VirginiaTech
College of Agriculture and Life Sciences

Volume 5, Issue 1

INNOVATIONS

HTTP://NEWS.CALS.VT.EDU/INNOVATIONS

Three new groups of college buildings are being planned for construction in the coming years, including a new bovine extension, teaching, and research facility.

BUILDING TOWARD A BRIGHT FUTURE

By Zeke Barlow

At the university's Kentland Farm, students in the new Dairy Science Complex are working with professors on projects that address issues ranging from milk quality to nutrient management. Meanwhile, in the life sciences precinct on campus, researchers are collaborating in the new labs of the Human and Agricultural Biosciences Building 1 to tackle some of society's grand challenges related to alternative energy production, water quality, and food security.

While these students and professors work in the newest facilities in the college, they won't be our newest structures much longer. Soon, a second phase of construction to complete the Dairy Science Complex will be underway that will include three new buildings to support research and education. This construction will be followed by another extensive project to renovate and upgrade many of the livestock and poultry facilities near campus. And early planning has begun for the second biosciences building in the life sciences precinct.

"This has been a tremendous time of growth for the college," said Dean Alan Grant. "In addition to some new facilities, we've been fortunate to recruit many new faculty members at the college's on- and off-campus sites, the faculty is attracting increased levels of grant funding to support research and education, and the college's student enrollment continues to grow."

> "This has been a tremendous time of growth for the college."
>
> Alan Grant
> Dean

This past year, the National Science Foundation ranked Virginia Tech sixth of all U.S. universities for research expenditures in agricultural sciences. Much of this research is carried out in CALS and is indicative of Virginia Tech's commitment to be a leading land-grant university. This increased research activity is providing greater opportunities for students to engage in experiential learning and is aligned with the university's mission to provide a hands-on, minds-on education.

Creating environments that maximize the learning experience will become even more important with a growing student population. The college's ongoing focus on renovating existing buildings and constructing new facilities will ensure that students will be able to work alongside professors in some of the most state-of-the-art facilities designed for research and education.

The recently completed Dairy Science Complex - Kentland Farm allows students and researchers to work in the most advanced facilities in the nation.

Modern laboratories in the Human and Agricultural Biosciences Building 1 allow researchers and students to work together to solve challenges facing a growing global population.

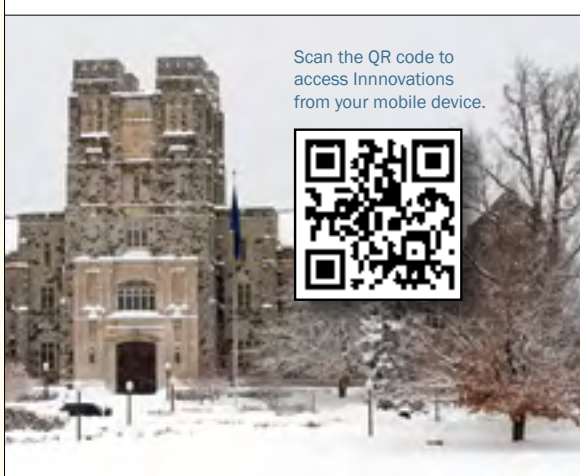
Students learn about topics such as food sensory evaluation in the Human and Agricultural Biosciences Building 1.

Featured CONTENT

Keep up with all the exciting research, academic, and Extension news at the College of Agriculture and Life Sciences' website, www.cals.vt.edu, or find us on social media.

Online extras, videos, links, and an interactive version of Innnovations can be found at

http://news.cals.vt.edu/innovations



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Dean's Update

Greetings from the College of Agriculture and Life Sciences.

As you will read about in this issue of Innovations, this is a great time of growth in the college. We recently celebrated the opening of several new facilities, and we are looking ahead toward the construction of at least three new groups of buildings in the coming years that will benefit our students, researchers, and Virginia Cooperative Extension.

As part of this growth, we are looking at ways we can increase the visibility and impact of our learning, discovery, and engagement programs in key areas.

A good opportunity to do this is the proposed creation of the School of Plant and Environmental Sciences.

