

## Greetings

Welcome to a new semester and academic year in CSES at Virginia Tech! We have a number of new faces in terms of students here this fall with 64 ENSC freshmen, 9 ENSC transfer students, 8 CSS freshmen, 5 CSS transfer students and 11 new graduate students. We've worked hard over the summer to get everyone oriented to CSES and CALS and hope you are all settled in. I am happy to say that our Graduate Student Study Lounge on the second floor of Smyth was finally finished over the summer and is buzzing with activity.

Part of my summer was spent in Kenya with our Associate Dean of Global Programs, Dr. Tom Thompson, meeting with the Director of a new World Bank African Center of Excellence in Sustainable Agriculture and Agribusiness Management at Egerton University. Dr. George Owuor and the Faculty of Agriculture spent a week with us discussing how our two institutions can work together to train faculty and graduate students to accomplish the goals of the Center, culminating with a signing of a Memorandum of Understanding between Dr. Thompson and the President of Egerton University that made headlines in their nation-wide newspaper out of Nairobi. Part of why I visited was to investigate the possibility of Virginia Tech students studying abroad there.

Egerton University is the oldest institution of higher learning in Kenya, originally founded as a Farm School in 1939. It is located in Njoro at 6000 feet near the equator, 1.5 hours NW of Nairobi. Agriculture dominates the Kenyan economy with almost 75% of Kenyans making their living via smallholder farming. While sugarcane, tea, coffee, and cut flowers are the major Kenyan agricultural crop exports, the main crops grown in the Njoro area are wheat, barley, maize, potatoes, sweet potatoes, and many fresh vegetables. Stay-tuned for future study abroad opportunities to mild-high altitude areas of Kenya.



From left to right: George Owuor, Egerton University; Tom Thompson, Virginia Tech, CALS Global; Maria Mullei, Virginia Tech Office of International Research, Education, and Development; Erik Ervin, Virginia Tech, CSES.

## CSES Around the World

This summer, I had the amazing opportunity to go to Mongolia and Taiwan to have two very different experiences. In Mongolia, I worked with a veterinary NGO that also provides summer school classes to herder's children in rural areas of Mongolia. Along with a team of Mongolia teachers, I traveled to two counties in Zavkhan province to teach English in summer schools. During the school week, I taught 3-4 classes with a Mongolian teacher and often spent the evenings playing basketball, volleyball, or cards with the students. I lived, ate, and cooked like a Mongolian for 3 weeks. This was my second time taking such a trip to Mongolia, and it was incredible to experience the culture again and see changes in the country after 6 years (and see old friends!).

In Taiwan, I interned at AVRDC, now known as the World Vegetable Center, which is just outside the southern city of Tainan. I worked in the Biotechnology Lab on a project focused on identifying resistance genes for the Tomato Yellow Leaf Curl Virus



using molecular markers (I am actually still finishing up the project so I haven't concluded anything or finished my results). I spent most of my days in the lab or the greenhouse, and I saw how an international agriculture research center worked on the inside. While working, I met scientists and researchers from all over the world, practiced my Chinese language skills, and ate amazing night market food. Most of the other interns were Taiwanese agriculture students from all over the island, and it was so fun and interesting to get to know them and hear their perspectives. Article by CSS undergraduate student, Abbi Han

# Awards

## **Congratulations to the CALS July Employee of the Month – Whitnee Askew, Turfgrass Program Manager with Department of Crop & Soil Environmental Sciences**



**Pictured left to right are Mike Goatley, Whitnee Askew and Alan Grant**

Whitnee’s nominator praised her work ethic and attitude “.. she coordinates research activities and daily management of research plots, student laborers, graduate students, and leads the data collection for many of the Virginia Tech Turfgrass Team members across two departments. She is an excellent team player, collaborating well with all members of the VT Turf Team as well as other CSES faculty, staff, and students. The student workers view Whitnee as a very important mentor in addition to her role as a supervisor. She also partners very well with a wide variety of industry professionals and associations...

... She is viewed by many of our partners as ‘the face’ of the VT turf team. She is also a very capable researcher in her own right and is regularly tasked to design and install a variety of field trials without direct supervision.... Whitnee also contributes regularly to scientific publications, sometimes as the lead author on the manuscript.”

As the July Employee of the Month, Whitnee received a plaque, gifts from the college, has her photo displayed in the case in Hutcheson Hall, and will be eligible to be considered for the 2017-18 Employee of the Year award.

