

Gabrielle L. Smith

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## **EDUCATION**

Virginia Tech

May 2022

Doctorate of Philosophy, Genetics, Bioinformatics, and Computational Biology

Primary Concentration: Mathematics

Secondary Concentrations: Statistics and Computer Science

GPA: 3.9

The University of Virginia's College at Wise

May 2017

Bachelor of Science, Mathematics

Minor, Secondary Education

GPA: 3.4

## **WORK AND RESEARCH EXPERIENCE**

### **Undergraduate Research Assistant — August 2015 - May 2017**

*Use of Google Maps and Street View to Facilitate Analysis in a Wildlife Vehicle Collision Study*

*Species Composition and Temporal Patterns of Roadkills Along Physiographically Distinct Routes in Southwest Virginia*

Worked under Dr. James Vance to conduct research on wildlife vehicle collisions in Southwest Virginia.

### **Undergraduate Summer Research — May 2016 - August 2016**

*Species Composition and Spatial Distribution of Wildlife Vehicle Collisions in Southwest Virginia*

Worked under Dr. James Vance to continue research on wildlife vehicle collisions. The research objective was to prepare data for spatial analysis. Funded by The University of Virginia's College at Wise's Council for Undergraduate Research.

### **Undergraduate Senior Seminar — August 2016 - December 2016**

*Species Composition and Spatial Distribution of Wildlife Vehicle Collisions in Southwest Virginia*

Worked with the guidance of Dr. James Vance to complete spatial analysis for wildlife vehicle collisions and explored the mathematic foundation for the spatial analysis methods used.

### **Chronic Wasting Disease Sampling — November 2016 - December 2016**

Worked under Seth Thompson with the Virginia Department of Game and Inland Fisheries to extract the lymph nodes from deer for Chronic Wasting Disease sampling for the region.

### **Graduate Research Assistant — August 2017 - Current**

*Network Dynamics and Simulation Science Laboratory*

Worked under Dr. Bryan Lewis to conduct research in epidemiology and ecology. Collaborated with other labs for OneHealth focused projects.

### **Field Research Assistant — May 2018 - June 2018**

*Alexander Wildlife Laboratory - CARACAL*

Collaborated with Dr. Kathleen Alexander to build computational models for population and disease dynamics of Banded Mongoose (*Mungos mungo*) in Botswana. Conducted field observations to inform the models and collected water and fecal samples for other projects in the lab. Additionally, spent time teaching sex workers introductory computer literacy skills for career transition.

## **RESEARCH ACHIEVEMENTS**

- **Association of Southeastern Biologists Conference**  
*Use of Google Maps and Street View to Facilitate Analysis in a Wildlife Vehicle Collision Study*
- **National Conference of Undergraduate Research Conference**  
*Use of Google Maps and Street View to Facilitate Analysis in a Wildlife Vehicle Collision Study*
- **Poster Presentation to the State Council of Higher Education for Virginia**  
*Use of Google Maps and Street View to Facilitate Analysis in a Wildlife Vehicle Collision Study*
- **Emory and Henry Research Symposium**  
*Species Composition and Temporal Patterns of Roadkills Along Physiographically Distinct Routes in Southwest Virginia*
- **Council of Public Liberal Art Colleges Conference**  
*Species Composition and Temporal Patterns of Roadkills Along Physiographically Distinct Routes in Southwest Virginia*
- **Poster Presentation to The Wildlife Society**  
*Use of Google Maps and Street View to Facilitate Analysis in a Wildlife Vehicle Collision Study*

- **The University of Virginia's College at Wise's Council of Undergraduate Research**  
*Species Composition and Spatial Distribution of Wildlife Vehicle Collisions in Southwest Virginia*
- **Vance, James A.; Smith, Walter H.; and Smith, Gabrielle L. (2017)** "Public geospatial datasets as an approach to maximizing efficiency in the collection of site covariates in wildlife–vehicle collision studies," *Human–Wildlife Interactions*: Vol. 11 : Iss. 1 , Article 11.
- **Senior Seminar Presentation for the University of Virginia's College at Wise Department of Mathematics and Computer Science**  
*Species Composition and Spatial Distribution of Wildlife Vehicle Collisions in Southwest Virginia*
- **Poster Presentation to Defense Threat Reduction Agency**  
*Analysis of Influenza Outbreak across the Continental U.S. through Velocity Vector Mapping*
- **Poster Presentation in Biocomplexity Institute's Research Symposium**  
*Analysis of Influenza Outbreak across the Continental U.S. through Velocity Vector Mapping*
- **Initiative for Maximizing Student Development at Virginia Tech Biweekly Forum**  
*Mathematics in the Natural Sciences: Going Anywhere and Everywhere*
- **Vance, James A.; Smith, Walter H.; and Smith, Gabrielle L. (2018)** "Species Composition and Temporal Patterns of Wildlife-Vehicle Collisions in Southwest Virginia, USA," *Human–Wildlife Interactions*: Vol. 12 : Iss. 3 , Article 12.

## **AWARDS AND HONORS**

- **George E. Culbertson Scholarship**
- **Chancellor's Merit Scholarship**
- **Lettie P. Whitehead Scholarship**
- **Award for Outstanding Research in Mathematics**

## **RELATED COURSES AND SKILLS**

- General Biology Course and Laboratory Experience

Grade: A

- Modeling and Simulation of Biological Systems

Grade: A

-Proficient in Python, C++ , R, MatLab, and LaTeX coding languages

## **MINORS AND SPECIALTY AREAS**

- Secondary Education

*Minor*

- *Statistics and Computer Science*

*Minor*

- Road Ecology

*Specialty Area*

-Spatial Analysis Along a Network

*Specialty Area*

-Computational Modeling

*Specialty Area*

## **PROFESSIONAL ORGANIZATIONS AND AFFILIATIONS**

- **Sigma Zeta Alpha Xi Chapter**, National Science and Mathematics Honor Society

- **Association of Southeastern Biologists** Member

- **The Wildlife Society** Member

- **Student Virginia Education Association** Member

- **Virginia Education Association** Member

- **National Education Association** Member