I think the biggest draw is the opportunity to get into veterinary school and having a secure spot waiting for you,” said Dean Pringle, professor in the CAES animal and dairy science department. “That’s a big draw for the young people beginning their undergraduate degrees.”

FAVIP also provides mentoring and tutoring. The program aims to keep these CAES students at the level of other veterinary school applicants, said Josef Broder, CAES associate dean for academic affairs and the college’s interim dean. “They get very excited because they know it’s a long road to veterinary school,” Broder said.

Justin Brown (BSA – Animal Science, ’12), a member of FAVIP entering his final year of veterinary school, understands the competitiveness of the veterinary school admissions process and the benefits FAVIP provides. For the 102 students admitted to Brown’s class, the College of Veterinary Medicine received over 700 applications. “I think the program helps keep us here, in the state of Georgia, and rooted,” said Brown, who added that building a network of mentors and colleagues from around the state gives graduates an advantage that they wouldn’t get from an out-of-state school. “There’s a large animal work in Georgia. You’ve just got to get out there and do it.”

Deana Veal (BSA – Animal Science, ’11) is one of the May FAVIP graduates who found that kind of work. Now an associate veterinarian in a mixed animal practice in Sandersville, Georgia, that serves clients in 10 counties, Veal grew up showing cattle and hogs and knew she wanted to attend UGA and veterinary school. In fact, her hometown veterinarian introduced her to FAVIP. “It was helpful to have a link between the two colleges, and people like Dr. Pringle helped me know what to expect,” she said. “It seemed kind of a perfect fit.”

“The program allows you to network with the right people in order to get you prepared to go to veterinary school, both scholastically and socially,” said Zeb Duvall (BSA – Animal Science, ’11), a program participant who graduated from UGA veterinary school in May, along with Veal. “With FAVIP, administration and faculty will do all they can to help you get into veterinary school, so long as you hold up your end of the deal (in regards to grades and prerequisite courses).”

Students and professors note that the program helps improve veterinarian-producer relationships by encouraging these newly minted food animal veterinarians to take up residence in Georgia’s communities, which helps in emergency situations and with prevention and treatment practices. While companion animal practices are popular, food animal veterinary careers are needed and provide a solid income in communities statewide. Support for the program has been provided through a commitment from former Georgia Gov. Sonny Perdue, himself a graduate of the UGA College of Veterinary Medicine, and colleagues “to help aspiring food animal veterinarians in their education,” Perdue said. This support created a CAES endowment that gives up to $1,000 to the program’s graduates. “Food animal medicine implies farms, and I think the interrelationship between the College of Agricultural and Environmental Sciences and the College of Veterinary Medicine prepares the students to go into food animal medicine,” Perdue said. “Food animal veterinarians are a dying breed. I believe many of these graduates will solve the future problems of hunger and the ability of the world to feed itself. It’s a noble thing, and I think they’ll be a part of it.”

Long term, the plan is to provide a continuous supply of new veterinary graduates with skills, experience and expertise in food animal medicine and management so they may provide a valuable service to modern animal agriculture and production. “The College of Veterinary Medicine is now working with state legislators to fund a Veterinary Medical Loan Repayment Program to encourage these graduates to stay in Georgia,” said Sheila Allen, College of Veterinary Medicine dean. “We hope that, for the farmers, there will be food animal veterinarians in their communities who are trained in modern veterinary medicine and are accessible,” Broder said. “FAVIP lifts up the importance of feeding the world and having a safe, reliable food supply.”

Keith Farner
people tend to be passionate about onions. When it comes to eating them, one person may love the taste of Vidalia onions, while another hates all onions. On the University of Georgia campus in Griffin, sensory scientist Koushik Adhikari works to find out why people like certain tastes and dislike others.

"Generally, people are fearful of onions that consumers like best. Typically, panelists are recruited from the Griffin area. No special experience is necessary; you just have to be interested and a consumer of food. For the peanut test, we asked the (panelists) to score things like flavor, texture, color and whether there is enough roasted peanut flavor in their sample," he said. "They gave us their perspective on a nine-point scale.

The field of sensory science is all about data, he said. "We get a lot of data by asking 100 consumers to look at and taste just six items," Adhikari said. "Most of the companies with which we work just want the data because they have their own statisticians. Then other companies want us to analyze the data for them. It can go both ways.

In addition to non-trained taste testers, the university's sensory laboratory has a trained sensory panel. "The trained panel is a lot like an instrument. They can detect things like how much acridity there is in a product," he said. "We train them to pick out specific attributes." The training includes, among other things, being able to identify a variety of flavors by smell alone.