The school will put the departments of Crop and Soil Environmental Sciences, Horticulture, and Plant Pathology, Physiology, and Weed Science together to fuel innovation and productivity while making new investments to boost our capacity and tackle the many challenges in agriculture and food security, the green industry, plant biology, and the environment.

The increased collaborative activity will serve our external stakeholders better, and it will also give faculty members opportunities to revise and develop curricula that will attract more students who will be prepared for careers that encompass these disciplines. The university's new provost, Thanassis Rikakis, has championed a goal of becoming more transdisciplinary in our work, which aligns well with the goals of the school.

The school is also a target for new investments. Recruitment of faculty members and construction of new facilities, such as the next building in the Human and Agricultural Biosciences Precinct, will ensure that Virginia Tech is a global leader in plant and environmental sciences.

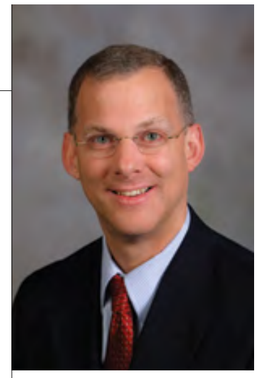
You can learn more about the school at http://news.cals.vt.edu/spes.

As the college continues to grow, I look forward to working with you to find ways we can continuously improve an already great institution.

Sincerely,

Alan Grant
Dean
algrant@vt.edu

Online extras at http://news.cals.vt.edu/innovations



Alan Grant, dean

We are looking ahead toward the construction of at least **three new groups of buildings** in the coming years that will benefit our students, researchers, and Virginia Cooperative Extension.

Healthy Beverage Index gives consumers clearer information

Most consumers know that sugary drinks such as soda are not healthy. But now a team of researchers from the Department of Human Nutrition, Foods, and Exercise has developed an index that can more accurately measure how healthy a person's overall beverage intake is.

Using the index as a guide, consumers can earn up to 100 points by engaging in healthy activities such as making water at least 20 percent of their daily fluid intake or consuming less than 10 percent of their daily calories in drinks.

"The goal was to develop an index that would help consumers by providing specific information about the types and amounts of beverages that could be consumed to promote optimal health," said Professor Brenda Davy.

The index was based in part on the 2010 Dietary Guidelines for Americans, which include meeting daily fluid requirements and limiting certain kinds of beverages, such as milk, juice, sodas, coffee, and tea.

Overall, a higher score indicates a healthier beverage pattern. The primary reasons for low scores are not consuming enough water, consuming too many calories from beverages, and not consuming enough fluid overall.

The new Healthy Beverage Index allows consumers to make more informed decisions about their daily fluid intake.

Paul Siegel's White Plymouth Rock chickens have been used in many experiments that have advanced the understanding of genetics.

Study using genetic lines of Virginia Tech chickens reveals evolution happens faster than thought

A critical component of an experiment that proved evolution happens 15 times faster than was previously believed relied on genetic lines of chickens from Virginia Tech.

The discovery that was published recently in the journal Biology Letters utilized the DNA of lines of White Plymouth Rock chickens that have been developed at the university for more than 50 years.

"This experiment and many others involving everything from animal appetites to genetics could never have been done without the pedigree lines," said Paul Siegel, Distinguished Professor Emeritus of Animal and Poultry Sciences, who, along with Ben Dorshorst and Christa Honaker, was a co-author on the paper.

The pedigree lines of White Plymouth Rock chickens were developed by Siegel, who began breeding them in 1957. From the common founder population, he produced two distinct lines of chickens selected for high- and low-body weight.

In the latest experiment, researchers analyzed blood samples of chickens of the same generation using the most distantly related maternal lines to reconstruct how the mitochondrial DNA passed from mothers to daughters.

A prized Virginia crop goes HI-TECH

By Amy Loeffler

Maria Balota is a curator of sorts.

The associate professor of plant pathology, physiology, and weed science is responsible for ensuring the perpetuity of one of the commonwealth's most quintessential commodities: the peanut.

