



Residential communities help students THRIVE



Nicole Kirkwood (left) and Meg Beatty agree that the Da Vinci Residential Learning Community provides a unique support system at Virginia Tech.

by Amy Loeffler

The building that first-year student Meg Beatty lives in might look similar to other residence halls made from Hokie Stone on campus. But as a resident of the Da Vinci Residential Learning Community in Lee Hall, she has a support network that goes well beyond the strength of the stone walls.

“It’s been really helpful to live here as a human nutrition, foods, and exercise major,” said Beatty of Blacksburg, Va. “If you have a question about what’s going on in chemistry lab, you can go down the hall and someone’s probably working on the same problem.”

Da Vinci is one of several residential communities where students are clustered according to academic or personal interests. Virginia Tech offers four types of living-learning communities. Da Vinci was founded as the Biological and Life Sciences Community and is an interactive learning environment designed to help students succeed in first-year science courses, including general chemistry and principles of biology.

Living in Da Vinci has made all the difference to sophomore Nicole Kirkwood’s personal and academic growth at Virginia Tech.

“There’s a really unique support system in Da Vinci,” said Kirkwood, a biochemistry major from Mechanicsville, Va. “When tests come up and when there are final exams, everyone is understanding about time constraints. The night before a test, you can anticipate the hallway being quiet. There’s a mutual respect between your hallmates.”

It’s not all about hitting the books though. Social activities are seen as another avenue for student engagement. This year’s residents

participated in the quintessential Hokie hike to Cascade Falls, kickball, and a gingerbread house competition.

Kirkwood is also a mentor this year and represents one of the layers of support that helps the students who live in Da Vinci adjust to the challenges of college life. As a mentor, she is available to a group of four to five first-year students as the first line of defense when they have questions, concerns, or need encouragement.

Similar to the Da Vinci Living-Learning Community is the Residential Leadership Community. Eric Kaufman, associate professor of agricultural and extension education, is a leadership and social change advisor to students in the community.

“My department really values the opportunities that come with residential living,” said Kaufman.

The leadership and social change minor is often used to complement

studies related to food systems because of the need for agricultural leaders to work as agents of change in communities where they reside.

“Facilitating connections for students helps them thrive at Virginia Tech,” Kaufman said. “It also shows them that they do fit in here and it assists in student retention.”



“It’s been really helpful to live here”

— Meg Beatty



Nicole Kirkwood checks out the 3-D printer in the InVenTs Studio 1 space on the second floor of Lee Hall where the Da Vinci Living-Learning Community is located.

Featured CONTENT

Residential communities help students thrive 1
Dean’s Update..... 2
Alumni making a difference 2
October declared Urban Ag Month in Virginia..... 2
Drones help farmers tap into aerial technology..... 3
New dairy complex planned for Kentland Farm..... 3
Building careers and knowledge via the online master’s program..... 3
Budding entomologists swarm to Hokie Bugfest... 3



A knowing nose

4

Agribusiness major named national FFA president 4
Farming in Kevlar all in a day’s work for Virginia Tech alum 4
Superman’s stuntman hails from CALS, not Krypton..... 4
Capstone experience tops off undergraduate study for APSC students 5
College alumnus joins Virginia Tech Board of Visitors..... 5
Leadership role helps foster healthier people, healthier environments 5
Career fair offers students internships and employment opportunities 5
Coalfields restoration project builds on its past with an eye to the future 5
Scholarship helps student fulfill dream of research in UK and Ireland 6



Supporting military families and their communities

6

Gregg elected VP of national extension organization 6
Students, alumni promote agriculture at state fair 6
Extension gets supercharged with eXtension website 7
Professors push “Beyond Boundaries” at TEDxVirginia Tech 7
STEM Lab opens doors to science 7
Food desert task force takes aim at hunger in Virginia 7
Scholarship recipient makes his mark at Virginia Tech..... 8

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INNOVATIONS
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Dean's Update

Greetings from the College of Agriculture and Life Sciences. We hope you enjoy this issue of Innovations, much of which is focused on CALS students and their educational experiences.

In this issue, you can read about Brian Walsh, an agribusiness major who was recently elected president of the National FFA Organization, a role that will take him around the country for the next year as he meets with agricultural industry and government leaders.

You can learn about our award-winning Dairy Judging Team that is acquiring real-life skills such as decision-making and verbal persuasion that will serve the students well regardless of their career path.

And you can find out how the college is preparing students for rewarding careers by immersing them in a capstone project that gives them the tools needed to thrive after graduation.

These are only a few examples of how the college is training the next generation of leaders in agriculture and life sciences. We believe that we are not just educating students on how to approach issues and solve problems, we are also preparing them for fulfilling careers where they will help the agricultural and life sciences communities grow and expand. This philosophy is at the heart of our land-grant mission.

No matter if our students become veterinarians or researchers, educators or agribusiness CEOs, they leave the college ready for the working world and able to speak the language of the companies, agencies, and organizations for which they will work.

Our college had excellent participation in the career fair on campus last fall. Students networked and explored career opportunities while employers were able to see firsthand the high-caliber students who are preparing to enter the working world.

Alumni and friends play a big role in helping the college prepare our students for life after graduation. You help our students by providing internships, mentoring, and hands-on experiences that enrich their education and allow them to apply fresh knowledge and energy to their professions.