Both types of panelists are useful. Adhikari gives an example of a company that wanted to add artificial sweetness to its product. "They didn't want to change the taste from that of the original product," he said.

The non-trained panel can give feedback on whether they like or don't like the product. The trained panel can tell them which attributes are problematic or tell them which attributes drive the consumer to like the product.

UGA Cooperative Extension peach specialist Dario Chavez is working with Adhikari to identify peach varieties consumers like best, based on consumers' taste preferences. In the past, new varieties have been bred based on characteristics like fruit size, the amount of fruit each tree can produce and the fruit's tolerance of shipping.

First, Jackson partnered with the U.S. Department of Agriculture to use trained taste testers to identify how people taste different concentrations of sugar, the lachrymatory, or tear, factor; and sulfinites in onions. The USDA panelists rated the elements of heat, sweet and spice of onion samples on a scale of one to 10.

Having established the connection between the concentrations of flavor compounds and consumers' taste preferences through the USDA panelists, Jackson is now working with Adhikari and the university sensory laboratory to conduct a wide-scale public taste test to determine the chemical composition of onions that consumers like best.

The sensory laboratory is always looking for consumers to be non-trained panelists. Contact Paula Scott, Adhikari's lead technician and a trained panelist, at 770-412-4747, ext. 230, or pmscott@uga.edu for more information.

Sharon Dwyer

**COASTAL CULINARY CHOPS**

CAES develops eight-week summer culinary program in partnership with College of Coastal Georgia

**THE COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES HAS TEAMED UP** with the College of Coastal Georgia (CCGA) in Brunswick to bring culinary experience to CAES food science and technology students.

Through an eight-week Intensive Culinary Experience (ICE) at CCGA over the summer, CAES students will study the finer points of the culinary arts, to fill an "industry need for individuals that could do both the culinary arts and food science," said William Mountz, dean of CCGA's School of Business and Public Management, which houses the culinary arts program.

This (the culinary arts) is the creative side of food, which students don't get in food science degree programs, which are more technical or science-based," Mountz said. "If (the ICE program) allows a blending of art with science."

"UGA food science students who learn culinary skills become better new product developers and innovators," said Jose Reyes, associate professor in the CAES Department of Food Science and Technology. "(Culinary training) enables students to produce better tasting foods that are safe, with an extended shelf life. . . . Culinary arts infuse the cultural dimension of what drives different peoples to produce different foods—linked to millennia of tradition—and to a market that, today, is more dynamic and diverse than before."

During the program, CAES students will learn cooking and baking skills, garde manger—trench for "lairner of the food," garde manger is the cold kitchen, like cheeses, salads and cold meats—sanitation and nutrition, and will take field trips to visit various kitchens, operations and chefs. Students will work eight hours a day for eight weeks and receive six hours of course credit. The class culminates in students producing a menu of their creations, according to Walter Wright, assistant professor of hospitality and culinary arts at CCGA.

"Food science students will have the experience and culinary knowledge and techniques to make them more marketable and highly sought-after in the food industry," Wright said. While the summer program will allow CAES students to get culinary experience and course credit without spending a semester or more away from the food science program, the partnership also means that CCGA culinary students can more easily transfer into the college's food science program, Mounts said.

"This is a very special and unique relationship," Mounts said. "(The ICE program) allows both sets of students to benefit from a program that the other school does not offer." Promotion of the program will begin this fall, and the first-ever ICE class is set to start in summer 2016. • Kathryn Schiavo
Collard Boom

ADD THIS TO THE LIST OF THINGS THAT GEORGIANs ALREADY KNEW: Collards are good for us, and go with just about any dish.

More and more chefs across the land are choosing Georgia’s beloved collards for fine-dining menus and are using the green in new ways. This collard boom could help Georgia farmers realize more green for their greens.

Traditional preparation involves cooking the leaves until they are tender, often with a ham hock to add flavor. Today, collards are cooked more gently, used as wrappers for everything from crunchy tacos to bar. “The bar. “The

THE SOUTH’S FLAVORFUL, VERSATILE AND NUTRITIOUS GREEN GOES NATIONAL

If demand drives up prices, Georgia’s farmers will be ready to take advantage of the spike, said Tim Cooling, vegetable production horticulturist with UGA Cooperative Extension.

“Georgia has a good climate for production of collards during much of the year,” Cooling said. “Though leafy green production slows during the hottest parts of the year, collards are grown and harvested from the early fall through winter and into late spring in most parts of southern Georgia, with some growers supplying produce year-round. When an area has produced greens for many years, there tends to be a build-up of pest pressure that we have to deal with, but our farmers have always found a way to manage disease and insect pests and produce a high quality product that is sold all over the U.S.”

