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The College of Agriculture and Life Sciences

THE SKY'S THE LIMIT

at 4-H camp where kids learn about life, the universe, and everything in between

By Amy Loeffler

Rocket science requires lots of high-tech instruments, but when you're a young 4-H'er, there's one thing that is essential to your airborne creation's design.

"We've got stickers over here to decorate your rocket," said Spencer Gee, 20, from Tazewell, Virginia, a camp counselor at the Northern Virginia 4-H Educational Center outside of Front Royal.

Gee is teaching a Create, Innovate, Solve class where the kids are using nothing but PVC pipe, construction paper, Scotch tape, a 2-liter soda bottle, and, most importantly, their imaginations to make rockets and study the principles of physics.

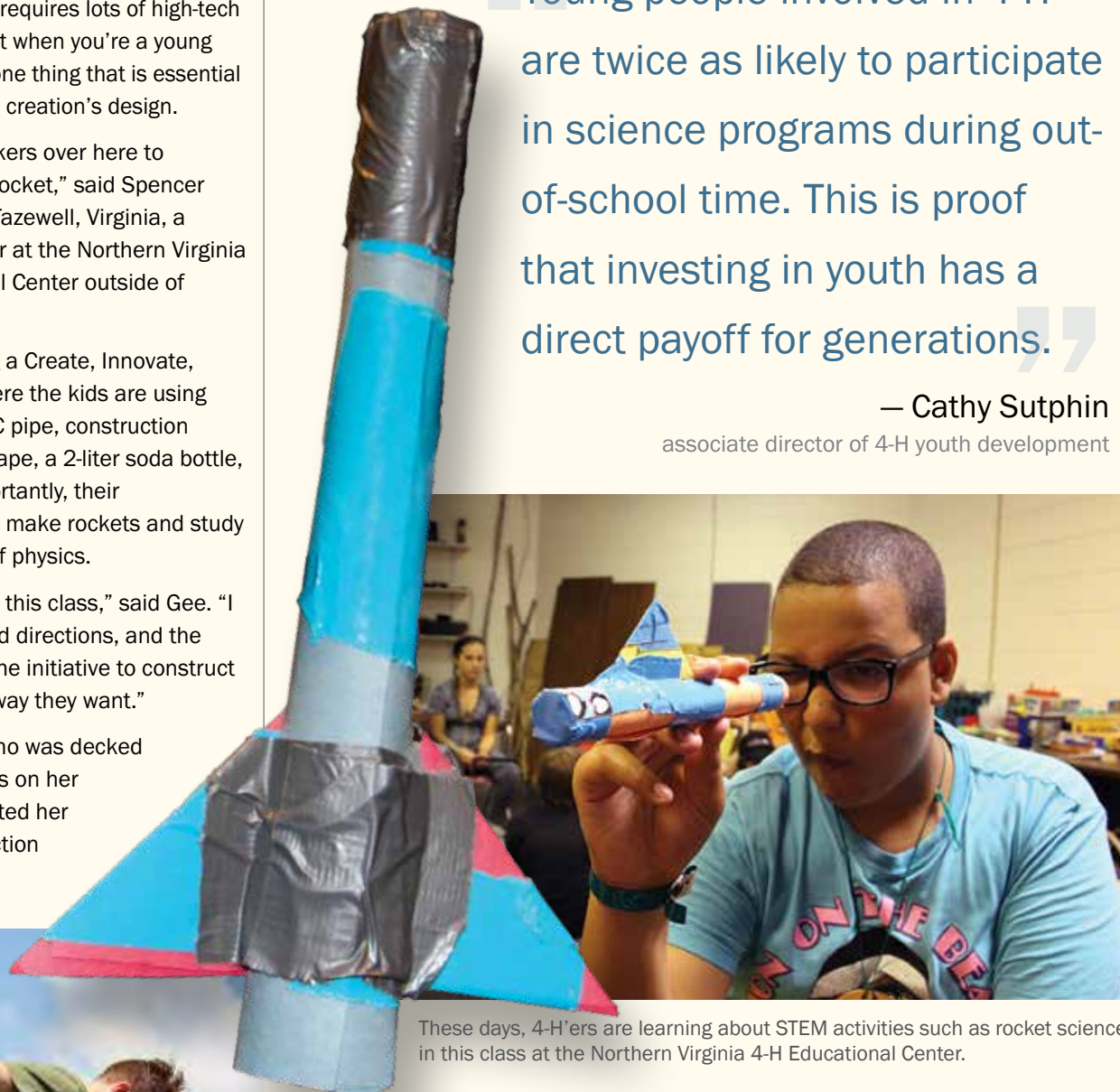
"I love teaching this class," said Gee. "I give open-ended directions, and the campers take the initiative to construct the rocket the way they want."