Virginia peanuts are particularly prized for their size, intense taste, and texture. The commonwealth had a record-breaking year in 2014, producing yields of 4,350 pounds per acre according to the U.S. Department of Agriculture.

One thing that is helping Virginia peanut farmers to be more prolific than ever is the advent of drone technology, which Balota uses at the Tidewater Agricultural Research and Extension Center. Balota tests peanut cultivars for heat and drought tolerance to study plant behavior during short-term droughts.

"We can collect data so much more efficiently and quickly now," said Balota. "That helps enormously when attempting to measure the stress levels of plants."

Unlike collecting data on the ground by hand using a thermometer, drones allow Balota the ability to take measurements of plots simultaneously, which excludes errors due to changes in weather.

"Measuring one plot at a time takes a lot of work, so you can imagine the challenge of a breeder having to measure thousands of plots," said Balota. "Over a period of several days, weather patterns change. It would be difficult to compare a variety you measured Monday with one you measured the previous Friday."

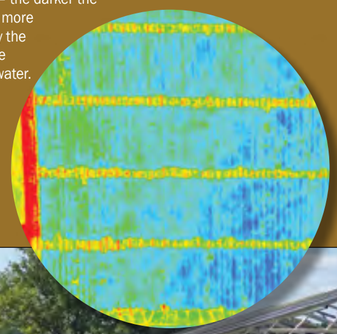
"People tried to use similar technology with satellites or planes," said Balota. "But those types of devices fly at a much higher altitude than drones, and comparing small plots was difficult."

Drone technology also allows for a much more nuanced view of research.

"With this technology, we should be able to identify much easier those small genetic differences between cultivars because of either heat or drought tolerance."

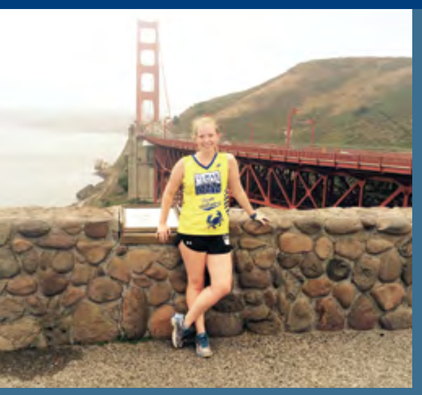
Balota's drone research is funded primarily by the Virginia Peanut Board, Virginia-Carolina Peanut Association, and Virginia Crop Improvement Association.

Maria Balota (below, right) studies stress in peanut plants with the help of drones that allow her to collect data faster in large research plots. The green colors in an image taken from the drone show drought-stressed and unhealthy peanut plants. The blue shows healthy, well-watered peanuts – the darker the blue, the more efficiently the plants are utilizing water.



Online extras at http://news.cals.vt.edu/innovations

BIOCHEMISTRY STUDENT spends summer running to raise awareness of cancer



Biochemistry major Hannah Ricketts at the start of her run near the Golden Gate Bridge. Ricketts ran across country for 49 days in memory of family friends Dee and Larry Head.

Hannah Ricketts took a road trip this past summer from San Francisco to Baltimore. Except she wasn't in a car — she was powered by her own two feet.

Ricketts, a sophomore majoring in biochemistry from Danville, Virginia, participated in the Ulman Cancer Fund for Young Adults run to raise funds and awareness about issues that affect young adults dealing with the complications of cancer.

But that isn't the only way Ricketts is tackling cancer. As a student in Professor David Bevan's computational biology lab, Ricketts works on modeling enzymatic reactions that could potentially target specific kinds of cancers.

For Ricketts, participating in the 49-day run was the culmination of a lifelong dream to give back to Dee and Larry Head, two people in her life who died of the disease. Though they were not blood relatives, the Heads were more like her grandparents when Ricketts was growing up. The couple often took care of her when her parents worked odd shifts as paramedics.

"I'd been looking for a way to honor them for a long time, and this event seemed like a good opportunity," she said.