Around 2012, the demand for kale jumped. A few years ago, Pizza Hut was the largest purchaser of kale—solely to decorate their salad bar. The growth in kale took many by surprise, and we are still catching up,” Cooling said. “Suddenly, everyone wanted kale; some people in the industry rushed to pay more attention to the collard, Georgia farmers can expect to see an increase in demand for this crop, and increased profits.

Josie A. Krough, chef and partner at Athens, Georgia’s The Broad Fork, said, “Southern food has become America’s comfort food and, as a result, traditionally Southern ingredients like collard greens are now enjoyed throughout the country.” Dale said. “It’s not just that collards make us feel happy and safe, they can also make us healthier. Collards have a higher nutrient density than kale, and are an excellent source of vitamin A, vitamin K and vitamin C. When steamed, collard greens have the ability to lower cholesterol better than any other leafy green. Georgia is the second-largest grower of collard greens in the U.S. In 2012, greens covered 13,000 acres of the state and were worth about $60 million, according to the 2013 Georgia Farm Gate Value Report, published by the UGA Center for Agribusiness and Economic Development.

Grape Expectations

Patrick Conner wants to export muscadines—move them from the Southeast to the rest of the country.

A College of Agricultural and Environmental Sciences horticulturist, Conner lived in Indiana, New York and Maryland prior to being hired at the university’s Tifton Campus in 1998. Before navigating southward, Conner had never heard of muscadines. Now, after almost a decade of research, Conner is releasing the Hall variety, in hopes of expanding the fruit’s market.

“We’ve been working with some growers in North Carolina to try to find some common goals as an industry. We need a good product, and we need the industry to work together,” Conner said. “Muscadines have a lot of good health properties, so I think pushing that would help (with publicity), too.”

CAES horticulturist wants the country to dine on muscadines

Boettger said muscadines register high doses of elagic acid, maintain levels of zinc, iron, calcium, magnesium and fiber; reduce muscle pain; and enhance nerve and muscular function.

However, storage life stands in the way of expanding the muscadine market. Conner said muscadines are fairly perishable, which makes them difficult to store for long periods of time.

Conner also questions whether muscadines’ identification as a grape hinders its growth. Consumers may have a preconceived notion about grapes’ look and taste, and may be turned off by the thicker skin of muscadines. However, muscadines offer a delicious aroma and sweet, juicy pulp that can be hard to resist.

Muscadines can also be unpredictable. Usually, Paulk Vineyards averages 5 tons per acre with their fresh crop and 10 tons per acre with their juice crop. Last year, those numbers were reduced to between 2 and 3 tons per acre. Paulk believes the freezing temperatures occurred at the wrong time, limiting production. Muscadines cannot sustain production well during single-digit temperatures.

Conner estimates about half of Georgia’s muscadine crop is sold for fruit and the other half for wine. The Hall variety should bolster the crop at Paulk Vineyards. Paulk estimates about 30 acres are already reserved for the Hall variety when it is officially released. Hall’s highly sought-after qualities include an early harvest compared to other varieties; self-fertilization—it can pollinate itself; and its bright yellow color, which stands out in packaging.

“I think it’s better than what we’ve had, but maybe not quite what I would want. It still has more of a traditional muscadine skin that’s a little tougher,” Conner said. “We still have a couple of steps to go, I think.”

Conner hopes to eventually develop a muscadine with crunchy pulp and thin skin like a vinifera grape that can be sold to Northern markets.

Clint Thompson
CAES explores the effects of consumer choice and food insecurity on nutrition

Look past how food is raised, prepared and what it tastes like. Food’s end goal is nutrition and sustenance. In America and other food-secure nations, consumers often struggle to make healthy food choices. In the developing world, though bellies may be filled, nutrient deficiencies, even obesity, are on the rise.

Industry and the Development of Healthier Food Choices
In food marketing, conventional wisdom says that consumers admit wanting healthier foods, but when the carts hit the aisles, they usually base buying decisions on taste, cost and convenience.

“Even healthy food companies and technology at the College of Agricultural and Environmental Sciences and former team leader for the UGA Obesity Initiative’s Obesity and Food Ingredients Team. “We need to consider the entire value chain involved with obesity and all the actors within that chain if we are going to reduce the prevalence of obesity, and the food industry is just one of those actors that play a major role,” said Diane Hartzell, assistant director of the Obesity Initiative.

New research by Wicker and other members of the Obesity Initiative shows that more shoppers would buy healthier foods if they were marketed differently.

