

## Greetings

Welcome to the final newsletter from the department of Crop & Soil Environmental Sciences. On July 1, 2018, we will complete our process of merging with the departments of Horticulture and Plant Pathology, Physiology, and Weed Science to form the new School of Plant and Environmental Sciences. All our faculty and staff have been working very hard over the past few months to ensure that we make a smooth transition. Our new Director, Dr. Mike Evans, has been in place since mid-April to oversee and coordinate this important process. We all look forward to the new opportunities and expanded instruction, research and extension collaborations that the formation of the School will promote and foster.



Dr. W. Lee Daniels

On a personal note, when I look back on my 40 years of service in this department (first as a grad student in Agronomy and then faculty in CSES), this has simply been a great place to work. Our faculty, staff and graduate students have been remarkably collegial over time. All have been willing to share their time, abilities, working space, and financial resources with others and this great collaboration has been a hallmark of “how our department worked”. We will all strive to continue this culture as we move forward into the much larger School of Plant and Environmental Sciences.

We just completed our spring graduation ceremonies and our new graduates are listed later in this newsletter. We had an informal reception for our students and their families in mid-morning on graduation day (May 11) which was attended by over 100! As we have discussed in previous newsletters, all of our undergraduate and graduate programs will continue under the new School, but we do expect extensive revisions to some, while others (e.g. Environmental Science) will remain largely intact. Our M.S. and Ph.D. programs will also remain in their current form and under the CSES name for the foreseeable future.

It has been my distinct pleasure to serve as Interim Department Head for the past seven months and I wish all of our current and former students, staff and faculty the best for the upcoming summer months. I’m sure you will be getting a new round of communications from us (as the School of Plant and Environmental Sciences) in the not-too-distant future!

Sincerely,



W. Lee Daniels, Interim Head

## CSES Around the World

### Inauguration of Samuel and Eleanor Morris Community Center in Senegal – by Dr. Ozzie Abaye

As some of you may know, we have been working on establishing a community center in one of Senegal’s lovely villages (Santanmba) since 2011. This is the village where USAID-ERA started several pilot projects in 2011 (grassland conservation - silage, the introduction of mung bean, conservation agriculture, Study Abroad - Senegal, and 4-H Senegal). We inaugurated the center on Monday, March 5. It was simply the happiest day of my life. Our colleagues from ENSA, ISFAR, ISRA, and ANCOR, as well as local dignitaries, attended the ceremony.



# Congrats to the 2018 Spring Graduates!

## Graduate Students

Ruth Anderson - MS, Martin Battaglia - PhD, Robert Brown - MS, Emma Flemmig - PhD, Emily Ott - PhD, Austin Ulmer - MS, William Vesely - MS

## Crop and Soil Sciences Undergraduates

Chester Allen, Joshua Bryant, Jack Bunn, Kate Costello, CiCi Dadds, Kristina Estrada - Magna, Bodie Fletcher, Scott Hammond - Cum, Matthew Harris - Magnam, Perry Hipkins, Jeong Ho Kangm, Suzanne Laliberte - Summa/Honors, Kit Luke, Jacob Odum, Eric Scruggs, Caroline Shrewsbury - Magna, Colton Sullivan

## Environmental Science Undergraduates

Isabel Ahwee-Marrah - Magna/Honors, Analit Chambi Rojas - Magna/Honors, Karina Ernst, Luke Feeney, Amy Gelb - Magna, Lyndsey Gerold - Magna, Jay Gillenwater, Patrick Halbert, Matthew Harrell, Sophia Lee, Lindsey Matthews, Drew Mehfoud, Jens Meyer, Dezire Morris - Magna, Jack Murphy, Katherine Olson, Kate Philleo, Pallavi Prayaga, Nan Qi - Magna, Matthew Reynolds, Heather Rigg, Sonia Siddiq, Lana Vaillancourt, Larry Wade - Cum, Rachel Wadsworth, Tara Wilkins - Cum, Christopher Young

## Oustanding Seniors

### Crop and Soil Sciences – Kristina Estrada

Kristina Estrada is from Virginia Beach, VA. She recently graduated with a degree in Crop and Soil Sciences with the International Agriculture Option. She also earned a minor in International Studies and Horticulture. While at VT, she was an active member and served as an officer for the Filipino American Student Association (FASA). She was also co-president of Oxfam America at VT and a part of the Newman Catholic Campus Ministry. After graduation, she will be serving in the Peace Corps for two years in Paraguay as a Community Agricultural Science Promoter beginning in September of 2018.