One camper, who was decked out with stickers on her cheeks, decorated her purple construction

“Young people involved in 4-H are twice as likely to participate in science programs during out-of-school time. This is proof that investing in youth has a direct payoff for generations.”

— Cathy Sutphin

associate director of 4-H youth development



These days, 4-H'ers are learning about STEM activities such as rocket science in this class at the Northern Virginia 4-H Educational Center.

paper fuselage with black and white checkerboard stickers. Another tempted the laws of physics by opting for fins made of triangular-shaped pipe cleaners in lieu of the more-popular paper additions.

The rocket stomper class is based on the Maker Program, which encourages young people to learn about science, technology, engineering, and math through building activities.

The camp class is about more than building rockets out of construction paper though. It's about building confidence while teaching life skills and allowing the kids who attend 4-H camp to make their own choices.

The classes taught here are indicative of the evolving face of 4-H that maintains its tradition of agriculture-based learning systems while fostering many aspects of knowledge and team building in classes that teach everything from

tie-dye to yoga to STEM during overnight camps. About 17,000 Virginia youth attended a 4-H camp a year. Across the state, more than 103,000 participated in STEM activities at camps or in their home communities in 2015-16.

"Young people involved in 4-H are twice as likely to participate in science programs during out-of-school time. This is proof that investing in youth has a direct payoff for generations," said Cathy Sutphin, associate director of 4-H youth development. "That's the strength of 4-H."

One camper, Kristopher Scott, 14, from Manassas, Virginia, has discovered a new passion for science.

"Yesterday we learned about the difference in density between oil and water when we made lava lamps," he said. "I've always liked science. I never really thought I was that interested in it until I came to 4-H camp."



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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 Innovations can be found at

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



Dean's Update

Greetings from CALS,

At 4-H camps across the commonwealth, more than 17,000 children a year experience the time-honored traditions of 4-H that promote good citizenry and community service through the 4-H motto, "head, heart, hands, and health."

But as times have changed, so has 4-H.

In programs around the state and the country, the nation's largest youth development organization is rising to meet the demands of a new century. While activities that 4-H is known for, such as livestock judging, continue to be the cornerstone of 4-H foundational leadership, 4-H also now teaches a wide array of STEM subjects, including drone technology, robotics, and electronics.

Much like the cover story in this issue of Innovations illustrates, Virginia 4-H camps provide opportunities to foster these modern skills in a traditional 4-H environment.

4-H's goal of preparing students for a new generation of challenges dovetails with the college's mission to groom successful leaders for the 21st century. We are working with a new university-wide initiative called "Beyond Boundaries" — a program to create purpose-driven students for an increasingly interconnected, global world.

Speaking of innovation and change, we are looking forward to the college's new School of Plant and Environmental Sciences. This school — which includes the departments of horticulture; crop and soil environmental sciences; and plant pathology, physiology, and weed science — will allow a breadth of collaboration and cooperation among departments while creating new education and research opportunities for faculty and students. The proposal for establishing the new school is currently making its way through the review and governance processes.

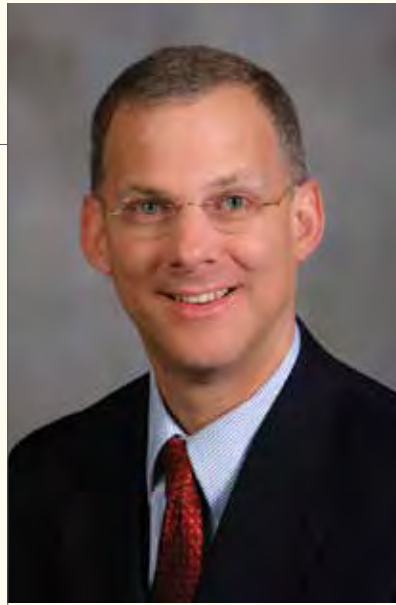
On the international front, Professor Tom Thompson has recently been appointed as the new CALS associate dean and director of international programs. Tom, who has been the head of the Department of Crop and Soil Environmental Sciences for the last five years, will focus on growing the college's international programs across our teaching, research, and Extension missions.