Last spring, the initiative hosted a conference for food manufacturers to discuss ways to nudge consumers into making healthier choices in the supermarket.

Food marketing guru Howard Moskowitz, who was hosted by the Obesity Initiative and CAES, told industry representatives gathered in Athens, Georgia, that adjusting their marketing strategies would help them sell more healthy products.

Moskowitz is a market researcher and psychophysicist well regarded in business, marketing and academic circles. He’s the author of 16 books for his use of data to improve marketing techniques and consumer behavior.

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His book “The Secret Life of Commodities” describes how the food industry manipulates consumer behavior to sell their products. He’s the author of 16 books and 200 journal articles.

A recent study by Wicker and Moskowitz on a recent study to see if the way in which healthy foods are marketed affects their success. CAES, the Obesity Initiative and the University of Georgia Office of the Vice President for Research funded the study.

The study found that consumers fall into a few, very distinct groups and that the secret to marketing foods is to direct the marketing messages to specific consumer groups.
lead dog: brian jordan

From Field to Flock

Assistant Professor Brian Jordan (BSA - Biological Science, ’05; Ph.D. – Poultry Science, ’12) knows his way around both a broiler house and a football field. This former long snapper for the UGA Bulldogs recently joined the faculty of the college’s Department of Poultry Science, with a joint appointment at the university’s College of Veterinary Medicine. This appointment puts Jordan in a perfect position to study flock health, and he is now focusing on vaccine efficacy and pioneering new technologies to improve vaccine application to protect poultry from respiratory and intestinal diseases.

“The broiler industry is the largest agricultural industry in the state of Georgia. So (flock health) is very important to every aspect of the state’s economy,” Jordan said. “Animal welfare standards are constantly being reviewed and critiqued. We have to make sure when we are trying to raise large birds that produce a lot of meat, that we’re doing it in a responsible and safe manner.”

Jordan came to UGA in 2001 and played for four seasons with the Bulldogs before receiving his bache-

lor’s degree from CAES in 2005. After graduation, he was recruited to play for the experimental European football league, NFL Europa. He continued his role as long snapper as part of the Rhein Fire team in Düsseldorf, Germany. “It was a lot of fun because it had a European flair to it,” Jordan said. “They just put on a much bigger production than you would see at an NFL game, “referring to full-scale rock concerts and fireworks at every game. Jordan decided to leave the spectacle-laden league behind in 2007 and returned to UGA for graduate school to pursue his doctorate in poultry science. With Associate Professor Robert Beckstead, Jordan’s graduate work focused on developing transgenic methods for improving poultry genetics. In collaboration with the college’s Steve Sice and Franklin West, of the Regenerative Bioscience Center, the pair helped develop the first line of pluripotent stem cells for use in poultry. They introduced the genes that cause bioluminescent jellyfish to glow into chicken embryos, testing the addition of beneficial traits. Since graduating with his doctoral degree, Jordan has focused on research that has more direct applications for the poultry industry. “I like getting my hands on the chickens and working with them,” Jordan said. “No matter what work we’re doing, we have to find a way to apply that information and find a technology that we can give to the poultry industry to help protect the health of the birds or to help the birds produce better.”

In addition to his research, Jordan came to UGA with the outstanding selected poster award by the Agricultural and Applied Economics Association, Latin-American Section, in 2014 and the outstanding doctoral dissertation honorable mention award by the Agricultural and Applied Economics Association in 2010.

Jeffrey Dorfman, agricultural and applied economics professor, was listed as one of the university’s most quoted faculty for the month of April 2015. His work was quoted in Forbes and other financial magazines. He’s the second-most quoted university faculty member, behind the UGA School of Law’s Ron Carlson.

Jeffrey Dorfman also presented the outstanding faculty member award in 2011 and 2014 by the Agricultural and Applied Economics Graduate Student Association, and in 2013, the association presented him with the outstanding departmental citizen award. Other awards received by Colson include the outstanding selected poster award by the Agricultural and Applied Economics Association, Latin-American Section, in 2014 and the outstanding doctoral dissertation honorable mention award by the Agricultural and Applied Economics Association in 2010.

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Department of Animal and Dairy Science

Kylie Duberstein, Kari Turner and Dean Pringle—assistant professor, associate professor and professor, respectively—received the NACTA Educator Award from the North American Colleges and Teachers of Agriculture (NACTA) organization. The award honors individuals whose teaching efforts represent the very best in agricultural higher education.

Ignacy Misztal, animal and dairy science professor, was the project director for a $450,000 competitive U.S. Department of Agriculture National Institute of Food and Agriculture grant to develop reliable, accurate and computationally fast methods to incorporate all available information (genomic, pedigreed and individual animal measures) for the genetic evaluation of livestock.

