

Education

Present	PhD Student, Computer Science & Informatics, Emory University , Atlanta GA
2021	<i>B.A.</i> , 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	<p>Post-baccalaureate IRTA Fellow, Bioinformatics & Scientific Programming Core, NICHD, <i>National Institutes of Health</i> Principal Investigator: Ryan Dale, PhD</p> <ul style="list-style-type: none">• 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	<p>Undergraduate & Honors Thesis Researcher Department of Biology, <i>Williams College</i> Title: <i>Characterizing the Pangenomes of Key Oceanic Microbiome Community Members</i> Principal Investigator: Claire Ting, PhD</p> <ul style="list-style-type: none">• Conducted novel inter and intra-genera proteomic comparisons with <i>Prochlorococcus marinus</i>, a prominent marine cyanobacteria, and other abundant marine microbes• Helped to direct project trajectory over multi-year period, including follow-up metagenomic analyses
2019	<p>Research Fellow TECBio REU, <i>University of Pittsburgh</i> Principal Investigator: Dennis Kostka, PhD</p> <ul style="list-style-type: none">• 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	<p>Undergraduate Researcher Department of Computer Science, <i>Williams College</i> Principal Investigator: Daniel Barowy, PhD</p> <ul style="list-style-type: none">• 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

Atlanta Workshop on Single-Cell Omics 2024. *ParDoub: Parallelized Doublet Detection for scRNA-seq.* (Oral Presentation)

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

2024 **Teaching Assistant & Course Developer**, Department of Computer Science, Emory University
Course: CS312: Computing, AI, Ethics, and Society
Term: Fall 2024

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

2022-2023 **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 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 NICHD 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

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

Committees

2024	Computing in Cardiology Program Committee
2024	Biomedical Informatics Department Awards Committee, Emory University
2020	Dean Selection Committee, Williams College