As always, thank you to our friends and alumni who continue to support the college in so many different ways.

Sincerely,

Alan Grant

Dean



Alan Grant, dean

“We are working with a new university-wide initiative called “Beyond Boundaries” — a program to create purpose-driven students for an increasingly interconnected, global world.”



Innovations is going digital

Starting next year, most readers will begin receiving Innovations digitally via an email pointing you to the Innovations website where you can read the issue.

Much like the current Innovations website, it will have all the news and updates about the college, including student activities, research discoveries, Extension outreach, and alumni accomplishments.

To ensure that you stay up to date on the latest college developments, please update your contact information at www.alumni.vt.edu/gateway.

If you would like to continue to receive a print copy or have any questions about the change, feel free to contact Zeke Barlow, Innovations editor, at calseditor@vt.edu or 540-231-5417.

In the meantime, be sure to check out all the news and information from the college at <https://news.cals.vt.edu/innovations>.



Alumni Making a Difference: Scott Stevens



Scott Stevens says working with young people at 4-H camp is a truly rewarding experience.



There are the times when being a 4-H camp volunteer means the days are long and the pace is fast and trying to keep up with more than 400 kids is a challenge.

But Scott Stevens wouldn't have it any other way.

“To see and feel the excitement from the 4-H campers as they jump off the bus and to hear them share their

stories is priceless,” he said. “Some of my favorite memories are from when I had the opportunity to spend time with campers who came from challenging family situations. To see the love in their eyes, knowing that others truly care for them, means the world to me. It is all about giving back.”

Stevens, a 1992 graduate in animal science, has been involved in 4-H since he was

a fourth-grader growing up in Bedford County, Virginia. He started using the lessons he learned in 4-H to help his community long before he ever heard the words “*Ut Prosim*” (That I May Serve), and his years at Virginia Tech solidified his belief in volunteerism. He hasn't looked back.

Stevens manages the retail and agronomy sectors at the Rockingham Cooperative store in Troutville, Virginia. In addition to volunteering for 4-H, Stevens is active in several local Botetourt County organizations. He gives back to the university and the college by serving on the boards of the CALS Alumni Organization and the Virginia FFA Foundation, and he is involved with the new CALS mentoring program.

Though Stevens gives freely of his time, he often feels as though he's the one benefitting from his experiences.

“The emotional and mental return I get from working with so many young people is truly overwhelming at times. Volunteering has a way of re-energizing the soul,” he said.

Keep up to date with all the college's news and upcoming events at

www.cals.vt.edu

Taking a bite out of the Zika virus

by Zeke Barlow

For years, researchers in the college have worked to develop ways to fight the many diseases and problems that mosquitoes cause, from malaria to the West Nile virus.

Now they are setting their sights on the newest threat from mosquitoes — the Zika virus.

Earlier this year, the World Health Organization labeled the virus a public health emergency after it was found to be spreading widely in Central and South America.

To combat the virus' spread, researchers in the college are tackling it from a number of angles that include everything from genetics to public education.

"Mosquitoes have a long reputation for being nasty, disease-carrying insects," said Zhijain "Jake" Tu, a professor in the Department of Biochemistry. "We are trying to keep Zika at bay and reduce the impact and reach of the virus."

Tu is working on a way to reduce the number of female mosquitoes in a population through genetics. Females are the only ones who bite, which is how diseases are spread.

"We are testing the hypothesis that insertion of key male-determining genes into the genome of female mosquitoes could produce fertile or sterile males or simply female lethality, any of which will result in fewer females," said Tu, who published a paper on the subject earlier this year.