Steve Stice, D.W. Brooks Distinguished Professor and GIRA Eminent Scholar Chair in Animal Reproductive Physiology, received the 2015 Academic Entrepreneur of the Year award, sponsored by the University of Georgia Research Foundation, Inc., on April 16, 2015. The award recognizes a faculty member who started a company based on research that originated at the university. Stice also received the Distinguished American Award from the USA Chapter of the World Federation on Animal Reproduction.

Department of Crop and Soil Sciences

JULIA GASKIN, senior public-service associate, received the 2015 Land Steward Award at the Georgia Organics annual conference in Athens, Georgia. She received the award for her work and involvement in furthering sustainable agriculture.

Dennis Hancock, crop and soil sciences associate professor and UGA Cooperative Extension forage specialist, was given a Merit Award at the 2015 American Forage and Grassland Council’s annual conference in St. Louis.

John Snider, crop and soil sciences assistant professor, was named 2015 Young Cotton Physiologist of the Year by the Beltwide Cotton Conferences’ Cotton Agronomy and Physiology Conference in San Antonio.

Department of Entomology

Ash Sial Ahmad, assistant professor of entomology, joined the faculty of entomology July 1, 2013, as integrated Pest Management (IPM) coordinator for the college, with research responsibilities in blueberry IPM. Ahmad has rapidly revitalized CAES IPM programs and was recently awarded a grant for $2 million to lead a national effort to develop organic control methods for the spotted winged drosophila, a common pest for blueberries nationwide.

Mark R. Brown is a professor of entomology, a leading authority in mosquito physiology and genetics and has had continuous National Institutes of Health funding for his work since 1992. Brown recently received a 2015 Recognition Award in Insect Physiology, Biochemistry and Toxicology from the Southeastern Branch of the Entomological Society of America.

Michael Toews, associate professor of entomology, received the Award for Excellence in Integrated Pest Management from the Southeastern Branch of the Entomological Society of America.

José Reyes De Corcuera, associate professor of food science and technology, was recognized as a fall 2014 Teacher of the Week by the university’s Center for Teaching and Learning.

Fanbin Kong, assistant professor of food science and technology, received a 2015 University of Georgia Research Foundation, Inc. Creative Research Medal honoring her work in apomixis, “the assynival production of seeds in plants.” Her research provides a starting point for application of apomixis in plant breeding, which could lead to “improvements in yield and economy of the delivery of new plant varieties.”

Bodie Pennell, professor of horticulture, received an Extension Division Education Materials Award from the American Society for Horticultural Science for her submission, “Georgia Certified Landscape Professional Webinar Series.”

Peggy Ozias-Akins, professor of horticulture, received a 2014 NACTA Teaching Award of Merit from the North American Colleges and Teachers of Agriculture (NACTA) organization, recognizing him for his dedication to outstanding instruction in the college.

José Reyes De Corcuera, associate professor of food science and technology, was recognized as a fall 2014 Teacher of the Week by the university’s Center for Teaching and Learning.

Department of Horticulture

Joann Conner, assistant professor of horticulture, received an exploratory grant from the U.S. Department of Agriculture National Institute of Food and Agriculture to fund her proposal, “Reducing parasite load in rice and maize transgenic lines with the AsGR-BabyBoom-Like gene,” relating to regulation of parthenogenetic in plants.

Robert Beckstead, associate professor of poultry science, received the University Office of the Vice President for Instruction’s Outstanding Advisor Award, recognizing him for advising undergraduates on class selection, assisting them with academic issues and providing guidance on careers and graduate school. He also received a university 2015 First-Year Odyssey Teaching Award for his seminar, “Chickenology: Everything You Need to Know About Chickens.”

Gene Pestil, professor of poultry science, received the Poultry Science Association’s 2015 Evonik Degussa Award for Achievement in Poultry Science at the association’s meeting in Louisville, Kentucky, in July. The award honors his contributions to research in poultry nutrition.

Department of Poultry Science

Sammy Aggery, professor of poultry science, received the 2014 National Chicken Council Broker Research Award for his work on mapping genes related to growth and development in poultry at last year’s meeting of the Poultry Science Association in Corpus Christi, Texas.

Ron Gitaitis, professor of plant pathology, was named the 2014 Outstanding Plant Pathologist by the Southern Division of the American Phytopathological Society. This award recognizes Gitaitis’ contributions to plant pathology and outstanding career achievements.

