

# Finlay Maguire | Curriculum Vitae

Halifax, Nova Scotia

✉ finlaymaguire@gmail.com • 🌐 finlaymagui.re

## Education

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### Doctor of Philosophy

*Bioinformatics*

**University College London**

*October 2011–July 2016*

Title: A Multi-omic Analysis of the Photosynthetic Endosymbioses of *Paramecium bursaria*

Supervisor: Thomas A. Richards

A reconstruction of cellular interactions in a nascent endosymbiotic system using machine learning and computational methods to analyse 'single' cell metagenomic, metabolomic, and metatranscriptomic datasets. It involved the first use of these datasets in the study of multi-protist systems.

### Master of Arts

*Natural Sciences - Biological Sciences, Honours*

**University of Oxford**

*October 2008–June 2011*

Title: The Evolution of the Folate Biosynthesis Gene Fusions in the Eukaryotes.

Supervisor: Thomas A. Richards

Conducted an independent bioinformatics undergraduate honours research project to polarise deep-branching relationships within the evolutionary tree of life.

## Employment History

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### Assistant Professor

*Computer Science and Community Health & Epidemiology*

**Dalhousie University**

*January 2022–Present*

Tenure-Track Assistant Professor in Genomic Epidemiology/Health Data Science jointly-appointed to the Faculty of Computer Science and the Faculty of Medicine (Department of Community Health & Epidemiology). Responsible for running an independent externally-funded research program and providing graduate level teaching in Computer Science, Epidemiology, and the Medical School.

### Pathogenomics Bioinformatics Lead

*Shared Hospital Laboratory*

**Sunnybrook/North York, Toronto**

*January 2021–Present*

Responsible for overseeing and building pathogenomics analysis capacity for Sunnybrook Health Sciences Centre, North York General Hospital, The Scarborough Hospital and Michael Garron Hospital. This work includes supervision of junior bioinformaticians, an active role in provincial SARS-CoV-2 surveillance, as well as infectious disease research and diagnostics.

### Donald Hill Family Fellow

*Faculty of Computer Science*

**Dalhousie University**

*April 2019–December 2021*

Independent research fellowship developing interdisciplinary data-driven methods to address public health crises, including: Improving antimicrobial resistance diagnostics/surveillance (including international capacity building); SARS-CoV-2 genomic epidemiology within national and international initiatives; Working with local non-profits and across disciplines to collaboratively use informatics-approaches to try to address problems related to local social/health issues (e.g., refugee health, homelessness, and substance-use disorders).

### Postdoctoral Fellow

*Faculty of Computer Science*

**Dalhousie University**

*February 2017–March 2019*

Supervisor: Robert G. Beiko

Lead the development of the AMRtime project: a machine-learning based antimicrobial resistance prediction tool for metagenomic datasets. This work was part of the Public Health Agency of Canada's (PHAC) Integrated Rapid Infectious Disease Analysis Project. Responsibilities included co-ordination of industry consultations and several infectious disease genomic epidemiology projects involving 3 universities, PHAC, the Canadian Food Inspection Agency, and Agriculture and Agri-Food Canada.

### Associate Research Fellow

*Living Systems Institute*

**University of Exeter**

*October 2016–January 2017*

Supervisor: Thomas A. Richards

Short-term fellowship to consolidate doctoral research. Work involved the *in silico* simulation and experimental induction of RNAi in *P. bursaria*, and modelling of protein transmembrane domain evolution using deep recurrent neural networks.

### NASA Researcher

*Exposing Microbes in the Stratosphere Project*

**John F. Kennedy Space Center**

*July–October 2013*

Supervisor: David J. Smith

Performed ground-based trials for project determining the transcriptomic response of *Bacillus* to stratospheric and extraterrestrial conditions. Assisted with the design and construction of an atmospheric microbial exposure and sampling module for use with high-altitude weather balloons.

**Undergraduate Researcher**

*SGM Harry Smith Studentship*

Funded summer honours research project (8 weeks) on the evolution of folate biosynthesis gene fusions within the eukaryotes using both molecular biology techniques and bioinformatics methods.