The summer was a test of her physical and mental strength. The runners dedicated days to people in their lives who had battled cancer and wrote the names on their calves. Less than midway through the race, Ricketts had an especially tough day running at high elevation in Colorado. It was a day she had dedicated to Dee Head. Her teammate reminded her that Head didn't have the option to stop and neither did she.

"When I started the run, I didn't think I would make it to the end," Ricketts said. "Now I feel like I have that mental toughness to push through anything."

Help us kick off the NEW YEAR by telling us how to best serve you.

Take this Innovations survey for a chance to win a Virginia Tech portable cell phone charger.

Online at http://bit.ly/1YrJAh4

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Graduate Teaching Scholar Program fosters relationships for fruitful careers

By Amy Loeffler

The college's Graduate Teaching Scholar Program fills the gap that exists between the course work that students take and the research they do by encouraging collaboration, camaraderie, and mentorships between new doctoral students and faculty members — which in turn produces confident scholars and gifted instructors.

The GTS Program allows participants and faculty members to form deep relationships that often shed light on the more practical aspects of teaching that aren't learned in a book.

Former GTS participant Gabrielle Fundaro, an assistant professor of exercise science at Georgia Gwinnet College in Lawrenceville, Georgia, currently teaches introductory science, sports nutrition, anatomy, and physiology.

"Participating in the GTS Program was invaluable," said Fundaro. "It enriched my whole graduate experience, and getting feedback from my collaborative professors, Associate Professor Donna Westfall-Rudd and Associate Dean Susan Sumner, was one of the reasons I found the program so helpful."

Even though Fundaro had been an instructor of record at Virginia Tech, she would not have been prepared to teach effectively had it not been for participating in the program, she said. She learned to employ the new technologies and positive teaching structures that helped her develop curriculum for students who are nontraditional learners and primarily first-generation college students.

Another participant, human nutrition, foods, and exercise student Angela Bailey, is a three-quarter-time instructional faculty member in health and exercise science at Rowan University in Camden, New Jersey. She received her doctorate in December.

As a GTS participant, Bailey took advantage of networking opportunities such as the Center for Instructional Development and Educational Research's workshops and conferences. These events allowed greater interaction with faculty members who offered tips, advice, and a forum for discussing higher education teaching methodologies.

At one event, Bailey learned how to engage students in a large classroom and steer away from passive lectures by using clicker technology to take spontaneous, real-time polls of students, which is an effective engagement tool for large classrooms.

> "The College of Agriculture and Life Sciences and the mentoring relationships it fostered helped me understand how to design my instruction for more effective learning."
>
> Angela Bailey
> GTS participant

Tess Thompson, associate professor of biological systems engineering (right) and Chelsea Corkins, a doctoral candidate who is part of the Graduate Teaching Scholars Program, discuss strategies for developing teaching concepts using a device that measures water levels.

Michael Granche and Elizabeth Galbreath at the Agriculture Future of America Leaders Conference.

AFA creates future AGRICULTURE LEADERS

By Amy Loeffler

The future of farming may depend on students like Elizabeth Galbreath.

Galbreath, a junior agribusiness major from Street, Maryland, is the campus ambassador for Agriculture Future of America, an organization that identifies, encourages, and supports high-achieving students by preparing them for careers in the agriculture and food industries.

As an ambassador for AFA, Galbreath is the go-to for information on campus about the organization and its mission and goals, as well as its main event, the AFA Leaders Conference, which hosts about 600 students every year in Kansas City, Missouri.

This year, in addition to helping students navigate the competitive application process for the conference, Galbreath will help lead one of the conference's senior-level sessions. She'll attend the conference with 11 other students from the college who were picked to be future agents of change.

Being a voice for agriculture has resonated well with Galbreath, who grew up on a dairy farm and is a self-described "dairy princess." She wants to improve communication between consumers and producers by making sure that nonfarming civilians know the story behind how their food is grown and promote AFA's philosophy of having open and thoughtful dialogue about agricultural production.

"AFA has allowed me to understand that we're all in this industry together as producers. The different ways of farming, whether it's conventional, organic, or a small family farm, require all of us working together to get the message out that farmers are making a safe, healthy product that we take pride in," Galbreath said.

