

EDUCATION

DALHOUSIE UNIVERSITY / EXETER UNIVERSITY

POSTDOCTORAL FELLOW

2016-2019

Genome Canada-funded Postdoctoral Fellowships working on evolution and antimicrobial resistance.

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 2013 | 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

2024 Discovery Awards

2023 Dalhousie University

2023 American Society of Microbiology

2022 Royal Society

Elected College Member

Emerging Professional

President's Research Excellence Award

Top Cited Paper

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](https://github.com/fmaguire) for full citation list.