**University of Exeter**

*June–August 2010*

## Honours and Awards

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### Honours.....

**Royal Society of Canada**

*University Nominee*

Dalhousie University Nominee for membership in the Royal Society of Canada's College of New Scholars, Artists and Scientists

**Ottawa, ON**

*January 2024*

**American Society of Microbiology**

*Top Cited Author*

*Kim et. al., Clinical Microbiology Reviews* identified as a top cited article in ASM journals for 2023

**Washington DC, USA**

*December 2023*

**Discovery Awards for Science & Technology**

*Emerging Professional Finalist*

**Halifax, Nova Scotia**

*November 2023*

**Dalhousie Legacy Awards**

*President's Research Excellence Award - Emerging Investigator (\$2000)*

**Halifax, Nova Scotia**

*October 2023*

**Royal Society (United Kingdom)**

*Life Sciences New Talent Collection*

*Jenkins & Maguire et. al., Royal Society Open* showcased as exciting/emerging cross-disciplinary research

**London, United Kingdom**

*November 2019*

**Dalhousie Computer Science In-House Conference**

*Best Presentation (\$50)*

**Dalhousie University**

*January 2018*

**School of Informatics Jamboree**

*Poster Prize (£50)*

**University of Edinburgh**

*March 2015*

**National Data Science Bowl**

*Top ~5% (57/1049)*

**Neuroglycerin**

*December 2014–March 2015*

**American Epilepsy Society Seizure Prediction Challenge**

*Top 5% (16/527)*

**Neuroglycerin**

*August–October 2014*

**Dukinfield Exhibition in Biological Sciences**

*Scholarship for Academic Excellence (£300)*

**University of Oxford**

*October 2009–July 2011*

## Cross-Appointments & Memberships

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**Department of Microbiology & Immunology**