Galbreath presented at this year's TedxVirginiaTech event in November.

AROUND THE COLLEGE

Virginia Cooperative Extension once again held its popular **Extension Day at the State Fair**, which included educational exhibits on food safety, 4-H youth development programs, gardening, emergency preparedness, nutrition, aquaculture, and much more. Students in the Ag Econ/NAMA Club handed out grain jars during the fair, while Block & Bridle members served up its popular barbecue.

Associate Professor Boris Vinatzer is serving as the **interim head of the Department of Plant Pathology, Physiology, and Weed Science**.

The **College Diversity Council hosted a Diversity Showcase** in October. Groups from around the university gathered to share their ideas on how to promote and expand inclusion efforts around the college and the university.

Professor Glenda Gillaspy was recently named **head of the Department of Biochemistry**. Gillaspy's research focuses on molecular pathways that plants use to respond to the environment, which is important for developing strategies to increase crop yield in stressful or nutrient-poor soil conditions. She also does extensive outreach work with local elementary and high school students.

At the end of August, the corpse flower dubbed **"Stinky Phil"** bloomed for the first time in 11 years, unleashing a malodorous stench akin to rotting flesh. More than 1,500 people came out to see the flower in the Jacob A. Lutz Garden Center, and Phil became a local celebrity and social media sensation with the hashtag #stinkyphil generating 1.7 million impressions on Twitter. Check out a video of the unfolding flower at http://news.cals.vt.edu/innovations.

The college held its annual **Scholarship Banquet** in October, when students who received the more than 240 available scholarships were able to personally thank and meet some of the people who made the more than $1 million in scholarships possible.

Daniel Giraldo, who is majoring in biochemistry and human nutrition, foods, and exercise, spoke about the value of the scholarships and thanked his mom, Elena Lewis, during his talk.

Tim Kring became the **head of the Department of Entomology** in January. Kring came from the University of Arkansas, where he worked on biological control of insect and weed pests, the impact of beneficial insects, pest management, and insect biology, among other topics.

Gov. Terry McAuliffe was one of the many people who attended the **Governor's Agriculture and Industry Biotechnology Conference** in Danville, which is geared toward boosting biotech companies around the state. Professor M.A. Saghai-Maroof (right) with the Department of Crop and Soil Environmental Sciences is one of the researchers from the college who is leading the way in agricultural biotechnology.

The 2015 **Agency 229 Annual Report** that highlights the impacts of Virginia Cooperative Extension and Virginia Agricultural Experiment Station was published last fall. The report describes how research and outreach from the two organizations touch dairy production, forestry management, food security, and youth development, among other issues. The report can be viewed online at http://news.cals.vt.edu/innovations.

ALUMNI **HAPPENINGS**

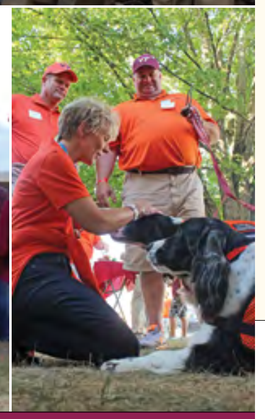
CALS FallFest homecoming celebration

More than 300 alumni, faculty, staff, and students from the college celebrated with friends from the College of Food, Agricultural, and Environmental Sciences at The Ohio State University before the Virginia Tech-Ohio State game Sept. 7. Among the guests were Rich Linton (left), dean of the College of Agriculture at North Carolina State University who received three degrees from Virginia Tech, and Bruce McPheron (center), dean of the College of Food, Agricultural, and Environmental Sciences at The Ohio State University, pictured here with Dean Alan Grant (right).

Grant and Linton made a friendly wager before the game that the losing team in the Virginia Tech-North Carolina State game had to send a gift basket of agricultural products from his home state to the winner. The Hokies were victorious and a basket of peanuts, barbecue sauces, and pickles was sent north!

Virginia Tech and **Purdue tailgate**

The college and the Purdue University College of Agriculture co-hosted a tailgate for alumni and friends before the Hokies defeated Purdue on Sept. 19. Jamie Lucero (left), the college's director of alumni relations, and Donya Lester, executive director of the Purdue Ag Alumni Association and a 1983 alumna of Virginia Tech's animal science program, were among the many people in attendance.