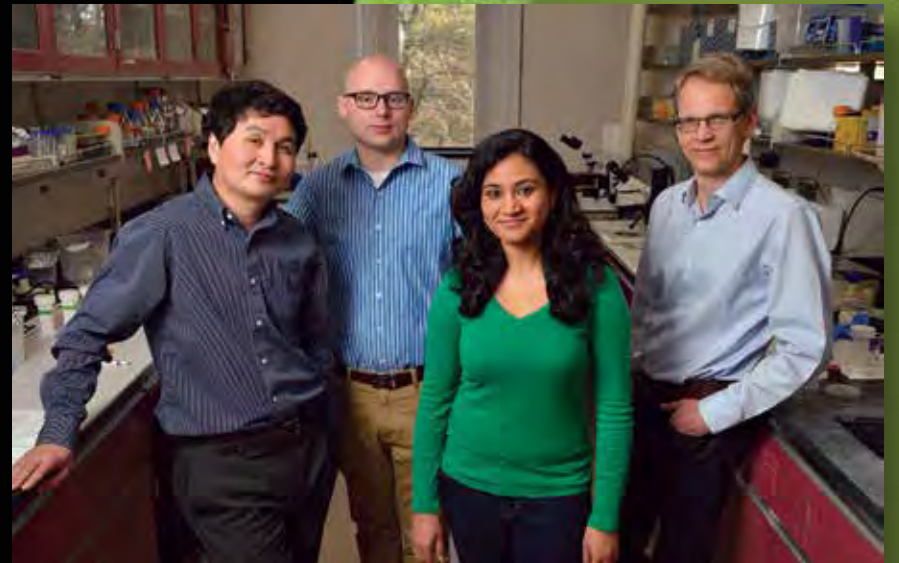
Meanwhile, Maria Sharakhova and Igor Sharakhov, both in the Department of Entomology, are part of an international team of researchers that was featured in the New York Times for its work on mapping the genome of the Zika-transmitting *Aedes aegypti* mosquito so that better mechanisms to fight it can be developed.

Jinsong Zhu, an associate professor of biochemistry, may use that research as he develops pesticides that can target the mosquitoes.

In the meantime, Eric Day, manager of Virginia Cooperative Extension's Insect Identification Lab, recommends using common sense to keep the bugs out of your environment.

"In yards and around businesses, they are going to be breeding in locations such as stopped-up gutters, birdbaths, old containers, tires, or any structure that collects and holds water," he said.

Virginia Tech researchers are working on ways to stamp out the Zika virus and other diseases mosquitoes carry.



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Virginia Tech researchers itching to learn more about poison ivy conduct research along Appalachian Trail

By Amy Loeffler

You don't have to be a scientist to know about poison ivy's ability to cause an all-consuming itch and terrible rashes, but scientific knowledge about the plant itself and how it grows is scant.

John Jelesko, associate professor of plant pathology, physiology, and weed science, is part of a team of researchers that is out to change that. He and his collaborators recently hiked a section of the Appalachian Trail to map growth patterns of poison ivy using a smart phone app. They also cataloged samples by hand to learn more about where poison ivy propagates and its genetic makeup.

Jelesko hopes to eventually hike the entire Appalachian Trail, extensively cataloging the poison ivy samples he finds and enlisting the help of citizen scientists to geotag poison ivy populations.

Though he didn't experience any itching on the team's most-recent research trip, Jelesko did pick up a nickname, courtesy of his fellow hikers. The name? Rash.



John Jelesko (left), professor of plant pathology, physiology, and weed science and his team hiked part of the Appalachian Trail this summer in order to study poison ivy's genetics and its growth behavior.



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

StREAM Lab

creates a healthy future for historic Stroubles Creek

By Zeke Barlow

You can't talk about the history of Blacksburg — or the campus of Virginia Tech — without talking about Stroubles Creek.

The original 16 square blocks that defined the town of Blacksburg were outlined in the late 1700s based on the location of the springs that create Stroubles Creek. The water leaves downtown and flows under campus and the Drillfield before it travels southwest and creates the Duck Pond.

From there it is pinched between roads and under Route 460 before reaching the old Heth farm property, where a dedicated group of researchers and students want to make sure the future of the creek is a healthy one for the historic waterway.

Since 2010, the Stream Research, Education, and Management (StREAM) Lab has been a steward of the creek as well as a living classroom where students can conduct research in a setting unlike any other in the country. The lab consists of more than 50 acres of riparian habitat where red-winged blackbirds and swallows flit along the streambed as students conduct some of the most unique research in the country.