*Cross-Appointed Assistant Professor*

**Dalhousie University**

*July 2023–Present*

**Inflammation, Infectious Disease, Immunology & Vaccinology (I3V) Wave**

*Faculty Member*

**Dalhousie University**

*May 2023–Present*

**Biological Sciences Platform**

*Visiting Scientist (Adjunct Principal Investigator)*

**Sunnybrook Research Institute**

*May 2022–Present*

**Institute of Comparative Genomics**

*Faculty Member*

**Dalhousie University**

*January 2022–Present*

**Faculty of Graduate Studies**

*Assistant Professor*

**Dalhousie University**

*January 2022–Present*

## Funding History

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**Awarded: \$4.36M.....**

**Insight Grant**

*Principal Applicant (\$120,000)*

United by hate: Misogyny in male oriented online communities

**SSHRC**

*June 2024–June 2028*

<b>Pandemic Preparedness and Health Emergencies Research Priority Funding</b> <i>Co-applicant (\$100,000)</i> Investigating the genomic epidemiology, transmission, and infectivity of the non-influenza respiratory viruses	<b>CIHR</b> <i>June 2024–June 2025</i>
<b>Pandemic Preparedness and Health Emergencies Research Priority Funding</b> <i>Co-applicant (\$100,000)</i> Genomic Epidemiology of Methicillin-Resistant Staphylococcus aureus Infections Prior to and During the COVID-19 Pandemic	<b>CIHR</b> <i>June 2024–June 2025</i>
<b>Faculty of Medicine Conference Grant</b> <i>Co-Applicant (\$5,000)</i> Tackling antimicrobial resistance – surveillance, prevention, and new treatments	<b>Dalhousie University</b> <i>2023–2023</i>
<b>Workshop Grant</b> <i>Principal Applicant (\$6,000)</i> Korle-Bu Teaching Hospital Clinical Epidemiology MicroResearch Workshop	<b>Academics Without Borders</b> <i>October 2023–November 2023</i>
<b>Team Grant</b> <i>Co-Applicant (\$500,000)</i> Mpox exposure and transmission at the human-animal interface (RN492141-486953: 5-years)	<b>CIHR</b> <i>October 2023–October 2025</i>
<b>Conference Grant</b> <i>Co-Applicant (\$5,000)</i> Tackling antimicrobial resistance – surveillance, prevention, and new treatments (Event)	<b>Dalhousie Faculty of Medicine</b> <i>March 2023</i>
<b>Project Grant</b> <i>Co-Applicant (\$1,377,000)</i> A collaborative, One Health approach to zoonotic virus detection and risk assessment at the wildlife-human nexus (RN492141-486953: 5-years)	<b>CIHR</b> <i>March 2022–December 2024</i>
<b>Insight Development</b> <i>Co-Applicant (\$47,125)</i> Factors affecting risk of obstetrical anal sphincter injury and its consequences in Nova Scotia (RNS-NHIG-2022-2330: 2-years)	<b>Research Nova Scotia</b> <i>December 2022–December 2024</i>
<b>Insight Development</b> <i>Co-Applicant (\$59,398)</i> Social Disconnection and Masculinity (430-2022-00585: 2-years)	<b>SSHRC</b> <i>September 2022–September 2024</i>
<b>Insight Development</b> <i>Co-Applicant (\$68,400)</i> Equal Opportunity and Luck: Empirical Examination of Unfairness of Distributions of Luck Using the Canadian Longitudinal Study on Ageing (2-years)	<b>SSHRC</b> <i>September 2022–September 2024</i>
<b>Discovery Grant</b> <i>NPI (\$177,500)</i> Advancing understanding of the evolution of key bacterial and fungal genes in microbial communities through metagenomic assembly optimisation and context-aware graph algorithms (RGPIN-2022-03341: 5-years)	<b>NSERC</b> <i>September 2022–September 2027</i>
<b>Emerging Infectious Diseases Modelling Initiative</b> <i>NPI (\$70,000)</i> Comparing inter-provincial viral dynamics within vulnerable populations (1-year)	<b>NSERC</b> <i>November 2021–November 2022</i>
<b>SARS-CoV-2 Data Portals Grant</b> <i>Knowledge User (\$300,000)</i> CanCOGeN VirusSeq SARS-CoV-2 Genomic Data Portal (1-year)	<b>Genome Canada</b> <i>March 2021</i>
<b>Project Grant</b> <i>Co-Applicant (\$601,000)</i> SARS-CoV-2 Genotype-Dependent Pathogenesis and Transmission (5-years)	<b>CIHR</b> <i>May 2021–May 2026</i>
<b>Operating Grant</b> <i>Co-Applicant (\$499,276)</i> SARS-CoV-2 variants under investigation and variants of concern: phenotyping gaps in transmission, reinfection, and response to medical countermeasures	<b>CIHR</b> <i>May 2021–May 2022</i>
<b>Accelerated Data Science GPU Grant</b> <i>Co-PI (equivalent: \$4,000)</i> Large-Scale Identification and Analysis of Promoter Sequences in 43,105 Bacterial Genomes (1-year)	<b>NVIDIA</b> <i>September 2019</i>
<b>Explore Grant</b> <i>Co-Applicant (\$4,950)</i> NEETs, Incels, and Wizards: The Experiences of Socially Isolated Men (1-year)	<b>SSHRC</b> <i>June 2019–May 2020</i>
<b>Donald Hill Family Fellowship in Computer Science</b> <i>3-Year Independent Research Fellowship (\$165,000)</i>	<b>Dalhousie University</b> <i>April 2019–December 2021</i>

<b>NASA Planetary Biology Program</b> <i>10-Week Research Fellowship (£3,500)</i>	<b>John F. Kennedy Space Center</b> <i>July–October 2013</i>
<b>UCL-NHM Joint-Institution PhD Studentship</b> <i>4-Year PhD Studentship (£70,000)</i>	<b>University College London</b> <i>October 2011–December 2016</i>
<b>Harry Smith Studentship</b> <i>8-Week Research Scholarship (£1,890)</i>	<b>Society for General Microbiology</b> <i>June–August 2010</i>

**Under-Review**.....

**Project Grant** **CIHR**  
*Co-Applicant (\$970,000)* *June 2024–June 2028*  
Investigating the genomic epidemiology, transmission, and infectivity of the non-influenza respiratory viruses