Regional alumni dinner and program

The CALS Alumni Organization hosted its annual event prior to the Virginia Ag Expo at Prince Michel Vineyard and Winery in Leon, Virginia, on Aug. 5. Alumni and friends gathered for an outstanding meal and program featuring updates on the college and Virginia Cooperative Extension and a lecture on preserving water quality and quantity in Virginia by Kang Xia, an associate professor of crop and soil environmental sciences. CALS Alumni Organization board member Rob Harrison (dairy science '80) addressed the crowd.

News from the **CALS Alumni Organization**

At its fall meeting, the CALS Alumni Organization welcomed three new board members: Normand Adams (environmental horticulture and agribusiness management '15) of Farmville, Virginia; Melinda Cep (animal and poultry sciences '05, veterinary medicine '09) of Washington, D.C.; and Nancy Meacham (animal science '83, '87) of Blacksburg, Virginia.

Many thanks to the current executive committee members for their continued outstanding leadership to the organization: Tim VanReenen (agricultural and applied economics '06, career and technical education '08) of Hillsboro, West Virginia, president; Dixie Dalton (agricultural economics '86, '89) of Kenbridge, Virginia, vice president; and Ryan Burnette (biochemistry '99, '04) of Richmond, Virginia, past president.

Please visit the organization's website at www.cals.vt.edu/alumni/cao/index.html for biographies of the organization's leadership.

All graduates of any degree program offered by the College of Agriculture and Life Sciences at Virginia Tech are automatically members of the CALS Alumni Organization. There are no dues to join — only opportunities to be involved with committees that focus on student activities and scholarships, alumni engagement, alumni recognition, and a new mentoring program. We welcome your participation!

Alumni Making a Difference

Rosalea Potter (agricultural education '04) is part of a seventh-generation farming operation in Lexington, Virginia, where she helps manage Donald's Meat Processing, her family's meat packing plant, and Buffalo Creek Beef.

As a Hokie, she's kept the *Ut Prosim* (That I May Serve) spirit a vital part of her life by serving on the board of the Virginia Department of Agriculture and Consumer Services and making the agricultural community's voice heard.

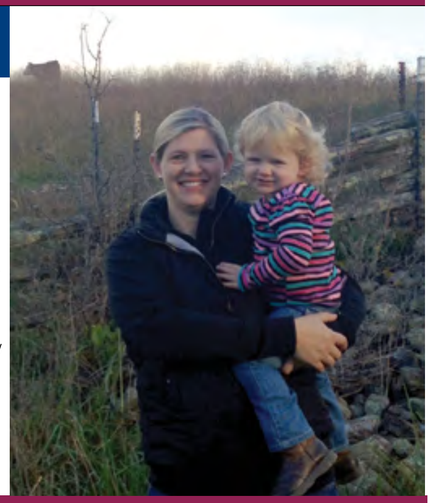
"Being part of the agriculture industry has been very beneficial to me, and any way I can help the industry, it's a win-win situation," she said of her participation on the board, which she has been on since 2011.

A former classroom teacher, Potter has also continued to be a voice for education and an advocate for all kinds of agricultural production, although her audience has changed slightly. Now Potter's classroom consists of consumers at the farmers market or the meat processing plant where clients in the area come to buy local meat and discuss why they think local foods are important.

"We serve several different clientele," said Potter. "We see young people in their 30s that are just married and are concerned about healthy lifestyles and the way they eat. We also see young families that are concerned about what their children are eating.

"We have an older generation of retirees coming to us as well. The local foods movement promotes more the way they grew up and the lifestyle they were raised on," she said.

Potter also incorporates sustainable practices into Buffalo Creek Beef by using local brewers grain from Devils Backbone Outpost Brewery, which ensures a consistent product year-round.



Get involved!