### Environmental Science – Izzy Ahwee-Marrah



Izzy is from Chester, Virginia. She recently graduated with a degree in Environmental Science with the Water Science and Quality option. She is also a University Honors Student. While at VT, she was a transfer orientation leader, a Hokie Camp counselor, and a CALS peer mentor. Izzy has worked in the Virginia Tech Plant Disease Clinic, and the Sustainability Institute at Virginia Tech. She currently works as a research technician for both the Department of Aerospace Engineering, and the Department of Fish and Wildlife Conservation. Izzy volunteers at Giles County HeadStart, and at Green Tailgating. She also is the founder and co-president of Sort-it-Out, a Virginia Tech student organization that encourages recycling and educates the local community on proper waste practices. After graduation Izzy plans to attend Berkeley Law School, and pursue a career in Environmental Law. But before that, she is taking a gap-year to explore her interests in environmental justice and education. She'd like to thank her amazing mentors in the CSES department, especially Jen Stewart, Dr. G., and Professor Eick, for making such a big campus feel like home.

## Student Activites

### CSES Students Attend the Environment Virginia Symposium

On April 4th, the CSES Department took 19 current students to this annual symposium where approximately 600 environmental professionals attend from all over Virginia and every sector of the environmental industry. It was a great opportunity to exchange ideas, best practices, and strategies.



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# Experiential Learning

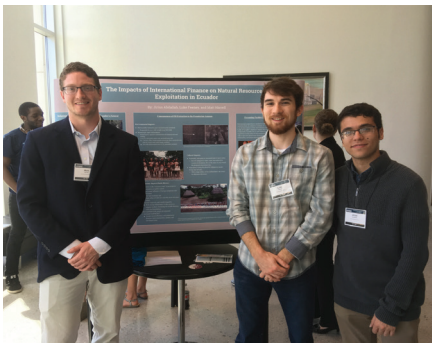
## CSES Students Participate in the Student Experiential Learning Conference at VT



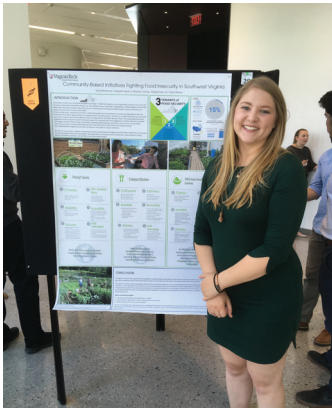
Anna Schlemmer and Emma Lipscomb  
- ENSC



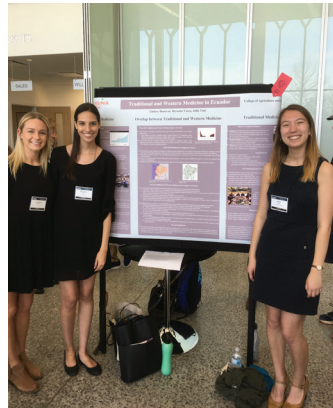
Katherine Olson - ENSC



Matt Harrel, Luke Feeney, Jirus Abdallah-  
ENSC



Madi Dynes - CSS



Julia Tani - ENSC



Tyler Morris - CSS

## Publications

**Battaglia, M.L., G. Groover, and W.E. Thomason.** 2018. Harvesting and nutrient replacement costs associated with corn stover removal in Virginia. Virginia Cooperative Extension Publication CSES-229NP. At: [https://pubs.ext.vt.edu/content/dam/pubs\\_ext\\_vt\\_edu/CSES/cses-229/CSES-229.pdf](https://pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/CSES/cses-229/CSES-229.pdf)

**Clark E.V., W.L. Daniels, C.E. Zipper, K. Eriksson.** 2018. Mineralogical influences on water quality from weathering of surface coal mine spoils. *Applied Geochemistry* 91: 97-106.

**Jian, J., M.K. Steele, R.Q. Thomas, S.D. Day, and S.C. Hodges** (in press) "Constraining estimates of global soil respiration by quantifying sources of variability." *Global Change Biology*, accepted on April 2018 (DOI: 10.1111/gcb.14301).

**Pent, G. J., J. H. Fike,** and K. Inyoung. 2018. Ewe lamb vaginal temperatures in hardwood silvopastures. *Agroforestry Syst.* <https://doi.org/10.1007/s10457-018-0221-y>.

Huish, R. and **R. Klopff.** 2018. Environmental correlates to population structure and health of the rare piratebush (*Buckleya distichophylla*) within Poor Mountain Natural Area Preserve, Virginia. *Natural Areas Journal* 38:148-153.

**M. Luciana Rosso, Chao Shang, Edgar Correa, and Bo Zhang.** "An Efficient HPLC Approach to Quantify Kunitz Trypsin Inhibitor in Soybean Seeds." July–August issue of *Crop Science* (Volume 58, Number 4).