I hope you will find the stories about our students as inspiring as I do. They are an extraordinarily bright group who, with your help, are going to make a big difference in the world.

Sincerely,

Alan Grant



Alan Grant, dean

Alumni and friends play a big role in helping the college prepare our students for life after graduation by providing internships, mentoring, and hands-on experiences.

October declared Urban Ag Month in Virginia

by Lori Greiner

Virginia Cooperative Extension and Lynchburg Grows celebrated the important role that agriculture plays in the commonwealth's economy and the designation of October as Urban Agriculture Month in Virginia with a ceremony at the H.R. Schenkel Urban Farm and Environmental Center in Lynchburg, Va., on Oct. 17, 2013.

The ceremony included a presentation by delegates Kathy Byron, Ben Cline, and Scott Garrett of the Virginia General Assembly; a proclamation by Lynchburg Mayor Michael H. Gillette; and remarks by Ed Jones, director of Virginia Cooperative Extension.

The delegates presented Jones and Michael Van Ness, executive director of Lynchburg Grows, with House Joint Resolution No. 758, designating October 2013 as Virginia's first Urban Agriculture Month. The delegates were among the measure's 27 legislative patrons.

"Urban agriculture can have an important role in filling critical needs within a community," said Jones. "Virginia Cooperative Extension and Lynchburg Grows are a great example of a public-private partnership that supports urban agriculture and the community."

Lynchburg Grows recently celebrated 10 years of educating others about the importance of sustainable local agriculture and healthy living. The organization operates a nine-greenhouse rose and produce farm in the heart of Lynchburg that provides vocational training for disabled and low-income individuals.

"Lynchburg Grows is proud to be considered a leader in educational urban agriculture," said Van Ness. "We promise a hands-in-the-soil learning experience that should leave a lifelong impression on eating habits. We're guided by and advocate principles of sustainability. We provide dignified, gratifying work to disabled folks, and we aspire to self-sufficiency by 2017."



Ed Jones, director of Virginia Cooperative Extension, and Michael Van Ness, executive director of Lynchburg Grows, receive the Virginia General Assembly's resolution designating October as Urban Agriculture Month. From left: Delegate Ben Cline, Van Ness, Jones, Delegate Kathy Byron, and Delegate Scott Garrett.

Alumni making a difference

Many people in Vietnam may be healthier and better off because of Spencer Phillips' pro bono environmental consulting work.

Phillips, who earned a Ph.D. in agricultural and applied economics in 2004, has volunteered with employees at the Institute of Science for Environmental Management in Hanoi to quantify the benefits of capturing greenhouse gas emissions from the country's solid waste and wastewater treatment sectors.

They found that taking measures such as capturing methane from landfills for use as fuel has the side benefit of reducing waterborne diseases like typhus and dengue fever. The measures studied could reduce greenhouse gas emissions by 35 million metric tons and produce economic benefits of more than \$600 million per year.

"Kids who don't have dengue can be in school, and their families can save money that would otherwise be spent at the doctor," Phillips said. "We know from experience that cleaner water makes people better off."

Spencer Phillips



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

www.cals.vt.edu

INNOVATIONS

Winter 2014

Office of Communications and Marketing
130 Smyth Hall (0904)
185 Ag Quad Lane
Blacksburg, VA 24061
540-231-5349

Innovations is published by the Virginia Tech College of Agriculture and Life Sciences, 104 Hutcheson Hall (0402), 250 Drillfield Drive, Blacksburg, VA 24061.

Please email address changes and circulation inquiries to chris60@vt.edu. Editorial inquiries and other comments should be sent to Editor, Innovations, 131 Smyth Hall (0904), 185 Ag Quad Lane, Blacksburg, VA 24061 or calseditor@vt.edu.

Innovations is produced by the Office of Communications and Marketing in the College of Agriculture and Life Sciences.

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VT/0114/CALS-334

Drones help farmers tap into aerial technology



Jim Owen (left), and his collaborator, Joe Maja from the University of Florida, with one of their drones that can help in inventory management of ornamental crops.

Jim Owen's research with unmanned aerial vehicles — more commonly known as drones — has the potential to give farmers the ability to count inventory and manage water and nutrients from high in the sky.

His work with drones was born out of a need to find a more efficient way of counting inventory in nurseries, which was a terrestrial procedure that involves lasers.

"We were looking for something to deploy at a very low cost that can be used regularly," said Owen, assistant professor of horticulture and Virginia Cooperative Extension specialist at the Hampton Roads Agricultural Research and Extension Center.

Unlike farming a single crop, the nursery industry emphasizes variety, which makes counting inventory a challenge. Using unmanned aerial vehicles, it's possible for growers to get a more accurate visual depiction of the number of plants on hand.

Drones also allow growers to see water stress indicators more clearly using thermography, a type of photography that measures radiation from the sky.

Owen's vision is to be able to look at water distribution and deploy technology to tell growers where to irrigate.

"Growers are ready to come on board," Owen said.

New dairy complex planned for Kentland Farm

by Zeke Barlow

The Virginia Tech Board of Visitors approved a resolution in September 2013 accepting design plans to replace the existing dairy complex on Southgate Drive with new, state-of-the-art facilities at nearby Kentland Farm — a move that ensures the long-term success of the university's award-winning dairy science program.