For more information, please reach out to any board member or our college's director of alumni relations, Jamie Lucero, at 540-231-9666 or jlucero@vt.edu.

www.cals.vt.edu/alumni

Researchers, students, and industry all benefit from new dairy science complex

By Zeke Barlow

More than 1,500 people celebrated the grand opening of the new Dairy Science Complex – Kentland Farm in July.

Virginia Tech President Timothy D. Sands and Virginia Secretary of Agriculture and Forestry Todd Haymore, along with Mike Akers, head of dairy science, and Ed Jones, director of Virginia Cooperative Extension, were among the many speakers at the opening who talked about the importance and impact of the new facility.

The event was held in conjunction with a field day put on by the Virginia State Dairymen's Association and the Virginia Cattlemen's Association.

Shortly thereafter, the Virginia Tech Board of Visitors approved the proposed design for the second phase of the complex. The $7.6 million facility will include an applied reproductive physiology facility adjacent to the Virginia-Maryland College of Veterinary Medicine, an intensive metabolic research facility at the Kentland Farm complex, and a bovine extension, teaching, and research facility on Plantation Road.

"The new facilities provide great opportunities for students desiring a hands-on, experiential education," said Alan Grant, dean of the college. " They will also allow the faculty to conduct innovative research that is important for the dairy industry."

From left, Jason Carter, executive director of the Virginia Cattlemen's Association and the Virginia Beef Industry Council; Eric Paulson, executive secretary of the Virginia State Dairymen's Association; Todd Haymore, Virginia Secretary of Agriculture and Forestry; Virginia Tech President Timothy D. Sands; Mike Akers, department head and professor of dairy science; and Ed Jones, director of Virginia Cooperative Extension, cut a ribbon to celebrate the opening of the new Dairy Science Complex in July.

More than 1,500 people attend the grand opening of the new dairy, which included tours of the milking parlor.

Growing 4-H SCIENCE

By Lori Greiner

During the first week of October, middle school students from Richmond got to experience first-hand Virginia's No. 1 industry: agriculture. The students, along with parents and educators, traveled across the state exploring Virginia's $55 billion agriculture industry during the five-day tour.

The 4-H Science, Commodities, and Industry Tour was designed to teach STEM (science, technology, engineering, and math) and career awareness through experiential learning in agriculture and to support positive youth development in the city of Richmond. It was sponsored by the Growing 4-H Science grant and Richmond 4-H.

On the first day of the tour, a send-off was held at the Science Museum of Virginia with messages from Secretary of Agriculture and Forestry Todd Haymore and Agriculture and Consumer Services Commissioner Sandra Adams.

Adams told the students that only 2 percent of U.S. citizens are engaged in farming, and that the remaining 98 percent don't always understand where their food comes from.

"If I, a city girl from Harrisonburg, can become commissioner of agriculture, just think what you can do," she said.

During the tour, students visited family farms, Virginia Tech's Agricultural Research and Extension Centers, alternative-farming venues, and related businesses.

"The mission was to engage, educate, and empower through agriculture, and we met the mark," said Sarah Morton, director of Growing 4-H Science in Richmond.

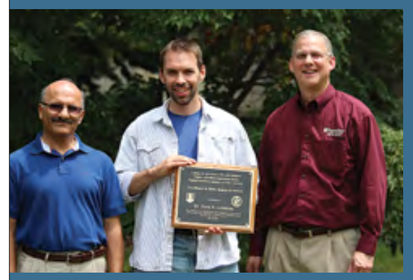
"This week has been so much fun! I learned about where my food actually comes from," said Sophia, one of the students. "I am so excited to go back to my school and tell them how we can get involved. I loved this trip and would definitely consider a career in STEM."

Middle school students from Richmond stopped by the Dairy Science Complex - Kentland Farm to learn about dairy farming as part of the 4-H Science, Commodities, and Industry Tour.

OUTSTANDING faculty recognized

Renee Boyer, an associate professor and Virginia Cooperative Extension specialist in the Department of Food Science and Technology, received the 2015 Andy Swiger Land-Grant Award. The award recognizes faculty whose creative accomplishments help to fulfill the land-grant mission of addressing state and national needs through teaching, research, or extension.