**Project Grant** **CIHR**  
*Co-Applicant (\$1,705,000)* *June 2024–June 2026*  
Group A Streptococcus: understanding coLonization, disEAsE and tRansmission dyNamics in children and adults (GAS-LEARN)

**Project Grant** **CIHR**  
*Co-Applicant (\$1,215,000)* *June 2024–June 2029*  
The Comprehensive Antibiotic Resistance Database: From Genes to Interpretation

**Health Research Training Platform: Emerging Zoonoses** **CIHR**  
*Principal Applicant (\$2,700,000)* *June 2024–June 2023*  
Canadian One Health Training Platform on Emerging Zoonoses (COHTPEZ)

**Health Research Training Platform: Bioinformatics and Health Data Sciences** **CIHR**  
*Co-Applicant/Principal Mentor (\$6,050,000)* *June 2024–June 2023*  
Canadian Bioinformatics, Computational Biology, and Data Science Training and Community Platform

**Health Research Training Platform: One Health AMR** **CIHR**  
*Co-Applicant (\$2,700,000)* *June 2024–June 2023*  
CAN-AMR-Net

**Concept Note** **Bill and Melinda Gates Foundation**  
*Co-applicant (\$2,000,000)* *June 2024–June 2026*  
Developing community standards for Plasmodium genetic and contextual data

**Planning and Dissemination Grant** **CIHR**  
*Co-applicant (\$40,000)* *June 2024–June 2025*  
Wildlife Emerging Pathogens Initiative: Planning Pathways and Partnerships for One Health Science

**Not Awarded**.....

**Insight Grant** **SSHRC**  
*Collaborator (\$120,000)* *June 2024–June 2028*  
Disease Knowledge Graph: Construction, Refinement, Enrichment, and Reasoning

**Project Grant** **CIHR**  
*Co-applicant (\$970,000)* *June 2024–June 2028*  
Investigating the genomic epidemiology, transmission, and infectivity of the non-influenza respiratory viruses

**Project Grant** **CIHR**  
*Co-applicant (\$700,000)* *June 2024–June 2028*  
Genomic Epidemiology of Methicillin-Resistant Staphylococcus aureus Infections Prior to and During the COVID-19 Pandemic

**CBRF-BRIF** **Dalhousie University**  
*Team Lead (\$20,305,526)* *June 2024–June 2028*  
National Centre for One Health Biomonitoring, Biosurveillance, Biosecurity and Biomanufacturing for Avian Influenza

**CIHR: SARS-CoV-2 Emerging Variants Network Fund** **Dalhousie University**  
*Co-Applicant (\$9,000,000)* *April 2021*  
“SARS-CoV-2 Emerging Variant Network”

**CIHR: COVID-19 Rapid Research Fund** **Dalhousie University**  
*Collaborator (\$765,355)* *May 2020*  
“Community-wide Screening for SARS-CoV-2 Through Wastewater Testing Using an Automated System”

**NFRF: Transformation Grant** **Dalhousie University**  
*Collaborator (\$6,000,000)* *2020*  
“CAMRADS EMR Tech: Community AntiMicrobial Resistance Automated Stewardship using Electronic Medical Records Technology”

## Travel Awards

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<b>Canadian Institutes of Health Research</b> <i>Hacking AMR 2019 Award (\$3000)</i>	<b>Stockholm, Sweden</b> <i>November 2019</i>
<b>American Society of Microbiology</b> <i>Travel Award (\$600)</i>	<b>Washington, DC</b> <i>September 2018</i>
<b>Canadian Society of Microbiology</b> <i>Travel Award (\$500)</i>	<b>University of Manitoba</b> <i>June 2018</i>
<b>Federation of European Microbiological Societies Young Scientist Grant</b> <i>Meeting Scholarship (£350)</i>	<b>Sant Feliu du Guixols, Spain</b> <i>October 2013</i>
<b>Earth and Space Foundation</b> <i>Research Scholarship (£300)</i>	<b>John F. Kennedy Space Center</b> <i>July–October 2013</i>
<b>Federation of European Microbiological Societies Young Scientist Grant</b> <i>Meeting Scholarship (£350)</i>	<b>Sant Feliu du Guixols, Spain</b> <i>October 2011</i>
<b>Society for General Microbiology Undergraduate Grant</b> <i>Travel Award (£170)</i>	<b>University of York</b> <i>September 2011</i>