The plan calls for replacing the existing buildings on a 35-acre site that can accommodate a fully functioning lactating herd of 230 and takes advantage of Kentland Farm's proximity to feed production and grazing lands.

"This is a great opportunity for the students getting a hands-on education about dairy science, the scientists conducting research at the new complex, and for the dairy industry, which relies on the applied knowledge that the university provides," said Alan Grant, dean of the college.

The dairy relocation will make way for the planned growth of the Virginia Tech Corporate Research Center, the expansion of the Virginia Tech Montgomery Executive Airport, and the construction of a new interchange at Southgate Drive and Route 460. Nongeneral funds and proceeds from the sale of 26 acres of land to the Virginia Tech/Montgomery Regional Airport are covering the cost of the new \$14 million dairy facilities. Construction should be completed by 2015.

The General Assembly has also approved planning money for the next phase of construction, which will include a dairy-focused teaching facility located near Plantation Road, a reproduction facility near campus, and an intensive research barn at Kentland Farm focused on metabolism. For this project, titled Kentland Facilities Improvements, the university has received preplanning money to engage in initial planning and design.

Chad Benton completed a master's degree in the Online Master of Agricultural and Life Sciences Program while working and raising a family.

Building careers and knowledge via the online master's program

by Zeke Barlow

Chad Benton was always interested in two things: science and helping people.

After earning an undergraduate degree in biological sciences and microbiology, Benton, of Morrisville, N.C., got a job at BASF, where he is now a senior associate scientist on the crop physiology team. His group is dedicated to finding ways for farmers to increase their yields.

Still, Benton wanted to boost his knowledge of plant science — and to advance his career — so he enrolled in the Online Master of Agricultural and Life Sciences Program offered by the College of Agriculture and Life Sciences at Virginia Tech.

"This was an outstanding experience all around for me," said Benton, who graduated in 2012 after three years in the program.

More than 65 students enroll in the online master's program every year. Concentration areas include biosecurity, bioregulations, and public health; education; environmental science; leadership studies; food safety; and plant science and pest management.

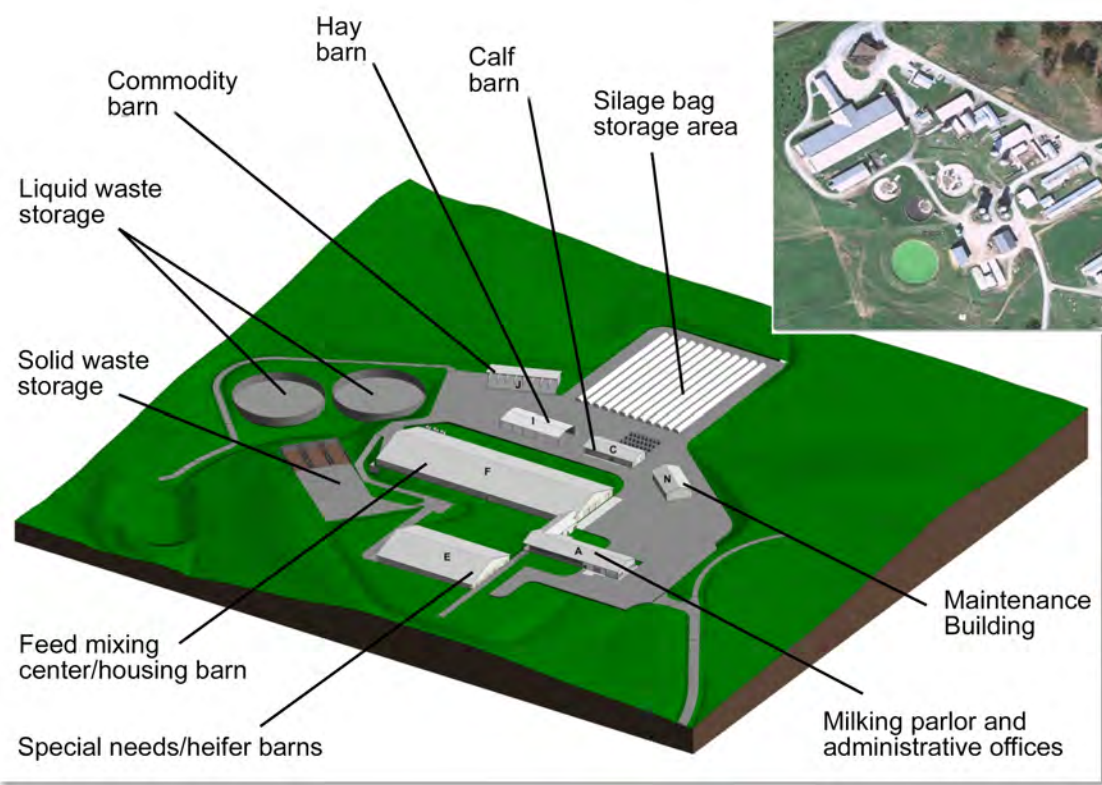
"The concentrations are designed to incorporate new technologies in the dynamic industries of agricultural and life sciences in an accessible delivery format," said James Anderson, the program's director. "A major benefit of the program is that students have the flexibility to design an individualized plan constructed around their academic interests and professional needs."

