



# ENGEL HALL NEWS

BIOCHEMISTRY @  
VIRGINIA TECH

IN THIS ISSUE



DEPARTMENT OF BIOCHEMISTRY

Dear Alumni and Friends of Biochemistry,

Happy Holidays from Engel Hall. We are grateful for your support of our academic and research programs, and invite you to become more involved in the department. This year saw alumni connecting via Zoom to our Careers in Biochemistry course, which exposed students to the many different career paths available for a Biochemistry major. We also welcomed back to our annual holiday International-themed celebration many retired Biochemistry faculty and staff. We value these interactions and invite all to visit Engel Hall throughout the year. If you are interested in scheduling a visit, or participating in our Careers class, please contact Ms. Zerita Montgomery at [zerita@vt.edu](mailto:zerita@vt.edu).

Many changes are taking place in Biochemistry, as highlighted in this newsletter, with an incredible new group of faculty joining our ranks. These talented and energetic new faculty are helping us to update and transform our programs which we deliver to over 500 undergraduate and 30 graduate students each year. What's not changing is our tradition of educating eager students who benefit from a strong legacy of outstanding Biochemistry alumni. Thank you for your continued generous donations to our Biochemistry excellence fund, which gives us flexibility to impact our students in ways not currently allowed by state budgets.

Glenda Gillaspy

Professor and Head, Biochemistry



### New Faculty Spotlight

Meet two more of our new faculty from this year, Dr. Kristopher Hite and Dr. Kylie Allen. Page 2

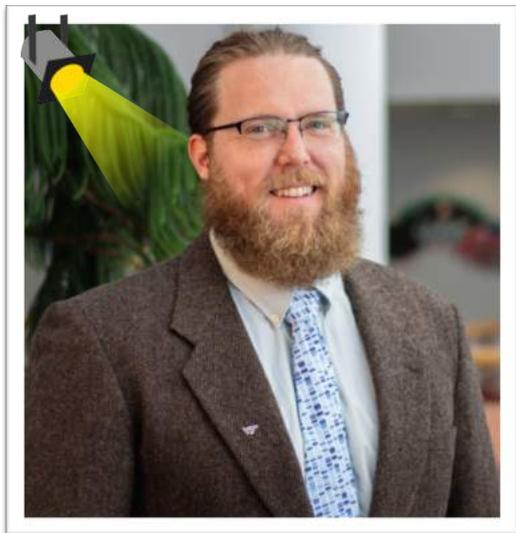
### Recent Research

The Lahondere Lab has been busy earning grants and winning awards, check out the latest from them in this newsletter. Page 3

### December's Twitter Feed

Checkout some of this month's Twitter highlights and don't forget to follow @VTBiochem Page 4

## New Faculty Spotlight: Kristopher Hite



Dr. Kristopher Hite joined the VT Biochemistry team this Fall as one of our newest Collegiate Assistant Professors. Dr. Hite co-taught the

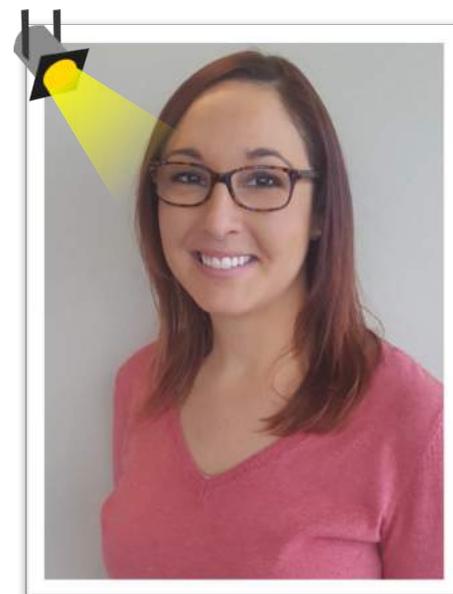
6-credit lab course BCHM 4124 Lab Problems in Biochemistry with Dr. Timothy Larson this last Fall. Dr. Hite received his B.S. in Biochemistry at the State University of New York at Fredonia. Feeling the urge to move out west, he then attended Colorado State University for his M.S and Ph.D. in Biochemistry and Molecular Biology, where he also got his start in chromatin architecture research. He then went on as a Postdoctoral Fellow at Emory University in Atlanta. Now that Dr. Hite is here in VT Biochemistry, he is working towards building his lab up and looking forward to potentially combining his passion for innovative pedagogy and personalized genetics. "My experience as a researcher and teacher has convinced me that an

ideal mentor shows great skill balancing three things: developing and pursuing new lines of inquiry, effectively integrating research with teaching, and maintaining a vibrant avenue for outreach to non-specialists.

