

Remington R. Motte

PhD Student
Department of Biological Sciences
University of Arkansas

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Education, Research and Training

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|------------|---|----------------------------|
| PhD | University of Arkansas, Fayetteville
Department of Biological Sciences
Dissertation Title: TBD
Advisor: Dr. Jeremy Beaulieu | <i>August 2024-Present</i> |
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| BS | Utah Valley University, Orem
Department of Biology
Independent Project: Investigating the relationship
between DSCAM evolution and arthropod sociality.
Advisor: Dr. Carl Hjelman | <i>May 2023</i> |

Publications

2024

Motte, RR, Hjelman, CE. 2024. DSCAM1 evolution and its relationship to sociality: Hymenopteran DSCAM1 exhibits accelerated evolution across social structure. *Submitted for review*

Presentations

*Presenting author, ^PPoster presentation, ^OOral presentation

2024

***Motte, RR**, Hjelman, CE. ^OAccelerated Rates of Evolution in hymenopteran DSCAM genes
-Utah Conference on Undergraduate Research Poster Presentation, Utah Valley University

2023

***Motte, RR**, Hjelman, CE. ^OThe evolution of an undergraduate independent research project: Literature searches, data mining, and open-source programs to investigate a gene related to sociality.
-Entomology Society of America 2023 National Conference Invited Oral Presentation

***Motte, RR**, Brooks, L. ^PBacteria has Thick Skin: Biocide Resistance in Members of Staphylococcus.
-Spring 2023 UVU Biology Department Research Poster Day, Utah Valley University.

***Motte, RR**, Hjelman, CE. ^OInvestigating the relationship between DSCAM evolution and arthropod sociality.
-Entomology Society of America 2023 Pacific Branch Meeting Accepted Oral Presentation

***Motte, RR**, Hjelman, CE. ^PSmart Animals and Social Critters: The relationship of Protocadherin evolution and neuronal diversity and the impact of DSCAM evolution on sociality.
-Utah Conference on Undergraduate Research Poster Presentation, University of Utah.

2022

*Morreal, S, *Smith, S., *Monsen, C., ***Motte, RR**, Hughes, N., and Kopp, O. ^PEffects of Varying pH on *Pisum sativum*.
-Fall 2022 UVU Biology Department Research Poster Day, Utah Valley University.

Grants/Awards/Honors

Grants

Scholarly and Creative Activities Council Student Dissemination (\$1,481)	2024
Student Activities Committee Grant Dissemination Grant (\$470)	2024
Scholarly and Creative Activities Council Student Dissemination (\$1,354)	2023

Awards

Salutatorian of Pinnacle Canyon Academy Scholarship (\$500)	2018
Scholar Athlete of the Year of Pinnacle Canyon Academy Scholarship (\$300)	2018

Honors

Dean's List, Utah Valley University	Fall of 2018, Spring of 2023
Salutatorian, Pinnacle Canyon Academy	2018

Research Experience

See page 3 for relevant skills

Research Positions

Independent Researcher, Hjelman Lab Spring 2022-Summer 2024

Advisor: Carl Hjelman, PhD, Hjelman Lab, Utah Valley University

Investigating: Using comparative phylogenetics to investigate the relationship between brain development genes in neuron number in vertebrates and cephalopods, and sociality in arthropods.

- Developed and implemented independent research project
- Utilized various phylogenetic tree reconstruction methods
- Use of comparative phylogenetic analyses and programs
- Use of molecular biological software

Research Assistant, Brook Lab Spring 2023-Summer 2024

Advisor: Lauren Brooks, PhD, Brook Lab, Utah Valley University

Investigating: Studying the evolution of biocide resistance and identifying mutated genes in antibiotic resistant bacteria

- Bacterial culturing
- ZoI and CFU testing
- Microbial variant calling

Teaching Experience & Outreach

Teaching Experience

Principles of Biology Lab Instructor, University of Arkansas

- Instruct undergraduate non-biology major students in intro biology principles and laboratory techniques.
 - Fall 2024 - 2 sections, 24 students each

Principles of Chemistry Adjunct Instructor, Utah Valley University

- Instruct undergraduate non-chemistry major students in intro chemistry principles and laboratory techniques.
 - Spring 2024 - 1 section, 22 students

Zoology Teaching Assistant, Utah Valley University

- Grade undergraduate student assignments and answer questions related to intro zoology
 - Fall 2022
 - Spring 2023

Principles of Chemistry Teaching Assistant, Utah Valley University

- Grade undergraduate student assignments and answer questions related to intro chemistry
 - Fall 2022
 - Spring 2023

Elementary Teachers Assistant, Pinnacle Canyon Academy

January 2018-May 2018

- Assist instructor with teaching elementary students math, reading and science

Outreach

Entomology Children's Outreach Event, Springville Library

June 2023

Entomology Children's Outreach Event, Spanish Fork Library

June 2023

Utah Valley University's Darwin Day Event

February 2023

Professional Experience

Job position

Lab Assistant/Technician

January 2024-March 2024

Chemistry Department, Rocky Mountain Laboratories

Description: Run metabolic and blood cell panels, analyzer maintenance, inventory management.

Stockroom & Lab Assistant

August 2022-December 2023

Chemistry Department, Utah Valley University

Description: Assisting in moving lab equipment, and setting up labs (Principles of Chemistry and Analytical Chemistry). Preparing chemical reagents, ordering chemicals, and assisting in disposing of chemicals, etc.

Direct Service Provider

May 2022-August 2022

Rise Services, Orem, UT

Description: Helping disabled kids participate in summer activities and work on their own individual goals

Retail Sales Associate

July 2018-May 2022

Big 5 Sporting Goods

Description: Assist customers in a timely and friendly manner with sporting goods needs.

Academic Affiliations/Clubs

Academic Affiliations

Entomological Society of America member

Fall 2023-Spring 2024

Utah Valley University Evolution and Bioinformatics Club member

Fall 2022-Fall 2023

Clubs

UVU Co-Ed Volleyball

Fall 2022-Fall 2023

UVU Bachata Dance Club

Spring 2023

Skills

- Development of chemical inventories
- Analyzer maintenance
- Preparation of buffers and solutions
- Supercomputer familiarity
- R for statistics and data visualization
- Bayesian phylogenetic methods
- Bash scripting
- Culturing bacteria
- Biocide resistance testing
- Galaxy