### **Dr. Xunzhong Zhang receives the CSES A/P Faculty Award**



### **Sara Klopff receives the CSES Outstanding Research Award**



### **Tom Pridgen receives the CSES Outstanding Staff Award**



### **Analit Chambi-Rojas, a senior in Environmental Science, has received the CALS Student Diversity and Inclusion Award and the Fralin Undergraduate Research Fellowship Program Award**



### **Brit Ritchey Retires – After over 12 Years working in the Soils Testing Lab**



### **Jingjing Chen, a CSES graduate student, received the Robert Luxmoore student travel award from the SSSA Soil Physics and Hydrology Division**

Visit our Facebook page at: [Crop and Soil Environmental Science at Virginia Tech](#)

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## CSES Spotlight



**Dr. Gabriel Pent**

As a Florida native, I distinctly remember the “steep” ascent up I-77 into Virginia four years ago this August as I arrived for my graduate work in CSES with Dr. John Fike. These past four years have been quite eventful: I studied the growth and minute-by-minute behavior of close to 200 lambs in silvopasture systems at Kentland Farm; started dating, became engaged, and then married my wife, Sarah Kate, a Virginia Tech graduate; had a daughter, Ada Mae; and started a new position as the Ruminant Livestock Systems Specialist at the Southern Piedmont Agricultural Research and Extension Center in Blackstone earlier this year.

My departmental affiliation remains CSES, but I work closely with colleagues across departments at sites around Virginia. I’m continuing work studying the effects of silvopasture – trees, forages, and livestock – on animal performance within a 40 acre experimental site of established silvopasture for cattle here at SPAREC. My integrated research and extension efforts are focused on the profitability and sustainability of forage-based ruminant systems, particularly by addressing the “summer slump” phenomenon in Southeastern livestock-forage production systems. We are evaluating strategies to minimize the “slump,” including renovating tall fescue pastures to beneficial endophyte-infected tall fescue, providing stocker calves and pasture-finishing cattle with small amounts of an energy supplement, using shade to mitigate the effects of heat stress, and stockpiling tall fescue for late summer grazing. The use of various livestock “wearables” helps us understand the physiology and behavior of free-ranging livestock during the summer months.

My family and I are excited for this new connection with Virginia Tech and looking forward to the next eventful four years.

## Grants

**Bendfeldt, E.S., Price, E., & Dunford, M.** (2017). Shenandoah Valley Buy Fresh Buy Local: A Vision for an Equitable and Just Food System. Agua Fund, Inc. \$30,000.

**Bendfeldt, E.S., Thomason, W., Niewolny, K., & Parrish, M.** (2017). Soils, Conservation and Place: Voices and Accents of Virginia’s Agricultural Community. Community Viability Matching Grant, Virginia Tech Foundation. \$49,800.

**Bendfeldt, E.S., & Niewolny, K.** (2017). Moving Regional Food Systems Toward Sustainability: An Adaptive and Interactive Online Course in Local Food System Development for NC, SC, and VA Extension Agents and Other Service Providers. North Carolina State University and Southern SARE. \$23,000

**Erik Ervin, Hannah Scherer, Peter Ziegler, and Curt Friedel.** 2017-2020. Sustainability Scholars Program: Increasing underrepresented student success through experiential learning. USDA-NIFA-Higher Education Challenge Grant: \$139,604.

## Publications

**Bendfeldt, E.S.,** Schermerhorn, Stanford, J., Abid, A., & Vengrin, C. (2017). Everyone at the Table: A community food equity assessment for Harrisonburg, VA. CV-81. Retrieved from [http://pubs.ext.vt.edu/content/dam/pubs\\_ext\\_vt\\_edu/CV/cv-80/CV-81.pdf](http://pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/CV/cv-80/CV-81.pdf)

**Neal Carpenter, Carl Griffey,** Subas Malla, Marla Barnett, David Marshall, Myron Fountain, Joseph Murphy, Gene Milus, Jerry Johnson, James Buck, Shiaoman Chao, Gina Brown-Guedira, Emily Wright. 2017. Identification of Quantitative Resistance to *Puccinia striiformis* and *Puccinia triticina* in the Soft Red Winter Wheat Cultivar ‘Jamestown’. *Crop Sci.* 57:1–11 (2017). doi: 10.2135/cropsci2017.03.0143

**Favorito, J.E., Eick, M.J.,** Grossl, P.R., Davis, T.Z. 2017. Selenium geochemistry in reclaimed phosphate mine soils and its relationship with plant bioavailability. *Plant Soil.* DOI 10.1007/s11104-017-3299-5

**Favorito, J.E., Luxton, T.P., Eick, M.J.,** Grossl, P.R., 2017. Selenium speciation in phosphate mine soils and evaluation of a sequential extraction procedure using XAFS. *Environ. Pollut.* 229:911-921

McCall, D. S., **E. H. Ervin,** C. D. Shelton\*, N. Reams\*, and S. D. Askew. 2017. Influence of ferrous sulfate and its elemental components on dollar spot suppression. *Crop Science*, 57(2):581-586.