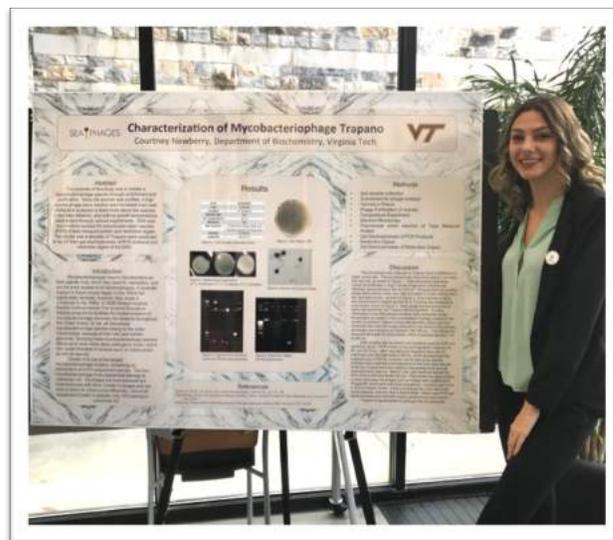
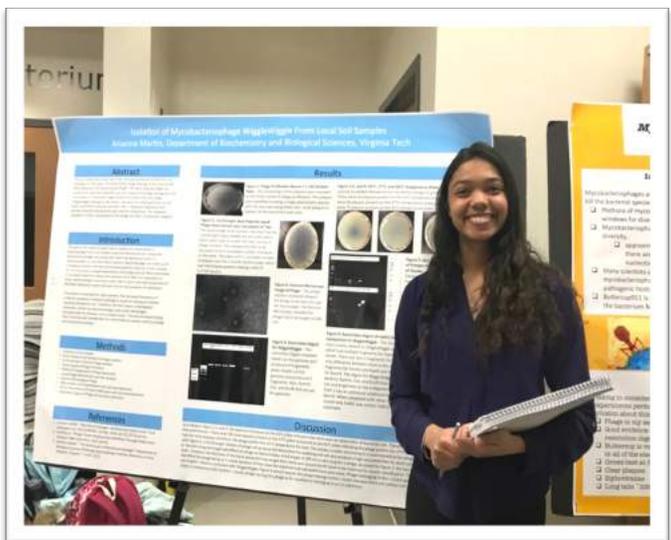
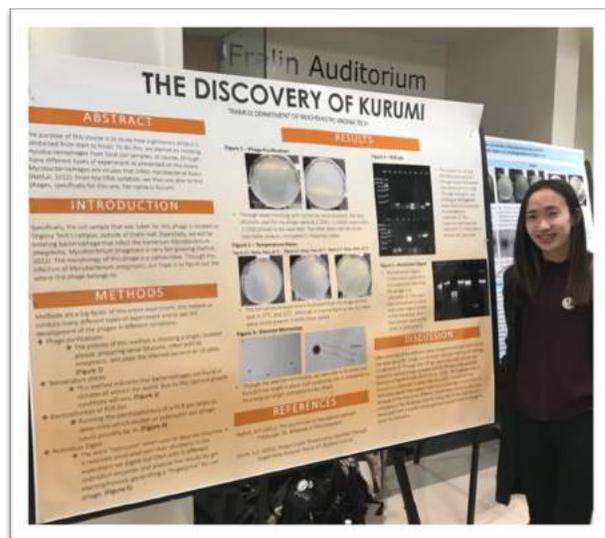
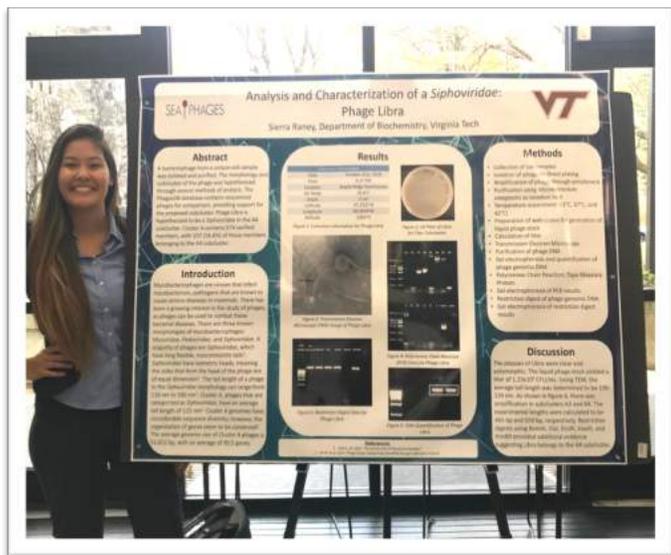
Working with undergraduates in the biochemistry lab course, seminar, and independent research I want to pique their curiosity while creating an exciting environment for discovery. I aim to accomplish these goals by incorporating more inquiry-based lessons into the courses I teach and designing experiments so students feel more ownership of the results they generate." –Dr. Hite.