Alfredo Martinez-Espinosa, professor of plant pathology, received a 2015 Walter Barnard Hill Award from the university’s College of Agricultural and Environmental Sciences for his work on careers and graduate student advising and providing guidance to them with academic issues on class selection, assisting undergraduates with academic issues on class selection, assisting them with academic issues and providing guidance on careers and graduate school. He also received a university 2015 First-Year Odyssey Teaching Award for his seminar, “Chickenology: Everything You Need to Know About Chickens.”

Gene Pestil, professor of poultry science, received the Poultry Science Association’s 2015 Evonik Degussa Award for Achievement in Poultry Science at the association’s meeting in Louisville, Kentucky, in July. The award honors his contributions to research in poultry nutrition.

Department of Plant Pathology

Phil Brannon, professor of plant pathology, received the 2014 Donnie H. Morris Award of Excellence in Extension from the Georgia Fruit and Vegetable Growers Association. This award honors UGA Cooperative Extension personnel who positively affect Georgia fruit and vegetable growers’ operations.

Born on a north Alabama cotton farm on May 17, 1915, former UGA College of Agricultural and Environmental Sciences poultry science professor Milton Dendy turned 100 this year and celebrated with his CAES family (pictured above). A World War II veteran, Dendy returned state-side in 1946, after five years of service in the U.S. Army, and attended the University of Missouri, where he received two degrees. He joined the UGA poultry science department’s teaching staff in 1957 and retired after 20 years in the department.

“After he retired in June 1977, his expertise was sought around the world, and he provided poultry consultations in many foreign countries, including China, Kenya, Turkey, Algeria and Egypt,” said Mike Lacy, head of the Department of Poultry Science.

Following his retirement, he visited Nigeria, Spain, Jamaica, Kenya, China twice, Saudi Arabia, Turkey, Algeria, the Czech Republic, Slovakia, Lithuania and Egypt, sharing his knowledge while on various assignments. He is an avid UGA fan and, until recently, played golf two to three times per week.

“I’ve been very lucky and have had some unforgettable experiences in life,” Dendy said. “I’m most thankful for my health and longevity.”

Dendy was married to his wife, Dorothy, for 70 years and has three children and two grandchildren. • Kathryn Schiró
CAES alumnus Nick Dale has channeled his knowledge and experience into his newly opened Condor Chocolates in Athens, Georgia. One of Condor’s confections, a cloud boulder, is made of a housemade marshmallow; covered in caramel and chocolate, and topped with pecans and sea salt.
lead dog: hal king

Steward of Public Health

Looking back on an accomplished career that involved work on three patents, collaboration with former President Jimmy Carter's Presidential Center to find a solution to infectious diseases in West Africa and the journey to become a foremost expert in his field, College of Agricultural and Environmental Sciences alumnus Hal King said it started simply.

“I was just really interested in how microbes make people sick,” King said. “On one hand, they’re helpful and they help us prevent diseases, and on the other hand, they can cause the most horrible illnesses and suffering.”

His interest took him away from music, his first passion. He began his college career at the UGA on a music scholarship and in the university’s Redcoat Band. King credits a professor, Emmett Shotts, who led a class in diagnostic bacteriology, for prompting King’s realization that he wanted to shift focus and pursue science as a career. That class set King (BSA – Microbiology, ’83) on a path to earn three degrees from UGA—master’s and doctoral degrees in medical microbiology from the veterinary school, in addition to his bachelor’s degree in agricultural microbiology.

King began his career working for the Centers for Disease Control and Prevention (CDC) as a commissioned officer of the U.S. Public Health Service and then moved to Emory University School of Medicine as an assistant professor, where he developed and published research to advance technologies in the field of infectious diseases. King, at the time an advisory board member of the World Health Organization’s (WHO) Communicable Disease Group and the Emory University Division of Infectious Diseases’ faculty liaison to the Carter Center, credits former President Jimmy Carter with demonstrating the importance of the politics of diseases and how government ministries of health and municipalities can work with researchers to find solutions.

“You can’t just come into a country and say, ‘We’re here to help,’” King said. “You have to have a plan to work with the people to improve the situation while you are there. Collaboration with the ministries of health to research diseases while also ensuring you treat those with the disease allowed us to do that.”

King was invited to be a member of the Bunul Ulcer Disease Technical Advisory Group at WHO. He was awarded a CDC and WHO grant to collaborate with the Ministry of Health in Ghana, West Africa, and the WHO to study how Buruli ulcer disease, a flesh-eating bacteria, was transmitted in West Africa, and how to more quickly diagnose and prevent the infection. King described part of his career as providing a “National Geographic lifestyle” because he was able to work in other countries to better understand their needs rather than just reading about them.