## Teaching

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### Dalhousie - Courses

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<b>Directed Study: Clinical Microbial Genomics</b> <i>Instructor of Record</i>	<b>CSCI6999/INTE7000</b> <i>Winter 2023-2024</i>
<b>Applied Research in Health Data Science</b> <i>Creator/Instructor of Record</i>	<b>CSCI6410/CSCI4148/EPAH6410</b> <i>Summer 2023-2024</i>
<b>Directed Study: Graph-Based Algorithms in Genomics and Metagenomics</b> <i>Instructor of Record</i>	<b>INTE7001/INTE7000</b> <i>Fall 2023-2024</i>
<b>Professional Competencies</b> <i>Tutor</i>	<b>MED1</b> <i>Fall 2023-2024</i>
<b>Bioinformatics Algorithms</b> <i>Instructor of Record</i>	<b>CSCI4181/CSCI6802</b> <i>Winter 2022-2023</i>
<b>Applied Research in Health Data Science</b> <i>Creator/Instructor of Record</i>	<b>CSCI6410/CSCI4148/EPAH6410</b> <i>Summer 2022-2023</i>
<b>Professional Competencies</b> <i>Tutor</i>	<b>MED1</b> <i>Fall 2022-2023</i>
<b>Applied Research in Health Data Science</b> <i>Creator/Instructor of Record</i>	<b>CSCI6410/CSCI4148/EPAH6410</b> <i>Summer 2021-2022</i>

### Dalhousie - Guest Lecturing

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<b>Epidemiology of Infectious Diseases</b> <i>Guest Lecturer on Genomic Epidemiology</i>	<b>EPAH6052</b> <i>Winter 2022-2023</i>
<b>Bioinformatics Algorithms</b> <i>Lecturer (12.5%)</i>	<b>CSCI4181/CSCI6802</b> <i>Winter 2020-2021</i>
<b>Graduate Directed Study: Microbial Feature Encoding</b> <i>Seminar Facilitator</i>	<b>INTE7000</b> <i>Summer 2019-2020</i>
<b>Bioinformatics Algorithms</b> <i>Lecturer (12.5%)</i>	<b>CSCI4181/CSCI6802</b> <i>Winter 2019-2020</i>
<b>Graduate Directed Study: Machine-Learning Phenotype Prediction</b> <i>Seminar Facilitator</i>	<b>INTE7000</b> <i>Fall 2019-2020</i>
<b>Introduction to Computational Biology</b> <i>Lecturer (20%)</i>	<b>CSCI4180/CSCI6801</b> <i>Winter 2018-2019</i>
<b>Bioinformatics Algorithms</b> <i>Guest Lecturer on Phylogenetic Statistics</i>	<b>CSCI4181/CSCI6802</b> <i>Winter 2018-2019</i>

## Data Management

Guest Lecturer on Statistical Data Formats

INFO6540

Winter 2017-2018

## Graduate Directed Study: Bioinformatics for Metagenomics

Seminar Facilitator

INTE7000

Fall 2017-2018

## Workshops

### Canadian Bioinformatics Workshop on Infectious Disease Genomic Epidemiology

Organiser & Instructor

Virtual

13–17th May 2024

Lead instruction on phylodynamics and transmission inference. This module included a practical exercise and participants included individuals from industry, government, and academia.

### MicroResearch

Organiser/Principal Lecturer

Korle-Bu Teaching Hospital, Accra, Ghana

6–17th November 2023

Organised and taught a 2-week clinical epidemiology research capacity building workshop in the Obstetrics & Gynecology Department of Korle-Bu Teaching Hospital in Accra, Ghana. 16 participants including local Ob/Gyn surgeons, nurses, pharmacists, dieticians, and sonographers developed 3 independent research projects proposals that are intended to go forward for funding. Based on positive feedback, workshop program is going to be integrated into the Ob/Gyn residency training program at Korle-Bu Teaching Hospital (University of Ghana's largest/oldest teaching hospital).

