

Kaleb Ducharme

STUDENT

Department of Molecular, Cellular, and Biomedical Sciences; University of New Hampshire

☎ (603) 948 5346 | ✉ Kaleb.ducharme@unh.edu | 📱 Kale-23

Education

University of New Hampshire

MASTER OF SCIENCE, GENETICS

- Current GPA: 4.00

Durham, New Hampshire

Expected 2025

University of New Hampshire

BACHELOR OF SCIENCE, NEUROSCIENCE AND BEHAVIOR

- Summa cum Laude

Durham, New Hampshire

May 2023

Awards

Presidential Scholarship

UNIVERSITY OF NEW HAMPSHIRE

2019-2023

\$5,000/year

Award of Excellence

UNIVERSITY OF NEW HAMPSHIRE

- URC poster presentation

4/2023

Research Experience

Plachetzki Lab

MASTERS STUDENT - ADVISOR: DR. DAVID PLACHETZKI

University of New Hampshire

9/2023 - Present

- Utilizing and developing bioinformatic tools and pathways to analyze the complete transcriptomes of diverse hagfish species contributing to a comprehensive understanding of the protein products within slime glands
- Investigating the evolutionary history of hagfish slime by tracking variations in the genetic makeup of selected genes across species, providing insight into novel adaptations

Lakes Lay Monitoring Program

EXTENSION INTERN

University of New Hampshire

5/2023 - 8/2023

- Developed methodology and analysis for qPCR study using python and R into cyanobacteria populations on Lake Winnepesaukee
- Enhanced community engagement in cyanobacteria bloom research through working with local committee
- Assisted in collection, processing, and presentation of quality metrics for lakes in the NH region

Visual Perception Lab

RESEARCH ASSISTANT - ADVISOR: DR. OMER DAGLAR TANRIKULU

University of New Hampshire

9/2022 - 5/2023

- Developed virtual reality experimental methodology to study ensemble perception using the python coding language and Vizard development package
- Processed participants through experiment
- Created R script to automatically clean and output data visualizations used in final presentation

Affect, Cognition, & Computation Lab

INDEPENDENT STUDY - ADVISOR: DR. CAITLYN MILLS

University of New Hampshire

1/2022 - 5/2022

- Processed participants through virtual reality experimentation procedures
- Developed python and R analysis pipelines to clean up and analyze raw eye-tracking data

Presentations

Fudge, D., Piorkowski, D., Lowe, A., Tawfick, S., Ewoldt, R., Eom, W., Hossain, T., Shalygin, S., Azadi, P., **Ducharme, K.**, & Plachetzki, D. (2024, June). *Fiber-reinforced slime in hagfishes presented by d. fudge*. Mucins in health and disease conference.

Ducharme, K. (2023, July). *Cyanobacteria and lake water quality analysis*. Undergraduate research conference, university of new hampshire.

Ducharme, K., & Daglar Tanrikulu, O. (2023, April). *Virtual reality and the perception of size: Examining ensemble perception in a 3D virtual environment*. Undergraduate research conference, university of new hampshire.

Bauer, W., **Ducharme, K.**, Hall, A., Priest, J., Wittemann, A., Wong, A., Smith, S., & Caitlyn, M. (2022, April). *Freely moving thought's relationship with testing ability*. Undergraduate research conference, university of new hampshire.

Teaching Experience

Graduate Teaching Assistant - GEN711: Introduction to Bioinformatics lab

UNIVERSITY OF NEW HAMPSHIRE

Durham, New Hampshire

1/2024 - 5/2024

- Developed updated lab structure and materials, taught students, and graded all lab assignments

Graduate Teaching Assistant - BCMB659: General Biochemistry Lab

UNIVERSITY OF NEW HAMPSHIRE

Durham, New Hampshire

8/2023 - 12/2023

- Taught two sections of students, graded lab reports, and helped lab instructor to overhaul class content

Relevant Skills

Coding Languages: Bash, Python, Java, R

Software: Slurm managed computer cluster use, ChimeraX, qiime2 commandline bioinformatics platform, Benchling virtual plasmid digestion, Microsoft suite

Laboratory: Spectrophotometry, Recombinant protein expression in *E. coli*, Purification of target protein using AKTA start chromatography system (Affinity, gel filtration), SDS-Page, qPCR techniques