Dr. Kylie Allen received her B.S. in Biology from Eastern Washington University and Ph.D. at Washington State University where she studied enzymes involved in antibiotic biosynthesis. She then went on to finish her Ph.D. in Biochemistry at Washington State University. While she was in graduate school, Dr. Allen met Virginia Tech Biochemistry faculty member Dr. Bob White and began to work with him as a Postdoctoral Associate here in the VT Department of Biochemistry. Dr. Allen then left Virginia Tech to work in the Department of Chemistry and Biochemistry at Gonzaga University as an Assistant Professor. This semester, Virginia Tech Biochemistry welcomed Dr. Kylie Allen back to Engel hall as an Assistant Professor. Dr. Allen has since been adding both undergraduate and graduate students to her lab where they study methanogenic archaea. "Research in my lab is centered on elucidating the functions and mechanisms of unique enzymes from methanogens and anaerobic methanotrophs, the archaeal microorganisms that produce and consume methane, respectively. A molecular level understanding of methane metabolism is essential for future applications in reducing greenhouse gas emissions and in the biotechnological conversion of methane to useful products." –Dr. Allen.

## New Faculty Spotlight: Kylie Allen



# CHECK OUT THESE SUPER BIOCHEMISTRY STUDENTS:



Two weeks ago, several Biochemistry undergraduates (Sierra Raney (SR), Trami Ly (JR), Arianna Martin (JR), and Courtney Newberry (SR)) participated in the semesterly poster session for the class Phage Hunters (BIOL 1135) taught by Dr. Kristi DeCourcy and Dr. Stephanie Voshell. Students in Phage Hunters use the semester to research a phage that they collected somewhere in their local environment. These Biochemistry students caught their phages, characterized their morphology, compared large snippets of its DNA and gave them each a new name. Congratulations to these students on presenting their work from this semester's class. Each student highly recommended taking this class and were all excited to take the second semester in the spring (BIOL 1136).

# December Tweets



**Dr. Chloé Lahondere**  
@Lahondere\_Lab

Following

The #Holiday spirit got the @thevinaugerlab and @Lahondere\_Lab labs today! What a fine team of scientists & artists!



6:52 PM - 14 Dec 2018



**Anne M. Brown**  
@Biochem\_Anne

Following

Good luck on exams everyone! Thank you to the lab for a great semester and cheers to another successful lab end-of-the-semester party! @OurVt #undergradresearch



3:29 PM - 6 Dec 2018



**VT Biochemistry**  
@vtbiochem

Follow

The Biochemistry 2018 Holiday celebration was last night and wow what an amazing evening! Thank you to all the faculty that worked to put this event together and congratulations to all of the Departmental Awards recipients! 🎉🎁🎊



11:10 AM - 6 Dec 2018



**Alexa Salsbury**  
@asalsbur

Follow

Some might not be surprised to find that reviewer 3 is in fact The Grinch. Happy holidays from the #LemkulLab! ❄️🎅

(Unfortunately, live action Max is not a permanent component of the decor)



5:59 PM - 8 Dec 2018 from Engel Hall

# The Lahondère Lab: A Year in Review



# LAHONDÈRE B

By: Chloe Lahondère

My lab focuses on the eco-physiology, thermal biology and neuro-ethology of disease vectors such as mosquitoes and kissing bugs. We rely on a collaborative, multidisciplinary and integrative approach, combining field work, behavioral analyses, molecular biology, chemical ecology and electrophysiology to get a better understanding of the biology of disease vectors. Our mission is to generate knowledge that will lay the groundwork for the development of new tools to control their populations.

We are currently working on several projects at Virginia Tech as well as with collaborators in France and at other universities in the US. For example, Joanna Reinhold, who joined my lab this year to conduct her PhD, is studying the feeding habits of *Culex territans* mosquitoes that feed primarily on amphibians and reptiles and are vectors of several pathogens. For this project, we collaborate with Dr. David McLeod, herpetologist at James Madison University.

