Kaleb Ducharme

STUDENT

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

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Education

University of New Hampshire   *Durham, New Hampshire*
MASTER OF SCIENCE, GENETICS   *Expected 2025*
- Current GPA: 4.00

University of New Hampshire   *Durham, New Hampshire*
BACHELOR OF SCIENCE, NEUROSCIENCE AND BEHAVIOR   *May 2023*
- Summa cum Laude

Awards

Presidential Scholarship   *2019-2023*
UNIVERSITY OF NEW HAMPSHIRE   *$5,000/year*

Award of Excellence   *4/2023*
UNIVERSITY OF NEW HAMPSHIRE
- URC poster presentation

Research Experience

Plachetzki Lab   *University of New Hampshire*
MASTERS STUDENT - ADVISOR: DR. DAVID PLACHETZKI   *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   *University of New Hampshire*
EXTENSION INTERN   *5/2023 - 8/2023*
- Developed methodology and analysis for qPCR study using python and R into cyanobacteria populations on Lake Winnipesaukee
- 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   *University of New Hampshire*
RESEARCH ASSISTANT - ADVISOR: DR. OMER DAGLAR TANRIKULU   *9/2022 - 5/2023*
- Developed virtual reality experimental methodology to study ensemble perception using the python coding lanuage 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   *University of New Hampshire*
INDEPENDENT STUDY - ADVISOR: DR. CAITLYN MILLS   *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

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 - BCMB659: General Biochemistry Lab   *Durham, New Hampshire*

UNIVERSITY OF 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