In addition to the classes, videoconferences, and group discussions that he participated in online, Benton also toured Agricultural Research and Extension Centers near him and presented his research to his advisory committee in person.

Most students in the program are like Benton, juggling family life and work while earning their degree online at their own pace.

"The best part is the flexibility of the program that is built to allow working professionals the opportunity to further their education from a proven university such as Virginia Tech while continuing their careers at the same time," Benton said.

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



New facilities demonstrate more efficient land use than existing facilities

An overview of the new dairy complex at Kentland Farm.

Budding entomologists swarm to Hokie Bugfest

The 2013 Hokie Bugfest brought more than 4,200 people swarming to The Inn at Virginia Tech and Skelton Conference Center this fall to learn about the dozens of tarantulas, hissing cockroaches, glowing scorpions, and other bugs on display.

"This event continues to grow every year, both in terms of the number of people and the scope of the displays we have on hand," said Mike Weaver, director of the Virginia Tech Pesticide Program and Virginia Cooperative Extension's coordinator of pesticide programs. "The best part is having children return a year after their last Hokie Bugfest and tell us about what they have found in their backyard since the last event."



Kids of all ages are fascinated by the displays at Hokie Bugfest.



Kumar Mallikarjunan conducts research using the Cyranose 320 to detect chemical vapors in the air surrounding fruit by preprogramming pattern-sensing algorithms to recognize vapors of interest.

by Amy Loeffler

It seems that uniquely human attributes are being upstaged by electronic counterparts at every turn these days. Now you can add a hypersensitive sense of smell to the list of ways artificial intelligence reigns supreme over organic olfactory sensibilities.

Electronic noses are being used by Kumar Mallikarjunan, associate professor of biological systems engineering, and his fellow researchers in two vastly different endeavors: detecting prostate cancer and evaluating fruit ripeness. The common denominator for the applications is the ability of the electronic nose to detect biomarkers using algorithms, polymers, and sensors that detect irregularities in biological systems.

“Electronic noses are much more sensitive than our human noses,” said Mallikarjunan. “They read unique ‘smellprints’ similar to our fingerprints that are made up of chemical patterns that can be recognized time and again.”

Mallikarjunan has partnered with researchers at the Virginia Tech Carilion School of Medicine and Research Institute to improve the ability to diagnose prostate

cancer. The nose investigates ways to make testing much less invasive while improving the detection of the prostate cancer cells.

Because certain metabolites are passed through urine in a patient with cancer, the artificial nose works by sensing or “sniffing” metabolites in a urine sample. The process can take as little as two hours using the artificial nose.

Mallikarjunan has also partnered with Bruce Zoecklein, professor emeritus of food science and technology, to evaluate grape ripeness using a handheld apparatus affectionately called the Cyranose 320, in a nod to the nasally endowed French poet Cyrano de Bergerac.

The artificial nose works by placing a plastic bag over the grape cluster and inserting an electronic sensor that is composed of an array of nanocomposite sensors and advanced pattern-recognition algorithms that detect and recognize chemical vapors. The preprogrammed algorithms provide data that allow growers to measure grape ripeness.

Agribusiness major named national FFA president

In middle school, Brian Walsh was a shy kid with limited experience in the world of agriculture. All that changed when he donned the coveted blue FFA jacket worn by so many of his friends.

As soon as Walsh joined his school’s FFA chapter, he began to flourish, taking leadership roles in the organization and finding a home among the young agricultural enthusiasts.

FFA — which provides leadership, personal growth, and career success training through agricultural education — not only helped pull Walsh out of his shell, it put him on the national stage.

Walsh was recently elected president of the National FFA Organization, a prestigious role that makes him the chief motivator of 579,000 FFA students across the country.

“I never expected this in a million years,” said Walsh of Woodstock, Va., a sophomore majoring in agribusiness and minoring in leadership and social change. “FFA has a unique way of developing people and bringing them out of their own skin. I found a place where I was at home and connected with people who cared about me and wanted me to grow.”

He will spend the next year traveling nearly 150,000 miles in more than 40 states as he meets with CEOs of major agricultural businesses, interacts with high-level politicians in Washington, D.C., advocates for industry, and, perhaps most importantly, inspires the next generation of agricultural leaders.

“Brian understands who he is, and he knows how to communicate effectively with others,” said Andy Seibel, Virginia FFA state specialist in the Department of Agricultural and Extension Education. “In my opinion, his character is what truly sets him apart from his peers.”



Brian Walsh

Farming in Kevlar all in a day’s work for Virginia Tech alum

by Amy Loeffler

Most farmers don’t have to worry about being mistaken for the Taliban when they go out to harvest their crops, and Mark Mitchell wants to keep it that way.

Mitchell, an ’87 animal and poultry sciences alumnus, is a consultant to the U.S. Department of Agriculture in the Middle East, which means his job is to think about anything and everything that has to do with the agricultural supply chain — from the farmer to the consumer.

And in the Middle East, security matters are inherently part of supply chain issues.

For example, he advises U.S. military forces that it’s most likely they will find farmers — not the Taliban — harvesting their grape crops in the early morning hours.