W Wu, Q Zhang, **E. H. Ervin,** Z Yang, **X Zhang.** 2017. Physiological mechanism of enhancing salt stress tolerance of perennial ryegrass by 24-epibrassinolide. *Frontiers in Plant Science*, 8.

## Events

**2017 Virginia Farm-to-Table Conference:** “Resilient Food Systems and Communities for the Commonwealth.” December 5 – 7, 2017 at Blue Ridge Community College, Weyers Cave, VA. –



The conference will feature engaging and inspirational speakers with broad experience and knowledge of food, farming and pressing environmental issues including Diane Imrie, Nutrition Director of the University of Vermont Medical Center, Elnian Gilbert of ZingTrain (A Zingerman’s Community Business), Jack & Ann Lazor of Butterworks Farm, and many other Virginia practitioners. Organized by Virginia Cooperative Extension, in partnership with USDA’s Natural Resources Conservation Service, Virginia Food System Council, Blue Ridge Community College, and community partners

### CALS Annual Tailgate

**Saturday, October 28th** – four hours prior to kick-off and ends one hour prior to kick-off

Celebrate Virginia Agriculture with College of Agriculture and Life Sciences alumni and friends before the Virginia Tech vs. Duke football game.

At our annual tailgate, you can:

- Meet the HokieBird and Growley
- Network with alumni and students
- Learn about faculty and student research
- Visit college facilities through our virtual reality exhibit
- Sample ice cream and meet the calves at the College of Agriculture and Life Sciences, Dairy Science, and Homestead Creamery Calf, Inc. tour.

There will also be kids’ activities, music by Awesomesauce, and a catered buffet with adult beverages.

## New faces in CSES

Jason Doby – **Soil Analyst for the Soil Testing Laboratory**

Michelle Lee – **Agricultural Specialist, Eastern VA AREC**

Dr. Jun Xu – **visiting scholar working with Dr. Kang Xia**

### Welcome Incoming CSES Graduate Students:

Hannah Angel – Dr. Daniels

Taylor Blackman – Dr. Galbraith

Catie Cappellin – Dr. Badgley

Matthew Colson – Dr. Zhang

Stephen DeVilbiss – Dr. Steele and Dr. Badgley

Madeleine Ellis – Dr. Wilkinson

Austin Hayes – Dr. Reed

Sheldon Hilaire – Dr. Xia

Jessica Hoak – Dr. Wilkinson

Sarah McClanahan – Dr. Frame

Austin Pearce – Dr. Maguire

Alexandra Schmidt – Dr. Frame

Sarah Shawver – Dr. Badgley

Sarah Thomsen – Dr. Pent

## Shenandoah Valley Buy Fresh Buy Local Guide

### Announcing the completion of the 2017-2018 Shenandoah Valley Buy Fresh Buy Local Guide!



CSES staff members, based in the Virginia Cooperative Extension's Northern District Office in Harrisonburg, Virginia, Megan Dunford and French Price have been hard at work developing the printed local food guide to help people find food and farms in the Shenandoah Valley. Thanks to support from a National Fish and Wildlife Grant, the printed food guides are distributed at county extension offices, visitors centers, local chambers of commerce, and local businesses throughout the Shenandoah Valley in an effort to support local farms and food businesses. These free of charge listings support small to mid-sized farms and help ensure the continued existence of Virginia farmland and good stewards of our soil and water resources. Features of this year's guide include

icons next to business listings for operations that are on the Virginia Fields of Gold farm trail, accept SNAP/EBT benefits, sell USDA organic products, or offer CSA subscriptions.

If you are interested in downloading a copy of your own, visit [buylocalshenvalley.org/food-guide](http://buylocalshenvalley.org/food-guide). Please feel free to contact guide creators Megan at [megandunford@vt.edu](mailto:megandunford@vt.edu) or French at [frenchprice@vt.edu](mailto:frenchprice@vt.edu) with any further inquiries.

## Virginia Lawn and Landscape Research Field Day

CSES PhD candidate Mike Badzmierowski details results from the composted biosolids research trials at the inaugural Virginia Lawn and Landscape Research Field Day at the Virginia Tech Turfgrass Research Center. The event was a joint outreach project utilizing the faculty, staff, and students of CSES, PPWS, HORT, and ENT in partnership with the Virginia Turfgrass Council. The field day attracted 85 lawn and landscape managers to campus on August 15 for a tour of research plots at the TRC and the Hahn Horticulture Gardens.