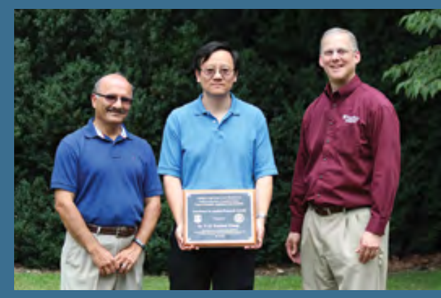
Boyer's programs focus on food safety, including routes of fruit contamination and the evaluation of antimicrobial agents. In addition to a plaque, Boyer received a $2,000 award, plus an additional $2,000 in operating funds. She is pictured at right with former Dean Andy Swiger (left) and Dean Alan Grant.



Associate Professor of Entomology Zach Adelman received the Excellence in Basic Research Award.
He heads a basic research program in molecular and vector biology, focusing primarily on the mosquito and the diseases it transmits, such as yellow fever, Dengue, and chikungunya viruses. Adelman (center) received the award from Associate Dean Saied Mostaghimi (left) and Dean Alan Grant.

Professor of Biological Systems Engineering Percival Zhang (center) won the Excellence in Applied Research Award for his significant scholarly contributions with a focus on disruptive biomanufacturing for food, biofuels, and biochemical production.

Adelman and Zhang received plaques, and each was awarded $5,000 from the college to be used in support of their research programs.



VirginiaTech
College of Agriculture and Life Sciences

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Alumni Awards

The Inn at Virginia Tech and Skelton Conference Center
Friday, April 1, 2016
Presentation of awards 1-2 p.m.
Dessert social 2-3 p.m.
Evening reception 6-7 p.m.
Dinner and program 7-9 p.m.

RSVP at http://attend.com/alumniawards2016

For more information visit www.cals.vt.edu/alumni

PILOT PLANT helps build bridges between industry and Virginia Tech

By Zeke Barlow

Things are really cooking in the Human and Agricultural Biosciences Building 1 pilot plant these days.

In one corner of the 7,100-square-foot room, DuPont Teijin Films is working with researchers from the Department of Food Science and Technology on innovative ways to package and process foods ranging from chicken and bread to broccoli and beans.

Meanwhile, Tyson Foods and Virginia Tech professors have been developing ways to create a new Ball Park product line that uses the best food safety techniques available.

At the same time, Kollmorgen, which manufactures components used in food processing equipment, has been bringing some of world's biggest food and beverage companies to the pilot plant to learn about advancements in hygienic design and sanitation as they work with the donated machines that fill the room.

There is also a fully operational brewhouse so beer companies in the ever-growing craft beer industry can come and perfect their brewing techniques.

These are just a few of the many relationships the Department of Food Science and Technology has developed in the 18 months since the building was completed. Each one is having a unique benefit to the companies as well as to the university, its researchers, and students.

"What we are doing is building bridges," said Joe Marcy, head of the department. "Once you build it, you can expand it, make it wider, and make it stronger. The advantages to everyone involved continue to expand."

For a company, having the space to test the best ways to prepare or package new product lines without shutting down its own manufacturing lines is invaluable.

"Virginia Tech was critical to us assuring the safety of our new product," said Bob Reinhard (food science and technology, '90, '95), vice president of food safety and quality at Tyson Foods, which tested the processing of a new line of products at the pilot plant before launching a manufacturing line in Martinsville, Virginia.

The companies working in the pilot plant often donate the equipment they are testing, allowing researchers to work on the most state-of-the-art food processing machines around. Research that is being sponsored by the companies help make advances in food science fields such as food sensory evaluation and microbiology.

Students have the opportunity to work alongside professionals from some of the biggest names in the food industry, which not only gives them invaluable experience, but also provides them with an entrée into the job market and a network of contacts. Panels of industry leaders often serve as judges for students' poster sessions, and industry partners are also sponsoring a number of scholarships.

"I call the pilot plant my engagement space," Marcy said. "This great room brings all our missions together — research, outreach, and academics — in a way that is beneficial to everyone."

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