Mitchell currently works in Afghanistan through his company Ageo Limited, but his career in agricultural consulting began in the Peace Corps and has taken him to other areas around the globe.

“Every farmer I’ve ever met in the 25-plus countries I’ve worked in has the same problems,” said Mitchell. “It only takes two minutes to develop a rapport to let them know you understand what farming is and you understand what they are saying.”



Mark Mitchell is an agricultural consultant who has worked all over the world overseeing production and supply chain systems. Here Mitchell (left), his interpreter (center), and an Iraqi farmer (right) stand near newly established drip irrigation lines.



Paul Darnell

Superman’s stuntman hails from CALS, not Krypton

It’s a bird! It’s a plane! No, it’s a CALS alumnus!

That alumnus is Paul Darnell, a 2005 graduate in human nutrition, foods, and exercise, who was the stunt double for Henry Cavill in the 2013 “Man of Steel” movie.

Darnell has come a long way since his first part — a straight-to-DVD production titled “Evolution,” in which he played a free-running zombie — and has gone on to appear in major blockbusters such as the “Twilight” series and “You Don’t Mess With the Zohan.” He was also in “Captain America: The First Avenger.”

Capstone experience tops off undergraduate study for APSC students

by Amy Loeffler

As animal and poultry sciences majors ready themselves for graduation, they test their academic mettle by putting classroom learning to work in real-world internships and research projects through an education initiative known as the capstone experience.

Philip Waugh's capstone experience took him to the Georgia Aquarium in Atlanta. Waugh, a 20-year-old junior from Winston-Salem, N.C., worked with beluga whales and harbor seals at the marine research facility.

One of Waugh's responsibilities was to help weigh a female beluga on a monthly basis — not an easy task with a marine mammal that weighs more than 1,300 pounds.

"During these procedures I felt a real, meaningful, healthy pressure to perform well for a team and for a common cause," he said.

"I now know what I would like to do after college is train animals in zoological and aquarium institutions," said

Waugh. "Now, I am not as intimidated as I used to be. I feel more confident in my decisions and positive that I will enjoy my career if I am lucky enough to get one in the training field."

Camilla Hughes stayed closer to Blacksburg, Va. for her capstone experience. Hughes, 22, is a senior who worked with Paul Siegel, professor emeritus of animal and poultry sciences. Hughes conducted research using Siegel's 50-generation line of White Plymouth Rock chickens bred for high and low growth. Her project compared white and red muscle in high- and low-weight lines of chickens.

"I learned a tremendous amount about science writing and specifically about the preparation of a paper on research findings," said Hughes. "Dr. Siegel was always willing to sit down with me and teach me how to do something. My project would not have been the valuable experience it was without him."



Philip Waugh, a junior from Winston-Salem, N.C., gets an earful from Grayson, a beluga whale, during his capstone experience at the Georgia Aquarium.

College alumnus joins Virginia Tech Board of Visitors

Steve Sturgis, who graduated from the college in 1982 with a degree in agricultural education, recently joined the Virginia Tech Board of Visitors in an ex officio capacity as president of the Virginia Board of Agriculture and Consumer Services.

Sturgis has owned and operated Tri-S Farms since 1979, when he started it with 8 acres in Northampton County. While operating his own farm, Sturgis took over his

family's farming operation in 2002 and has since doubled that farm's size to 900 acres. He has also served as a game warden for the Virginia Department of Game and Inland Fisheries and as a deputy for the Northampton County Sheriff's Department.



Steve Sturgis

Leadership role helps foster healthier people, healthier environments

Janet Rankin, a professor of human nutrition, foods and exercise, has served on the executive committee of the American College of Sports Medicine for the last three years in various roles, including a term as president.

The organization has a mission to integrate "scientific research to provide educational and practical applications of exercise science and sports medicine," and Rankin went a long way toward fulfilling those goals.

She chaired the committee to organize the group's annual meeting with more than 5,000 attendees, and she spearheaded an initiative called ActivEarth, which focuses on the convergence of physical activity, health, the environment, and economic development. The program is dedicated to promoting active transportation through accessible and safe walking and biking options as a means to better health and environments and more sustainable economies.

These are all issues that are vital to the health of our nation, and ones her current students are passionate about, she said.

"This is critical to so many health professions and can help to solve many of society's biggest challenges," she said. "Students get that and want to be part of that."



Janet Rankin

Career fair offers students internships and employment opportunities

Fifty-eight organizations were on hand at the 2013 Virginia Tech Fall Focus Career Fair to interview or answer questions from students about potential employment, internships, and job-shadowing opportunities.

"The face-to-face interactions at events like this help get internships and employment opportunities down the road," said Adeline Guthrie, a first-year student double majoring in agribusiness and agricultural sciences.

Networking with professionals at career fairs can lead to key connections for students, allowing them to bridge the gap between university life and the working world and helping them translate their academic endeavors into professional pursuits.

Guthrie spoke with representatives from Crop Production Services, an agricultural retail supplier at the fair, and laid the groundwork for a potential internship next summer.

"I can't think of any better way to get an internship," she said.



First-year student Adeline Guthrie speaks with a representative of Crop Production Services at the career fair held at Squires Student Center.