"This is a very rare environment that gives both undergraduate and graduate students access to a laboratory where they can do research on issues facing watersheds around the world," said Cully Hession, the director of the program and a professor of biological systems engineering. "It connects students to the issues they will be facing after graduation and gives them an experience they couldn't get anywhere else."

While students at other universities may get to study hydrology or sediment flow in a textbook, at the Virginia Tech StREAM Lab they get to strap on a pair of waders and head out to the creek where they find out firsthand what it is like to work on a waterway. They also use other nearby streams and creeks in their work.

More than 16 classes from across campus use the lab for field excursions and research projects that involve everything from engineering hydraulics to measuring the impact of livestock. More than 20 graduate students have done all or portions of their master's or Ph.D. research with data from the creek, and, in doing so, they have created new insights on greenhouse gas emissions, the impacts of livestock grazing on watersheds, and sediment fate and transport, among other things. Another project is developing a data visualization of the stream using 3-D and virtual reality equipment.

Faculty from a host of disciplines collaborate on smaller projects at this research "common" that allows them to successfully bring in large research grants they couldn't get without working as a team with the stream as their laboratory.

In years to come, Hession wants to foster more involvement with local schools and community residents so they can learn about and be a part of the future of the creek that has such a storied history at Virginia Tech.



The StREAM is one of the most unique learning and research laboratories in the country.



Summer internships pave the way for success

By Amy Loeffler

Many new graduates take their newly minted degrees far away from where they grew up, but not Rebekah Slabach.

Slabach, 22, graduated in May with a double major in agricultural sciences and applied economics management and returned home to Halifax County to use her academic training. Now, she is embarking on her career as an agriculture and natural resources agent with Virginia Cooperative Extension.

Slabach got a sneak peek into her future career with an internship about a year ago. She worked with several agents in a rotation that included agriculture and natural resources, forestry, and 4-H. Her activities varied greatly. On any given day she might have helped to deliver a calf, conduct a soil test, or teach kids about the importance of soil conservation.

"The internship showed me I could actually do this job," she said. "Having the opportunity to go back home and

work where I grew up is a fantastic way to give back to the area," said Slabach.

Whether they return to their hometowns or venture farther afield, many students use internships as a way to morph their academic learning into career-building endeavors or use them as a springboard into a new job.

"One of the most interesting aspects of our internship program is that it exposes students to a career opportunity with Extension that they may not have considered on their own," said Joe Hunnings, who coordinates Extension's internship program. Others from the college who take advantage of internships — through Extension or otherwise — say the experience is invaluable.

Linda Beckett, 20, a senior from Frederick, Maryland, chose an internship that took her outside her comfort zone — culturally and agriculturally speaking.



Linda Beckett chose to broaden her horizons as an intern by serving as an ambassador to youth from Saudi Arabia who were visiting Washington, D.C.

Beckett, a dairy science and animal and poultry sciences double major, sought out internationally focused work with Legacy International and the Saudi Young Leadership Entrepreneurship Program.

"We work with lots of animals as ag majors, but we forget about the human aspect," said Beckett. "Even though I am an ag major, it's beneficial for me to do something on an international scale and interact with others, since at some point I want to go to graduate school, where communication skills will be helpful."

AROUND THE COLLEGE



Earlier this year Kathleen Jamison brought 4-H mission goals across the Atlantic to the West African nation of Senegal. She and her team helped scale up the Positive Youth Development Program in Agriculture in three locations throughout the country.

Jamison, professor emerita and Virginia Cooperative Extension specialist in 4-H youth development, and her team completed a series of training workshops designed to motivate young people to understand agriculture, become agriculturalists, and get involved in family farms and their communities.

“4-H provides opportunities for younger members of the community to express themselves and be heard,” Jamison said. “This is important since young people continue to spread knowledge about new technologies and approaches to problem-solving in their own communities.”

You no longer have to come to Blacksburg to experience the college. A new series of virtual reality images posted on Google Maps allows viewers to peek inside a classroom, laboratory, a dairy, and even Lane Stadium. The images highlight the diversity of directions a degree from the college can take you.

Visit www.cals.vt.edu to see them all.



