

**BIOMEDICAL & VETERINARY SCIENCES**

**GRADUATE PROGRAM**



**ANNOUNCES**

The Doctor of Philosophy Seminar and Examination of

**Cody Swilley, DVM MPH**

**"Evaluation of Sex Differences in the Hippocampus  
and Pituitary of Egr1 conditional knockout mice  
mediated by Nestin-Cre"**

Friday, August 4th, 2023

9:00AM

Steger Hall – Conference room 145

<https://virginiatech.zoom.us/j/85967433439>



## **Bio**

Dr. Swilley graduated veterinary school in 2012 from Mississippi State University. He was in small animal clinical practice for seven years. He practiced in Texas and Maryland. In 2020 he finished a Masters of Public Health at Johns Hopkins Bloomberg School of Public Health, and pursued his PhD training here at Virginia Tech in Biomedical and Veterinary Sciences as a T32 trainee.

## **Funded by**

This work was supported by NIH grants T32OD028239, NS094574, MH120498, ES031521, and NSF1922428, Office of Research and Graduate Studies, the Center for One Health Research at the Virginia–Maryland College of Veterinary Medicine and the Edward Via College of Osteopathic Medicine, and the Fralin Life Sciences Institute faculty development fund for H X.VMCVM

## **Awards and Academic Achievements**

T-32 Training Grant Post-DVM Training Program: Animal Model Research for Veterinarians

## Lay Language Abstract

Early growth response 1 (*Egr1*) is a transcription factor critical for learning and memory in the brain, as well as pituitary cell changes. *Egr1* is credited for the formation of long-term memories. The cells in the pituitary that produce growth hormone are found to be decreased in *Egr1* knockout mice. All previous studies have evaluated these physiological processes with complete *Egr1* knockout research mice strains or antisense oligonucleotides therefore, not allowing for any cell specific data. To limit cell populations involved we are using an *Egr1*cKO Nestin-Cre model.

## Publications

Swilley, C.; Lin, Y.; Zheng, Y.; Xu, X.; Liu, M.; Zimmerman, K.; Xie, H. Sex-Linked Growth Disorder and Aberrant Pituitary Gene Expression in Nestin-Cre-Mediated *Egr1* Conditional Knockout Mice. *Biology* 2023, 12, 966.  
[https:// doi.org/10.3390/biology12070966](https://doi.org/10.3390/biology12070966)

## Presentations

- Biomedical and Veterinary Sciences Research in Progress Seminar Series-March 22, 2023
- Virginia Tech, Johns Hopkins University, and Wake Forest University NIH T32 Training Program Workshop- March 10, 2023, Blacksburg, VA
- Global Meet on Biotechnology and Bioscience - February 16-18, 2023, Hilton Hotel Miami Airport, Miami, Florida
- The HBCU/MSI Research Summit at Virginia Tech, Virginia Tech collaborates with Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs) to explore research partnerships November 7, 2022
- Biomedical and Veterinary Sciences Research in Progress Seminar Series-October 17, 2022

# Examination Graduate Committee

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