Coalfields restoration project builds on its past with an eye to the future

by Zeke Barlow

When the seeds of the Powell River Project were planted more than 30 years ago, there was scant science on how to best restore lands disturbed by coal mining, much less any longevity of scientific research on the subject.

Three decades later, the Virginia Tech project has not only yielded groundbreaking research on how to restore natural processes to landscapes in Southwestern Virginia coal country, it has also produced evidence that has led to new reclamation practices that help repair the natural environment around the country. Now a new generation of scientists is examining issues including stream reconstruction, invasive species, microbial ecology, and carbon sequestration, among others.

Over the years, an interdisciplinary cadre of scientists from the College of Agriculture and Life Sciences, the College of Natural Resources and Environment, the Virginia-Maryland Regional College of Veterinary Medicine, and others working at the site have broken new scientific ground on everything from forestry and soil reconstruction to water quality and the creation of wildlife habitat.

"In terms of integrated, mined land reclamation research, the Powell River Project's mix of investigators is the best in the world," said W. Lee Daniels, a professor of crop and soil environmental sciences who has worked on the project since its inception. "Without a doubt, this is the longest continually and intensively monitored mine reclamation research site in the world."

One of the benefits for researchers working at the site is the ability to build on the scientific findings of those who came before them. That is invaluable to Carl Zipper, a professor of crop and soil environmental sciences, Virginia Cooperative Extension specialist, and director of the Powell River Project.

"This longevity of research is so important because it allows us to understand how the new ecological systems created by mine reclamation work over the long term," Zipper said.



Carl Zipper shows the success of restoration efforts at the Powell River Project.



During military art camp, a participant proudly displays a clay "creeper" figure he created.

Supporting military families and their communities

by Samantha Huff

Youth and their families make lots of sacrifices during military deployments. Children with mothers or fathers in the military can go for months without seeing or hearing from one or both of their parents. To alleviate some of the issues that come with deployment, Virginia 4-H is helping youth from military families through two programs: 4-H Military Clubs and Operation: Military Kids.

4-H Military Clubs are supported by the 4-H Military Club Grant, provided collaboratively by 4-H National Headquarters; U.S. Army Child, Youth & School Services; Air Force Airman and Family Services; and Navy Family Readiness.

The program reaches Virginia military families who live on installations and in communities with little or no military support and provides youth learning opportunities centered on the three initiatives of 4-H: science, engineering, and technology; healthy living; and citizenship. There are 4-H Military Clubs on 11 of the 17 installations in Virginia, as well as two off-installation clubs.

"It has been exciting to read 4-H installation reports and view pictures that reflect how 4-H Military Club members are learning leadership, citizenship, and life skills," said Louetta Jones, 4-H Military Clubs program manager.

In 2012, the Dahlgren 4-H LEGO Engineers from the Naval Surface Warfare Center in Dahlgren, Va., won first alternate and best robot design during a regional robotics competition. Two members of the Prince George 4-H Military Club and their Virginia Cooperative Extension agent who is the club leader recently participated in the 2013 Adobe Youth Voices Summit in Santa Clara, Calif., where they explored expression through digital media.

Operation: Military Kids, which caters to approximately 150,000 children, strives to connect military and nonmilitary youth with local resources to achieve a sense of community support and enhanced well-being. Toward this end, Operation: Military Kids offers programs and support to community and military partners, which on the national level includes 4-H; Boys and Girls Club of America; American Legion; U.S. Army Child, Youth & School Services; Military Child Education Coalition; and Child Care Aware.

Through Operation: Military Kids, Virginia 4-H encourages military youth to meet other young people who are experiencing deployment; participate in a range of recreational, social, and educational programs; receive assistance with school issues by connecting with school services liaisons; and attend various residential experiences ranging from wilderness adventures to family camp.

"These programs help to meet the unique needs of military youth and their families by providing them a safe and supportive learning environment during the challenging times of deployment," said Kathleen Jamison, 4-H youth development specialist and state liaison for Operation: Military Kids.

Visit www.operationmilitarykids.org or www.virginia4-hmilitaryclubs.org for more information.

Scholarship helps student fulfill dream of research in UK and Ireland

by Amy Loeffler

Olivia Brooks, a junior majoring in animal and poultry sciences, always wanted to visit the British Isles, but she never anticipated that her dream trip and university studies would collide in a class about animal behavior and management.

As the recipient of the John "Buster" Beier Memorial Excellence Fund Scholarship, Brooks was able to travel to the United Kingdom and Ireland to conduct research and compare animal husbandry and harvesting practices with those of farmers and ranchers in the U.S.

"We got to experience many aspects of life in the U.K. and Ireland that normal tourists would not," said Brooks. At one point in her trip the group stopped at a goat farm where the owner taught everyone in the group how to make cheese.



Olivia Brooks, a recipient of the John "Buster" Beier Memorial Excellence Fund Scholarship, travels to the U.K. and Ireland to conduct research for an animal behavior and management class.

Brooks' trip is just one example of the benefits students reap from scholarships that alumni provide. The Beier Fund has helped 10 students since its inception in 2011. The John and Pat White Scholarship Fund has been helping students since 2006. The Virginia Tech CALS Alumni Organization Scholarship Fund has provided



The CALS Alumni Organization annual golf tournament raises money for scholarships and endowments which allow students like Olivia Brooks to enrich their academic experiences.

students with more than \$21,000 since 2005, and the organization's annual golf tournament has raised nearly \$20,000 in scholarships and contributed close to \$19,000 to endowments over the years.