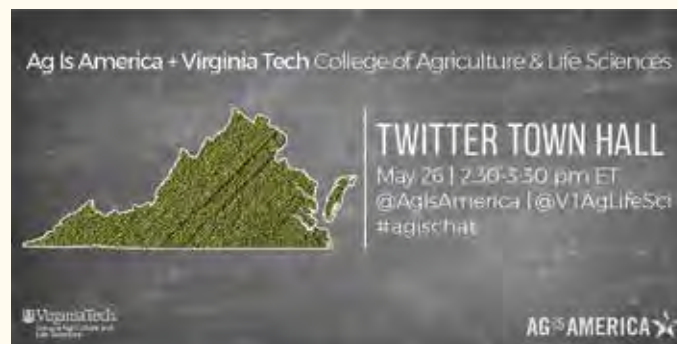
Look for fresh and insightful impact stories that are now featured on the Virginia Cooperative Extension blog. These stories highlight the good work that Extension carries out across the state. Read more at <http://blogs.ext.vt.edu/vce-news>.



The National Health Outreach Conference took place at the Hotel Roanoke in April. Faculty members from Virginia Tech and specialists and agents from Virginia Cooperative Extension gathered to hear about the latest nutrition and health research and help develop policies to cure the obesity epidemic. Virginia’s first lady, Dorothy McAuliffe, made an appearance to show her support for nutrition initiatives.

Melissa Chase (above left), the manager of Extension’s Consumer Food Safety Program, welcomed Cynthia Lawrence, the chairwoman of Food for Thought, to the event.

The college partnered with Ag Is America to host its first Twitter town hall meeting this spring. The subject? Food safety. Experts from our Department of Food Science and



Technology chatted and shared their knowledge in an hour-long event that engaged everyone from local politicians to Virginia Tech President Tim Sands. Our food safety experts tackled questions that ran the gamut: Are probiotics healthy? Do I have to refrigerate ketchup, soy sauce, and other condiments? What temperature is safe for grilled meat? You get the idea.

Start a conversation with us on all your favorite social media outlets.



More than 500 people had their photos taken at our photobooth at the State Fair of Virginia, including Gov. Terry McAuliffe. Find all the photos on the college’s Facebook page.



The college welcomed eight tenure-track new faculty members this year, including Vitor Mercadante, assistant professor of animal and poultry sciences and Catherine Laroche, assistant professor of agricultural and applied economics. Learn about our new faculty members at www.cals.vt.edu.

Alumni Happenings

CALS MENTORING PROGRAM



Through the support of a generous donor and commitment from the college, the Alumni Organization has established a mentoring program for undergraduate students in agribusiness-focused majors. Partnering with the advising faculty in the Department of Agricultural and Applied Economics, 15 students were matched with 15 alumni and supporters of the college who work in the agribusiness industry.

Events throughout the academic year will focus on career exploration, goal setting, interviewing skills, preparing resumes, identifying and applying strengths, etiquette training, and networking. Students will also

complete a job-shadowing experience in their area of interest.

The program's goals are to better prepare students to enter the workplace and to provide an avenue for internship and employment opportunities. Mentors will have a chance to identify potential talent for industry and share valuable professional experience with the next generation of Hokie alumni. The mentoring initiative provides new opportunities for collaboration and for building and strengthening relationships between alumni, industry, and the college.



Annual alumni gathering at Virginia Ag Expo



The CALS Alumni Organization's annual alumni gathering at the Virginia Ag Expo was held at the Keystone Truck and Tractor Museum in Colonial Heights. Alumni heard updates about the campus and the Alumni Organization and spent time enjoying the museum's displays.

Board elections

Four CALS alumni will bring their diverse majors, student experiences, and industry expertise to the Alumni Organization as they begin three-year terms as elected members to the organization's board of directors.

Officer elections were also held at the organization's annual meeting. Dixie Dalton (agricultural economics '86, M.S. '89) will serve as president for the next two years. Heidi Hertz (human nutrition, foods, and exercise '04) joins the executive team as vice president. Tim VanReenen (agricultural economics '06, M.S. career and technical education '08) will continue his role on the executive committee as past president.

The CALS Alumni Organization exists to promote fellowship and networking among alumni and students and to advance the teaching, research, and extension missions of the college. More information on the organization, its leadership, and how you can become involved is available at <http://cals.vt.edu/get-involved/alumni.html>.

Mingle like you mean it

The CALS Alumni Organization hosts professional development programs for students to prepare them for networking and career opportunities after graduation. During a recent seminar held in partnership with the Office of Career and Professional Development, students enhanced their mingling skills to help prepare for networking events and other important interactions with alumni, industry representatives, and potential employers.



