

Education

- 2021 *B.A.*, Biology (Highest Honors) and Computer Science, **Williams College**, Williamstown MA
- 2019 *Study Abroad*, Computer Science, **Budapest University of Technology & Economics**, Hungary

Research Experience

- 2021-2023 **Post-baccalaureate IRTA Fellow**, Bioinformatics & Scientific Programming Core, NICHD, *National Institutes of Health*
Principal Investigator: Ryan Dale, PhD
- Collaborated with eight labs across NICHD and contributed to the core's software infrastructure (ex: common assay pipelines & development utilities)
 - Implemented bioinformatics pipelines, ranging from bulk/single-cell differential expression analysis, proteomics-based biomarker discovery, and differential methylation analysis
 - Consulted on experimental design and interpreted results across a range of biological systems in internal and NIH-wide meetings
 - Designed a publicly-available teaching tool to explain the behavior of DESeq2
 - Planned and led weekly, institute-wide bioinformatics interest meeting
- 2018-2021 **Undergraduate & Honors Thesis Researcher**
Department of Biology, *Williams College*
Title: *Characterizing the Pangenomes of Key Oceanic Microbiome Community Members*
Principal Investigator: Claire Ting, PhD
- Conducted novel inter and intra-genera proteomic comparisons with *Prochlorococcus marinus*, a prominent marine cyanobacteria, and other abundant marine microbes
 - Helped to direct project trajectory over multi-year period, including follow-up metagenomic analyses
- 2019 **Research Fellow**
TECBio REU, *University of Pittsburgh*
Principal Investigator: Dennis Kostka, PhD
- Developed a machine learning tool (variational autoencoder network) to remove noise and identify doublets in scRNA-seq data
 - Mentored high school researchers hosted by the department
- 2018-2019 **Undergraduate Researcher**
Department of Computer Science, *Williams College*
Principal Investigator: Daniel Barowy, PhD
- Designed the parser for SWELL, a programming language with simplified syntax utilized in a pilot Computer Science education platform for young students
 - Trained undergraduate peers to teach Hour of Code workshops and oversaw educational field study in local middle schools

Publications

Kiersten Campbell*, Niamh X, Cawley*, Rachel Luke, et al. Identification of Cerebral Spinal Fluid Protein Biomarkers in Niemann-Pick Disease, type C1. Biomarker Research, 2023. [* = co-first author]

An N. Dang Do, David Sleat, **Kiersten Campbell**, Nicholas Johnson, Haiyan Zhang, Christopher Wassif, Ryan Dale, Forbes D. Porter. Cerebrospinal Fluid Protein Biomarkers in CLN3. J Proteome Research, 2023.

Vinay Kumar Sharma, **Kiersten Campbell**, Xuyu Yang, Ryan Dale, Y Peng Loh. Characterization of serotonin-5-HT_{1E} signaling pathways and its role in cell survival. FASEB, 2023.

Jeremie Oliver Piña, Resmi Raju, Daniela M. Roth, Emma Wentworth Winchester, Parna Chattaraj, Fahad Kidwai, Fabio R. Faucz, James Iben, Apratim Mitra, **Kiersten Campbell**, Gus Fridell, Caroline Esnault, Justin L. Cotney, Ryan K. Dale, Rena N. D'Souza. Multimodal spatiotemporal transcriptomic resolution of embryonic palate osteogenesis. Nature Communications, 2023.

Rajakumar Anbazhagan, Raghuveer Kavarthapu, Ryan Dale, **Kiersten Campbell**, Fabio R Faucz, Maria L Dufau. miRNA Expression Profiles of Mouse prRound Spermatids in GRTH/DDX25-Mediated Spermiogenesis: mRNA-miRNA Network Analysis. Cells, 2023.

Quan Do, **Kiersten Campbell**, Emmie Hine, Dzung Pham, Alex Taylor, Iris Howley, Daniel W. Barowy. Evaluating ProDirect Manipulation in Hour of Code. Proceedings of 2019 ACM SIGPLAN SPLASH-E Symposium, 25-35, 2019.

Presentations

International Society of Computational Biology 2022. *DESeq2 Interactive Teaching Tool.* (Poster)

NIH Postbac Poster Day 2022. *DESeq2 Interactive Teaching Tool.* (Poster)

CLN3 Annual Meeting 2021, NIH-wide summit. *CLN3 Biomarker Discovery.* (Oral Presentation)

Duquesne Symposium 2019. *Doublet Detection in scRNA-seq Data Using Variational Autoencoders.* (Poster)

Teaching Experience

2022-Present **Co-Instructor**, Foundation for Advanced Education in the Sciences, Bethesda MD
Course: BIOF 475: Introduction to Data Science (graduate-level)
Terms: Summer & Fall 2022, Spring, Summer, & Fall Spring 2023, Spring 2024

2023 **Teaching Assistant**, Department of Computer Science, Emory University
Course: CS170: Introduction to Computer Science I
Term: Fall 2023

2022 **Teaching Assistant**, Foundation for Advanced Education in the Sciences, Bethesda MD
Course: BIOF 544: High Resolution Analysis of Transcriptomes (graduate-level)
Term: Spring 2022

2020-2021 **Teaching Assistant**, Department of Computer Science, Williams College
Courses: Principles of Programming Languages & Algorithm Design and Analysis
Terms: Spring 2020, Fall 2020, Spring 2021

Awards and Honors

2023	Robert W. Woodruff Fellowship, Emory University
2023	Women in Natural Sciences Fellowship, Emory University
2022	CRA-E Research Highlight Series, featured in February 2022 edition
2021	NICHHD Collaboration Award
2021	Sigma Xi, Associate Member, elected by Williams College chapter
2021	Frederick Eugene Stratton Fellowship in Biology, awarded by Williams College
2021	Fulbright Open Research Grant (Hungary) Awardee; declined to pursue NIH fellowship
2020	Computing Research Association Outstanding Undergraduate Researcher, Finalist
2018-2021	Clare Booth Luce Scholar, Williams College cohort Funding award to support independent research in STEM
2020	Student Attendance Scholarship, for Richard Tapia Celebration of Diversity in Computing Conference
2019	Programming Languages Mentorship Workshop (PLMW) Travel Grant, SPLASH 2019
2017-2019; 2020-2021	Dean's List, Williams College Not applicable for 2019 – 2020 academic year, due to study abroad & COVID pandemic
2018-2020	Williams College 1960's Scholar Computer Science Department (2018-2019) & Biology Department (2019-2020)

Leadership Experience

2022-2023	Direct mentor to visiting undergraduate researcher, NIH Summer Internship Program
2020-2021	Peer Mentor, Underrepresented Identities in Computer Science, Williams College
2017-2020	Conference Delegate, for Williams College at three national First-Generation conferences
2020	Dean Selection Committee Member, Williams College
2018-2020	Computer Science Student Advisory Committee Representative, Williams College
2018	First-Generation Orientation Leader, Williams College
2018	Student Housing Coordinator, Office of Student Life, Williams College