All of these funds help support students like Brooks achieve their academic dreams.

"The majority of our trip was spent on local farms where we learned about their management techniques and how they implemented behavioral knowledge into their programs," said Brooks, whose research topic was examining housing systems for swine.

With one dream accomplished, Brooks hopes that her time abroad will play into her future dreams of becoming a veterinarian. The uncommon perspective she has gained by traveling across the pond is something she anticipates will give her a leg up on her competition.

"The completion of this project was a huge milestone in my academic career," Brooks said.

Gregg elected VP of national Extension organization

The National Association of County Agricultural Agents elected Cynthia Gregg, Virginia Cooperative Extension agricultural and natural resources agent, to the position of vice president at its national meeting, held in Pittsburgh in September 2013. Gregg is only the second woman to hold a national office for the association and the second person from Virginia in 98 years.

Gregg has served as the ANR agent for Brunswick County since 1997.

"The association could not have elected a more dedicated Extension professional to help lead its organization," said Ed Jones, director of Virginia Cooperative Extension. "We are proud to have one of our own agents to serve in this role."

NACAA is an organization of professional extension educators that strives to further the professional development of its members, provides a forum to exchange ideas and foster communication, and recognizes excellence in Extension nationwide.

"I am truly honored to be representing Virginia on the National Association of County Agricultural Agents board," Gregg said. "All of the support from Virginia agents during the campaign is humbling. I am looking forward to the upcoming year and learning more about NACAA through this leadership role."



Cynthia Gregg



Students, alumni promote agriculture at state fair

The College of Agriculture and Life Sciences was just as popular as Ferris wheels and funnel cakes at the 2013 State Fair of Virginia.

Its display, co-hosted with the Ag Econ/NAMA Club, was a huge success and drew thousands of people into the Young MacDonald tent. More than 9,000 children learned about Virginia agriculture when they filled up jars with five different kinds of local grains.

"We believe that educating children in a fun way at a young age is key to helping them have a positive perspective of agriculture," said Sheldon Waldron, club president.

Alumni from the Department of Agricultural and Applied Economics volunteered at the booth and said they had a great time interacting with both current and future Hokies.

The Block and Bridle Club was also at the fair selling its popular barbecue.

Members of the Ag Econ/NAMA club give away grain jars and educate children about agriculture at the 2013 State Fair of Virginia.

Extension gets supercharged with eXtension website

Where can you go to get answers to questions about grub control, fizzy orange juice, and burying the stems of a stevia plant? Try the eXtension Internet-based collaborative where land-grant universities exchange objective, research-based knowledge to solve challenges in real time.

“Collaboration with peers via eXtension fosters creativity and results in educational experiences for the public that are rich with engagement,” said Sarah Baughman, eXtension evaluation and research leader and Virginia Tech assistant professor.

Virginia Tech houses professional staff members who are supported by funds from Virginia Cooperative Extension and eXtension. There are 478 Virginia Tech faculty and staff members working with the online initiative.

Have an extension question? Visit www.extension.org.

STEM Lab opens doors to science

by Amy Loeffler

The STEM Lab housed in Blacksburg High School is home to intriguing gadgets of the science trade.

It’s what the lab fosters, however, more than its equipment, that is the real value to Glenda Gillaspay, professor of biochemistry and principal investigator of a project that promotes educator-scientist partnerships and is funded by a College of Agriculture and Life Science’s Integrated grant.

“Part of the initiative is to bring people to the scientific table that normally wouldn’t sit there,” said Gillaspay.

Several Virginia Tech faculty including Hans Gindlesberger, assistant professor of visual communication, and Paul Siegel, professor emeritus of animal and poultry sciences, have collaborated with Blacksburg High School teachers Michael Collver and Michael Kaylor to engage students in the sciences.

“One of the first steps to increase inclusion is increasing accessibility,” said David Lally, a collaborator on the project. “The STEM Lab gives the public access to the scientific community.”

Gindlesberger works with photography students at the high school in the lab gathering images of cell structures. Meanwhile, Paul Siegel has paired up with a student to investigate human intervention on egg production.

The endeavor has already succeeded in bringing faculty and the community together in scientific research.

“We brought Paul Siegel into the lab and it was like a passing of the torch,” said Lally.



Brandon De Agüero, a sophomore in visual communication design, takes stylized photos of Arabidopsis plant seedlings. His visual communications class is part of an initiative funded by the college to get students engaged in science.



Susan Duncan talks about the emotional response to food at the TEDxVirginia Tech talks.

Professors push “Beyond Boundaries” at TEDxVirginia Tech

When the organizers of TEDxVirginia Tech were searching for scientists who went “Beyond Boundaries” in their fields, they didn’t have to look much further than Susan Duncan and David Schmale. Both gave talks at the November 2013 event that featured some of the brightest and most creative minds at Virginia Tech. TEDx is a program of local, self-organized events around the TED theme of collaboration through technology, entertainment, and design.