Homecoming

CALS helped kick off the coach Justin Fuente era of Virginia Tech football with its annual homecoming tailgate prior to the Liberty University game. More than 250 alumni, students, faculty, and friends of the college enjoyed a brunch buffet, games, and interactions with student clubs and departments.

New alumni launch party

The college's latest alumni were feted during the CALS Alumni Organization's new alumni launch party in May, where they posted on social media about what it means to be a Virginia Tech alumni. Rebekah Slabach ('16, left) shared her thoughts before heading into the working world as a Virginia Cooperative Extension agent in Halifax County. Dean Alan Grant; Tim VanReenen ('06, '08), president of the CALS Alumni Organization; and Katie Frazier ('04), president of the Virginia Agribusiness Council welcomed the students to the nation of Hokie alumni.

New board members



Renee Dupell
M.S. Life Sciences (Food Science and Technology) '11
U.S. product stewardship and regulatory analyst, DuPont Teijin Films



Lynn Ann Smith
M.S. Life Sciences (Food Science and Technology) '10
Human Nutrition, Foods, and Exercise; Food Science and Technology '08
Environmental health specialist, Virginia Department of Health



Edward Railey
Agricultural and Applied Economics ('03)
Attorney, The Law Offices of Railey and Railey



Anh Tran
Biochemistry ('06)
Senior research associate, Novozymes



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

The College of Agriculture and Life Sciences welcomed more than 750 new alumni on graduation day last May. The newest alumni of the Hokie Nation celebrated by showing off smiles and attending departmental parties held throughout the college.



Virginia Tech alumnus takes the reins at University of Nebraska-Lincoln

Virginia Tech alumnus and Botetourt County, Virginia, native Ronnie D. Green (animal science '83) was named chancellor of the University of Nebraska-Lincoln in May.

Green is now chief executive officer for the Lincoln campus, which enrolls more than 25,000 students in nine academic colleges, employs over 6,400 faculty and staff members, has an operating budget of more than \$1.2 billion and research expenditures of over \$275 million, and boasts a nationally prominent Division I athletics program.

"I am truly blessed, privileged, and honored to serve as the University of Nebraska's 20th chancellor," said Green. "I am a first-generation college student and will always appreciate the top-notch education I received at Virginia Tech. It is humbling to think this proud Hokie is now leading another outstanding land-grant university with worldwide impact."

Prior to being named chancellor, Green was the Harlan Vice Chancellor of the Institute of Agriculture and Natural Resources for six years and jointly served as the vice president for agriculture and natural resources of the University of Nebraska system. In this role, he oversaw the College of Agricultural Sciences and Natural Resources, the two-year Nebraska College of Technical Agriculture, the statewide Agricultural Research Division, Nebraska Extension, and two university institutes — the Robert B. Daugherty Water for Food Institute and the Rural Futures Institute.

Green was raised on a mixed beef, dairy, and cropping farm in Fincastle, Virginia. He received bachelor's and master's degrees in animal science from Virginia Tech and Colorado State University, respectively. His doctoral program in animal breeding and genetics was

completed jointly at the University of Nebraska and the USDA-Agricultural Research Service's U.S. Meat Animal Research Center in 1988.

Earlier this year, the Department of Animal and Poultry Sciences named Green its 2015-16 Outstanding Alumnus.



Ronnie D. Green

NEMO FOUND at Seafood AREC



Mike Schwarz and others at the Virginia Seafood AREC are raising ornamental fish to help drive industry and protect the environment.

When the sequel to the popular "Finding Nemo" movie came out this summer, conservation biologists worried that the same thing that happened to wild fish populations could happen all over again — demand for the clownfish species to adorn fish tanks would go up. That demand for fish from the wild would lead to more pressure on fragile reef ecosystems from where the ornamental fish are taken.

But this time around, the fish had the Virginia Seafood Agricultural Research and Extension Center on their side. There, clownfish are being bred in an aquaculture environment that helps keep native fish in their natural

habitat while creating an economic boon for the aquaculture industry.

"One of the reasons this project is going so well is that it is good for both the environment and for local seafood producers," said Mike Schwarz, a Virginia Cooperative Extension aquaculture research specialist. "The demand is rapidly increasing for ornamental fish, but we have to meet this demand in a sustainable way."