Timpano A.J., S.H. Schoenholtz, D.J. Soucek, **C.E. Zipper.** 2018. Benthic macroinvertebrate community response to salinization in headwater streams in Appalachia USA over multiple years. *Ecological Indicators* 91: 645-656.

## Grants

**Galbraith, J.** Basic Soils Training to Virginia Department of Health Employees. Funded by Virginia Department of Health. \$27,855

Greiner, S. P., **G. J. Pent,** T. B. Wilson, and O. Isengildina-Massa. Forage-finishing strategies for variable frame size cattle. John Lee Pratt Animal Nutrition Program. 2018-2020. \$195,000.

**Pent, G. J.** and T. B. Wilson. Feeding value of hull-less barley for finishing beef cattle. Virginia Agricultural Council. 2017-2018. \$11,630.

Pent, G. J., J. F. Munsell, and J. H. Fike. Mitigation and adaptation: Using silvopasture to sequester carbon and keep cows cool. VT ICTAS Junior Faculty Award. 2018-2019. \$40,000.

**Pent, G. J. J. H. Fike, B. F. Tracy,** B. J. McIntosh., and P. Keyser. Demonstrating conversion of tall fescue to native warm season grass pastures for greater livestock performance and better environmental outcomes. USDA-NRCS Conservation Innovation Grant. 2018-2021. \$75,000.

O'Brien, D., S. Wildeus, T. Nartea, **G. J. Pent,** and F. Castonguay. Feasibility of a forage-based system for year-round lamb production and marketing in the Mid-Atlantic U. S. USDA-NIFA Capacity Building Grant. 2018-2021. \$343,616.

Wilson, T. B. and **G. J. Pent.** Evaluation of beef cow/calf performance when grazed on endophyte-infected or novel endophyte-infected tall fescue summer-stockpiled pastures. Virginia Agricultural Council. 2018-2019. \$11,900.

## Student Activities

### CSES/ENSC 3644: Plant Materials for Environmental Restoration field trip

On April 21st, the class went to Cowbane Prairie Natural Area Preserve to learn about ecological restoration of Shenandoah Valley grasslands. Focal topics included a comparison of ecological restoration methods, field plant identification, fire ecology, invasive species ecology, and ecosystem ecology.



## Awards

2018 Outstanding Recent Undergraduate Alumnus – **Dalton Bennett**, 2013 BS – CSES



2018 Outstanding Recent Alumnus – **Kiran Pavuluri**, 2013 PhD – CSES

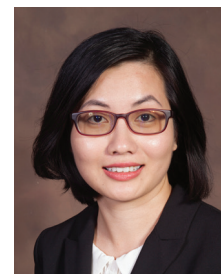


2018 Distinguished Alumnus – **Pengyin Chen**, 1989 PhD – CSES

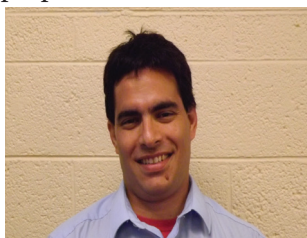


2018 Outstanding Ambassador Award – **Analit Chambi-Rojas**, 2018 BS - ENSC

**Hanh Le** (CSES PhD student advised by **Dr. Xia**) Received the 2017-2018 Sigma Xi PhD Research Award and was selected to receive a Spring 2018 VT Graduate Research Development Program Award for her proposal titled: “Preventing the spread of antibiotic resistant genes from soil.”



**Martin Battaglia** (CSES PhD recent graduate advised by **Dr. Thomason**) Awarded The Honor Society of Agriculture – Gamma Sigma Delta – Virginia Tech Chapter, 2018



**Michael Badzmierowski** (CSES PhD student advised by **Dr. Evanylo**) Awarded a United States Department of Agriculture, National Institute of Food and Agriculture Pre-doctoral Fellowship in the amount of \$86,667 under the program Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative for a proposal entitled “Discovering the Mechanism of Iron Stabilized Organic Matter and Reduced Greenhouse Gas Emissions.” For the funding, Mike will conduct research and develop and teach a class.



**Austin Hayes** (CSES MS student advised by **Dr. Reed**) At the Office of GIS and Remote Sensing Research Symposium, Austin won 3rd place in the graduate student poster competition. His poster was titled: “Aerial observation of flue-cured tobacco.”



**VT Soil Judging Team Captures their Second National Championship in Group Soil Judging; Two Students Qualify for International Contest** The team was led by 8th place individual finisher Sophomore Biological Systems Engineering (BSE) student Ben Smith from Chesterfield, VA. Also on the team was Senior BSE major Sam Withers from Asheville, NC, Senior Environmental Science (ENSC) major Cameron Bermand from Bedford, New Hampshire, and Senior Environmental Sciences major Chris Moritz from Gloucester, VA.