Duncan, professor of food science and technology, told the sold-out audience at the new Moss Arts Center about “The Mixology of Food and Emotion.” Duncan is one of only a few food scientists in the world who are using objective methods, such as facial expression

analysis, in tandem with qualitative methods for learning how foods “speak” to our emotions.

Schmale, associate professor of plant pathology, physiology, and weed science, gave a talk titled “Droning for Life in the Atmosphere” about his work with drones — unmanned aerial vehicles. He is using the drones to further the understanding of aerobiology, which is the study of how microbes travel through the earth’s atmosphere.

The talk capped a banner year for Schmale, who was also named one of Popular Science’s “Brilliant Ten 2013,” which honors some of most innovative young thinkers in the world.

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

Food desert task force takes aim at hunger in Virginia

by Amy Loeffler

Agriculture is Virginia’s No. 1 industry. But, ironically, for a state that produces an abundance of food, the commonwealth has its share of food deserts — areas where residents have limited access to fresh, healthy foods.

According to a new report commissioned by the Virginia General Assembly, more than 1.4 million Virginians — 17.8 percent of the population — live in food deserts. In Lynchburg, the rate is 26.4 percent. Food deserts are related to issues of food insecurity, poverty, and lack of adequate transportation.

The report focused on the state as a whole as well as on eight cities and counties across Virginia. It was compiled by a task force chaired by Dean Jewel Hairston of the College of Agriculture at Virginia State University and Dean Alan Grant of the College of Agriculture and Life Sciences at Virginia Tech.

“We live in one of the greatest countries in the world, yet 17 percent of our children lack adequate access to fresh



Virginia Tech researchers are studying food deserts, where there is limited access to healthy food choices.

foods,” said Hairston. “I’d say that’s a huge concern.”

Some solutions to eradicating food deserts involve employing mobile farmers markets and community kitchens, taking advantage of the existing Virginia Cooperative Extension network to expand its Family Nutrition Program, and encouraging investment in the production of local foods through expanded grant programs.

Susan Clark, associate professor of horticulture and director of civic agriculture and food systems, is a member of the task force.

“The very solutions that eliminate food deserts within our communities provide opportunities that strengthen the farming and community retail food businesses,” said Clark. “These opportunities in turn can grow jobs, create a healthier, more productive workforce, and lead to food security for every citizen within the Commonwealth of Virginia.”

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

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www.cals.vt.edu/prospective/visiting



SAVE THE DATE

March 21, 2014

Human and Agricultural Biosciences Building 1 Grand Opening



Please plan on joining us **Friday, March 21, 2014**, as the College of Agriculture and Life Sciences celebrates two big events.

The college's newest building, Human and Agricultural Biosciences Building 1, will have its grand opening in the morning. The annual Awards Program that recognizes our outstanding alumni will follow in the afternoon and evening.

For more information, contact Jamie Lucero at jlucero@vt.edu, or call 540-231-9666.

Scholarship recipient makes his mark at Virginia Tech

by Zeke Barlow

Brent Ashley made a promise to himself when he started his academic career at Virginia Tech: He'd never sit idly in his residence hall and let life pass him by.

Four years later he has lived up to that vow.

Not only is Ashley the Student Government Association president, but he has also been a member of the Relay for Life committee, vice president of the Block and Bridle Club, a member of the Alpha Zeta and Omicron Delta Kappa honor societies, a founding member of the FarmHouse fraternity, and involved in about 10 other clubs. On top of all that, he's also double majoring in dairy science and animal and poultry sciences and minoring in political science.

From a young age growing up on his family's farm in Felton, Del., Ashley's parents supported him and encouraged him to be the best he could be.

"I was always sure I was making them proud and myself proud," said Ashley, a senior.

But he also recognizes one person he's never even met with helping him be such a resounding success at Virginia Tech — Phyllis Cragle.

Cragle created the Ray Cragle Scholarship in memory of her late husband, who was head of the Department of

Dairy Science from 1970 to 1978. Beyond requiring that students maintain good grades, another criterion for scholarship recipients is that they are actively engaged in extracurricular activities. Cragle has been pleased with all 32 students who have received scholarships, but Ashley holds a special place in her heart.

"I couldn't be prouder of him if he was my own son," said Cragle.

Cragle has received heartfelt thank-you letters from Ashley for each of the four years he received the scholarship, and she's always amazed at how much he has accomplished at Virginia Tech.

"Each letter reminds me of how pleased my husband would be with Brent," she said.

Ashley wanted to pay for his college education on his own and said the Ray Cragle Scholarship has gone a long way toward helping him realize his dreams. It's abundantly clear Ashley is a man who meets his goals.

These days, he has weekly meetings with Virginia Tech President Charles W. Steger to talk about student affairs. He's working with the Town of Blacksburg to establish a polling station on campus to make it easier for students to have their voices heard. And he's studying for his LSAT exam with plans to attend law school next year.

Ashley knows that being active in campus life is a contingency for the Ray Cragle Scholarship and he's glad that he got it by not letting life pass him by.

"It's a good feeling knowing that I earned this scholarship," he said.



President Charles W. Steger and Brent Ashley hand out water bottles to students moving into their residence halls.

The Impact of Giving

Scholarships made a real and important impact on students' academic careers in 2012-2013.

575
Scholarships

\$1,800
Average award

\$1,053,389
Total Value