Schwarz and other researchers at the Virginia Seafood AREC have been working with aquaculture sector stakeholders from Virginia to California to help them figure out the best ways to raise and breed ornamental fish.

"At the AREC, we are developing a wealth of knowledge that producers can use to capitalize on this trend in ornamental fish," Schwarz said.

Beyond the cute clownfish, faculty and staff members at the Virginia Seafood AREC are trying to predict the next big demand for ornamental fish. Next to the tanks filled with clownfish are tanks filled with other blue, green, and purple fish, as well as seahorses bobbing up and down.

Who knows, maybe the next blockbuster will be "Seabiscuit the Seahorse." If it is, Schwarz will be ready.

HELP YOUR COLLEGE FLOURISH

The Hahn Horticulture Garden's flowers and trees flourish because they are nourished on a regular basis, which keeps them healthy and strong.

The same is true for the College of Agriculture and Life Sciences. We excel with help from generous people like Mike and Susie Hildebrand, members of the 1872 Society of leadership annual donors.

"My education at Virginia Tech led me to do great things," Mike Hildebrand said. "It's a nice feeling to be able to give back." The Hildebrands fund an internship at his alma mater's showcase garden.

Throughout campus, from classrooms to laboratories to playing fields, annual gifts are helping us build a better university right now.



Learn more about how you can help the College of Agriculture and Life Sciences continue to flourish, and about the 1872 Society that recognizes donors for leadership annual gifts. Contact Brian Plum at 540-231-0391 or bplum@vt.edu.

Helping to roll out Virginia Tech's 'welcome mat'

By Amy Loeffler

Tim Bell plucked weeds from hydrangea beds at the Hahn Horticulture Garden, where blooms of the flowers dotted a sea of green with patches of lavender and rose. But for Bell, this was more than just a moment in a gorgeous garden.

"Working in the garden has broadened my idea of what the green industry has to offer," said the 21-year-old environmental horticulture major from Riner, Virginia.

Bell, who was chosen as a Michael and Susie Hildebrand Hahn Horticulture Garden intern, said being able to work in the garden full time has been an invaluable practical complement to his classroom work. It has made him aware of the importance of aesthetics

— not only in landscaping, but also in other aspects of the green industry, such as fruit and vegetable production and agritourism.

"In agritourism, the landscape can be as important as the crops themselves if you're trying to attract people to your property," said Bell. "That's valuable knowledge I gained from this internship."

Bell, who visited the Hildebrands and their business, James River Nurseries, saw how landscaping integrated various plant varieties at homes and commercial establishments. During his internship, he was also able to implement what he gleaned from those site visits.

"I learned how to install flower beds, and that gave me an idea of how to lay things out and plan what looks good together," he said.

Mike Hildebrand (horticulture '74) started his business in 1983 with a couple of employees and two trucks. Today James River Nurseries sits on 200 acres in Ashland, Virginia, and is a testament to Hildebrand's success and to the bond he and his wife, Susie, have with the Hokie Nation.

Hildebrand sees his relationship with Virginia Tech as symbiotic. He has continued to rely on training from the university and also takes on interns in his business.

"The industry is leading us to a place where we need people who are trained and educated in our field," Mike Hildebrand said. "The Virginia Tech horticulture department and Virginia Cooperative Extension have helped us keep abreast of what's happening in the green industry in our state."

The Hildebrands' gift gives students like Bell the opportunity for a paid internship at the Hahn Horticulture Garden and is in keeping with their history of generosity to agriculture programs at Virginia Tech. The Hildebrands are active volunteers for the horticulture department and the College of Agriculture and Life Sciences, and they also served on the college's steering committee during the university's most recent fundraising campaign. They are members of the Ut Prosim Society, composed of the university's most generous donors. With their current-use gift to establish a garden internship, they also became members of the university's 1872 Society of alumni and friends who make leadership annual gifts.

"The Hahn Garden is the welcome mat to Virginia Tech, and we like the way it has grown over the years," Mike Hildebrand said.



Tim Bell, a senior majoring in environmental horticulture from Riner, Virginia, was able to work as an intern in the Hahn Horticulture Garden because of gifts like the one from Mike and Susie Hildebrand.



Susie and Mike Hildebrand