Following Sept. 11, 2001, King was commissioned as an officer by the U.S. Army Reserve to work on understanding biological, chemical and nuclear threats and how each enemy might execute those threats.

The Army Reserves work came while King was working for Emory, and he realized he couldn’t maintain both jobs at demanding work levels. So, as a former Sunday school class student of Chick-fil-A founder S. Truett Cathy—he attended Cathy’s class following the death of his father in 1974, and he and Cathy became lifelong friends—King found a job working as Chick-fil-A’s director of food and product safety, where he designed and led the food safety program and marketed the value of food safety to the restaurant industry. The familiarity with industry and safety to the restaurant industry. The familiarity with industry and nuclear threats and how each enemy might execute those threats.

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grown from his experience at Chick-fil-A provided the information he needed to teach others how to implement food safety programs in their businesses, and King wrote a book, “Food Safety Management: Implementing a Food Safety Program in a Food Retail Business.”

“I learned so much at Chick-fil-A, I wish I had a book like this 10 years ago to help me know what to do in a corporate-level food safety program,” King said.

Improving public health is the reason King created a business this year—Public Health Innovations, LLC—so that he can develop new products, and partner and consult with companies on products and processes they’re developing to prevent diseases. King said, for example, some companies may not fully understand build better, more efficient safety products. That means designing products that provide safety as well as additional value to the business, which better sustains the safety originally intended.

One of the programs King initiated while at Chick-fil-A that taught him this concept, he said, was a “wipe out germs” program in collaboration with another company, GOJO Industries, Inc., that makes of PURELL hand sanitizers, placing PURELL instant hand sanitizer wipes in every store’s playground area. The idea was to help children learn to clean their hands before they eat and after being on the playground.

“When I see those needs, it drives me to innovate,” he said.

This year, King will return to his roots. He’s accepted an adjunct professor position and advisory board role in the university’s College of Public Health. “I’ve just been in the right place with the right people who also want to make a difference, and UGA provided me the foundation to do that,” King said. • Keith Farner
Evidence of the ever-changing nature of gardens is apparent in the daily evolution of the 30-acre Atlanta Botanical Garden—constant planting, maintaining, growing.

If that’s not enough proof, examine Amanda Bennett’s (Campbell) (BSA – Horticulture, ’01) daily responsibilities. The manager of display gardens at the Atlanta Botanical Garden, Bennett enables much of the garden and its constant change. She manages a staff of about 16 people, handles pest and disease issues as well as pruning and general maintenance, and answers questions from employees and visitors to the garden.

When the garden is in design phase, she works with landscape designers to lay out future plans for the Atlanta Botanical Garden. The annuals in the garden are “changed out” twice a year, in April/May and October/November. Plans have to be made months, even years, ahead of time. This winter, for example, the garden will have a tulip display; Bennett had to put the order in for the tulips in early June.

“When we have a plant brainstorm, we have to consider what we want it to look like and the feel we want it to have,” she said.

Bennett works with garden staff when new exhibits are planned, up to five years out. Exhibits incorporate the work of an artist into the garden. She also contributes to the garden’s long-term plan, of which year one, dedicated to Storza Woods, was just completed. Now in year two, the plan includes a facelift for the Children’s Garden, construction of a new restaurant, and should have a skyline garden—one of the perks of being an urban garden—by 2017.

“People think of gardens as really static things, and we are not static. We don’t rest on our laurels around here,” Bennett said. “That’s why I got into public gardening, because I like to share plants with people.”

Bennett’s favorite thing to do, though, is weed. “I like to weed,” she said. “It’s very instant gratification.”

Beyond her College of Agricultural and Environmental Sciences horticulture classes, Bennett was also involved in Horticulture Club and worked with annuals at the Trial Gardens during her time as a student. She still visits the Trial Gardens on UGA’s Athens Campus each year around April and then again in August or September “to see what still looks good,” she said.

“I can’t think of a horticulture class that I took that I didn’t at least take something away from,” she said. “The plant knowledge, being able to pick up on plants quickly and deal in botanical Latin is a big deal, but we also have to keep the plants alive, and we have to be able talk to our guests about them.” Bennett frequently gets questions from visitors about how they can take better care of their plants at home.

She said that 90 percent of the staff at the Atlanta Botanical Garden has horticulture degrees. Working in a public garden offers more flexibility with creativity than other horticultural work.

“It’s very-instant gratification.”