Earlier this year, we obtained a grant from *The Eppley Foundation for Research*. The main aim of this project is to understand how invasive mosquito species adapt to local plants and evaluate if we contribute to the establishment of these species by providing them sugar resources with the ornamental plants we grow in urban areas. Forde Upshur, a MSc student who recently joined the lab, focuses on this project for his thesis.

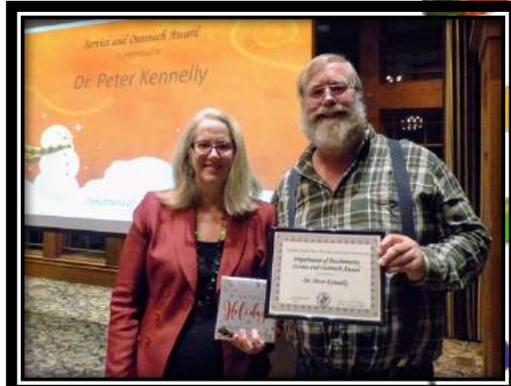
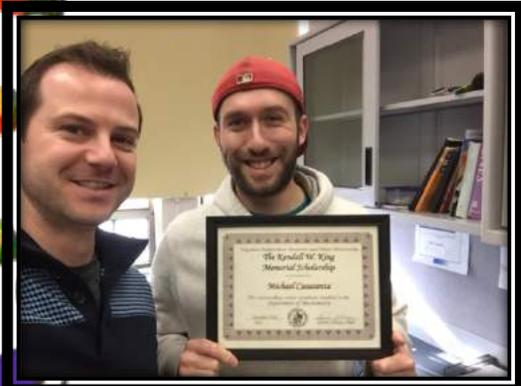
More recently, we were awarded two SEED grants. The first one, from *The Global Change Center* and *The Fralin Institute*, is a collaborative project between Dr. Lydia Patton (Philosophy), Dr. Luis Escobar (Fish and Wildlife Conservation), Dr. Clément Vinauger (Biochemistry) and my lab. We are interested in studying how climate change will affect mosquito populations in Virginia and how climate change is perceived by the citizens. The second one, from *MicroFEWHS* and *The Fralin Institute*, will consist in

developing new airborne trapping systems to collect mosquitoes in remote areas. This is a collaboration with Dr. David Schmale (Plant Pathology, Physiology, and Weed Science) and will involve a lot of field work to test our prototypes once developed in the lab! I am particularly excited by these projects as they open several undergraduate research positions in my lab. These two SEED grants will allow us to collect preliminary data to target larger funding agencies including the *NSF* and the *NIH*.

So, 2019 will certainly be busy and we cannot wait to start working on these projects!



The Lahondère lab (December 2018). From left to right: Joanna Reinhold, Forde Upshur, Elizabeth Bose, Cameron Hart and Dr. Chloé Lahondère.



This past month, on December 5<sup>th</sup>, Virginia Tech Biochemistry hosted its annual Holiday Party. Members from all throughout Engel Hall joined together at the German Club to celebrate the year's accomplishments. Faculty, staff, and family members gathered to enjoy an "around the world potluck meal," that highlighted foods from all the wonderful cultures that Virginia Tech Biochemistry brings together. After dinner, the whole room joined in congratulating the many award winners from this last year. Lastly, we wrapped the night up by having members from the VT Biochemistry community share their holiday traditions from their home. This was a great night for all of our department to come together and enjoy a beautiful evening as we wrap up the 2018 academic year. Thank you to all the hard-working members who put this event together, and congratulations again to all of our yearly award winners. Looking forward to what 2019 has to offer!



# ENGEL HALL NEWS

*Biochemistry @ Virginia Tech*

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Students from Dr. Larson and Dr. Hite's Biochemistry 4124 lab invited them to an end of the semester celebration in downtown Blacksburg to commemorate the completion of the junior/senior level lab course. Congratulations to all the students in the lab course this semester!

If you have a story, you'd like us to highlight in the Engel Hall News, please contact Mari Martinez, [mmari96@vt.edu](mailto:mmari96@vt.edu). Stay tuned for more highlights next month!



DEPARTMENT OF BIOCHEMISTRY



Thank you to all the donors and sponsors that have contributed to Virginia Tech Biochemistry this year. If you'd like to consider Biochemistry in your end of year giving, please visit the online gift form at <http://givingto.vt.edu/donate>. Once you enter the amount you would like to contribute, select "College of Agriculture and Life Sciences" and then "Biochemistry Department Annual Fund".

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