EDUCATION

DALHOUSIE UNIVERSITY / EXETER UNIVERSITY
POSTDOCTORAL FELLOW
2016-2019
Genome Canada-funded Postdoctoral Fellowships working on evolution and antimicrobial reistance.

UNIVERSITY COLLEGE LONDON
PHD BIOINFORMATICS
Dec 2015 | London, England
Thesis: A multi-omic analysis of the photosynthetic endosymbioses of *Paramecium bursaria*
Defended: March 2016

OXFORD UNIVERSITY
BA (HONS) NATURAL SCIENCE (BIOLOGICAL SCIENCES)
May 2011 | Oxford, England
Dissertation: Evolution of the eukaryotic folate biosynthesis pathway

COURSES

TAUGHT
Infectious Disease Epidemiology
Health Data Science
Bioinformatics Algorithms
Computational Biology
Genomic Epidemiology
Python and Advanced Python
MicroResearch
Data Management
Machine Learning for Life Sciences
Genomics and Transcriptomics
Software Carpentry Bootcamp
Supervision of Doctoral, Masters and Undergraduate Researchers

SKILLS

PROGRAMMING
Expert:
Python • Bash • Unix • Nextflow
Intermediate:
C++ • R • perl • SQL • HPC Systems
Familiarity:
Rust • Octave/Matlab • JS (inc. D3.js)

MOLECULAR BIOLOGY
{transcript,gen,metabol}-omics • phylogenetics • microscopy • standard microbiology lab techniques

EXPERIENCE

DALHOUSIE UNIVERSITY | ASSISTANT PROFESSOR
January 2022 – Present | Halifax, Nova Scotia
- Joint appointment to Faculty of Computer Science and Faculty of Medicine (Community Health and Epidemiology)
- Well-funded independent research program in the genomic epidemiology of infectious diseases (specialising in AMR and Emerging Zoonoses) with direct clinical and public health applications.
- Pathogenomics Bioinformatics Lead at Toronto's Shared Hospital Laboratory
- Co-Chair/Steering Committee - Public Health Alliance for Genomic Epidemiology

DALHOUSIE UNIVERSITY | DONALD HILL FELLOW
January 2019 - January 2022 | Halifax, Nova Scotia
- Independent fellowship with paired fellows in Medicine and Sociology all working on societal impacts of technology.
- Expanding previous public health work in genomic epidemiology and antimicrobial resistance.
- Engaging local non-profits and assisting them with exploratory data analysis methods.
- Lead project developing prediction tools for antimicrobial resistance from metagenomes with the Public Health Agency of Canada and Agriculture and Agri-Food Canada.

NASA | PLANETARY BIOLOGY FELLOW
July 2013 – Aug 2013 | Kennedy Space Center, Florida
- Acted as NASA representative and scientific adviser to BBC "Cloud Lab" Documentary.
- Researched bacterial adaptations to extreme near-space conditions.
- Designed and implemented trials for a stratospheric balloon flight.

BIOMAP EGYPT | RESEARCH ASSISTANT
July 2008 – Aug 2008 | Sinai, Egypt
- GIS project monitoring biodiversity in the Sinai Desert.
- Sampled and performed preliminary data analysis in isolated and challenging conditions.

AWARDS

2025	Royal Society of Canada	Elected College Member
2024	Discovery Awards	Emerging Professional
2023	Dalhousie University	President's Research Excellence Award
2023	American Society of Microbiology	Top Cited Paper
2022	Royal Society	Life Sciences New Talent Collection

FUNDING

Principal Investigator/Co-PI:	$4,554,982
Co-Investigator/Applicant:	$13,246,435
Total Received:	$19,623,091
Funders:	CIHR, SSHRC, NSERC, NFRF, DRDC, DRAC, Genome Canada, NASA, BMGF, Nvidia

PUBLICATIONS

57 publications with over 6795 citations including Nature Microbiology, PNAS, Nucleic Acids Research, and Royal Society B. See `goo.gl/04fiwt` for full citation list.