At 25 feet tall, the Earth Goddess (Behind Bennett) is the largest plant sculpture at the Atlanta Botanical Garden. Inset: The fountain features a Chihuly glass sculpture. The biggest terrier in Atlanta is made of a shaggy grass, Carex bronco.
D.W. BROOKS LECTURE AND AWARDS

The annual D.W. Brooks Lecture features a renowned name in agriculture, with past speakers including Glenn Burton, Norman Borlaug and former President Jimmy Carter. Plant scientist and 2014 World Food Prize Laureate Sanjaya Rajaram will be this year’s speaker. A successor of Borlaug, Rajaram’s research led to an increase in world wheat production by more than 200 million tons. The D.W. Brooks and College of Agricultural and Environmental Sciences awards were established in the 1980s and honor college and UGA Cooperative Extension faculty for their work.

Tuesday, Nov. 10, 2015
Lecture 3:30-4:30 p.m.
Reception 4:30-5:30 p.m.
UGA Hotel and Conference Center, 1197 South Lumpkin Street, Athens, GA 30602

For more information, visit caes.uga.edu/events/dwbrooks.

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Research Stems from Collaboration

The Regenerative Bioscience Center marks a decade of revolutionary stem cell research of training scientists from around the world. By 2008, more than 100 scientists, half from Georgia institutions, had been trained in HESC culture and maintenance. Multiple research laboratories and affiliated colleges are tied to the RBC network to facilitate interaction within multiple disciplines and research areas. More than 40 researchers now make up the center, including veterinarians, toxicologists, biochemists and pharmacologists.

“What I’m seeing today is the broader reach that we have to include more cross-disciplinary involvement,” Stice said. “Through our translational approach to research, we are significantly expanding the perspective of veterinarians, scientists and even clinicians, and eradicating the practice of researching in isolation.”

The basic idea of stem cell therapy was simple: replace dying cells in a patient suffering from Parkinson’s disease, for example, and they would recover. Researchers quickly found it to be much more complex than simply isolating stem cells and providing them to patients.

“It was naïve thinking, that one could make dopamine-producing cells in the lab similar to those lost in Parkinson’s that could be injected very quickly into the brain, and that’s all we would need to do,” Stice said. “Many coordinated and complementary instruments are needed to play the symphony of regenerative medicine using stem cells.”

This year carries great promise for stem cell research, but there is a need to increase productivity of the drug development process as far as granting approval and providing safer drugs for consumers. Today, with the addition of new faculty, the RBC has strengthened its position in both drug discovery and in the field of toxicology.

“I think there will be a real push in the future for use of stem cells, not so much as therapy, but as a delivery mechanism,” Stice said. “The problem with stem cells right now is the variations and inconsistency of results. We, as researchers, have to get more consistent results and there are a number of ways of doing just that.”

As research has evolved, so will the membership of the RBC. “The RBC is a place for researchers to come together to share and build connections,” Stice said. “People will continually come and go as opportunities present themselves, but the collaborative bonds will remain forever.”

• Charlene Betourney

FOOD PRODUCT CONTEST

An annual food product contest hosted by the UGA Center for Agribusiness and Economic Development, a unit of the college, Flavor of Georgia provides a stage for the state’s culinary entrepreneurs, expanding opportunities and opening new markets.

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Then-student Charlotte Goldman (BSA – Biological Science, ‘15) caught the moment that won the 2015 Agriculture Abroad Photo Contest in May 2014 while in a small village in the Lake Eyasi region of Tanzania, Africa.

The woman in the photo, the oldest of four wives, is part of a family in a Datoga pastoralist tribe, Goldman said. Goldman met her while visiting the family’s farm. The woman was milking the cows and fed an orphan goat from one of the family’s lactating cows.

“The woman in the photo was tending to her family’s herd,” Goldman said. “The women (in the Datoga tribe) are in charge of basically everything—cooking, cleaning and caring for all of the animals, of which there are many as they are used as a form of currency.”

Goldman snapped the photo, called “Cash Cows and Little Goat Too,” while traveling with her mother to Tanzania and Zanzibar in celebration of Charlotte’s 21st birthday, her completion of the Medical College Admission Test and medical school application process. Goldman started medical school at Georgetown University this fall.

The Agriculture Abroad Photo Contest was started in 2011 in conjunction with the College of Agricultural and Environmental Sciences Office of Global Programs’ (OGP) annual International Agriculture Day, “the purpose of which is to showcase international education and outreach opportunities within the college and to celebrate the achievements of our most globally minded students,” according to OGP Associate Director Vicki McMaken. All submitted photos are reviewed and narrowed down by a selection committee, and the top five photos are voted on by faculty, staff, students and guests at the International Agriculture Day celebration. Winners of first, second and third places receive cash prizes. – Kathryn Schiliro