### Canadian Bioinformatics Workshop on Infectious Disease Genomic Epidemiology

Organiser & Instructor

Virtual

18–21st April 2023

Lead instruction on phylodynamics and transmission inference. This module included a practical exercise and participants included individuals from industry, government, and academia.

### MicroResearch

Instructor

Meru, Kenya

9–20th January 2023

Remotely taught quantitative methods, sampling, and statistics sessions for this 2-week workshop designed to build research capacity and generation of a health-related pilot project. I also mentored a research team including development of a research proposal.

### Canadian Bioinformatics Workshop on Infectious Disease Genomic Epidemiology

Organiser & Instructor

Virtual

4–6th October 2021

Lead instruction on phylodynamics and transmission inference. This module included a practical exercise and comprised 1/6th of the workshop. Participants included individuals from industry, government, and academia.

### JPI-AMR/PHA4GE/CLIMB-BIG-DATA AMR Genomics Training Workshop

Organising Chair

Virtual

15th October 2021

### Canadian Bioinformatics Workshop on Infectious Disease Genomic Epidemiology

Instructor (17%)

Virtual

4–6th October 2021

Lead instruction on the analysis of antimicrobial resistance genes. This module included a practical exercise and comprised 1/6th of the workshop. Participants included individuals from industry, government, and academia.

### MicroResearch

Instructor

Virtual

13–24th September 2021

Taught quantitative methods, sampling, and statistics sessions for this 2-week workshop designed to build research capacity and generation of a health-related pilot project. I also mentored a research team including development of a research proposal. Participants are intended to be individuals traditionally under-represented in research.

### MicroResearch

Assistant Instructor

Dartmouth General Hospital

September 2019

### International Course on Antibiotics and Resistance

Assistant Bioinformatics Tutor

Annecy, France

November 2017

### Introduction to Python and Advanced Python

Assistant Instructor

University of Exeter

January–March 2016

### Machine Learning for the Life Sciences

Lecturer (25%)

University of Exeter

June 2016

### Bioinformatics for Genomics

Assistant Instructor

University of Exeter

February 2015

### Unix and Perl

Assistant Instructor

University of Exeter

October 2014

### Image Processing with Python

Assistant Instructor

University of Exeter

September 2014

### Software Carpentry Bootcamp

Teaching Assistant

University of Exeter

November 2013

## Non-Academic

### High School Equivalency Diploma

*Tutor*

Taught maths, english, sciences, and social sciences to adult learners at the North End Memorial Library to help them acquire their high school equivalency qualifications.

**Halifax Community Learning Network**

2018–2020

## Supervision Experience

### Postdoctoral Fellows

#### Postdoctoral Fellow

*Faculty of Computer Science*

Comparing inter-provincial viral dynamics within vulnerable populations. (Peter Jentsch)

**Dalhousie University**

October 2021–October 2022

#### Postdoctoral Fellow

*Faculty of Computer Science*

Co-supervision of a postdoctoral research project applying graph-based methods to improve surveillance of mobile antimicrobial resistance genes using metagenomic data. (Somayeh Kafaie)

**Dalhousie University**

May 2020–September 2021

### Graduate Students

#### PhD Student

*Faculty of Computer Science*

Evolving Threat Detector (Precious Osadebamwen)

**Dalhousie University**

January 2024–Present

#### PhD Student

*Interdisciplinary*

Graph-theoretic approaches to mapping antimicrobial resistance transmission (David Mahoney)

**Dalhousie University**

May 2023–Present

### Undergraduates

#### Honours Student

*Microbiology & Immunology*

Evolutionary signatures of zoonotic adaptation in SARS-CoV-2 (Devarshi Shah)

**Dalhousie University**

Aug 2023–May 2024

#### Co-Op Student

*Faculty of Computer Science*

Natural Language Processing Analysis of Radicalisation Amongst Incels (Yuan Wang)

**Dalhousie University**

May–September 2022

### Research Assistants

#### Research Assistant

*Faculty of Computer Science*

Development of a collaborative analysis platform for radicalisation-related social media data (Yann Guerin)

**Dalhousie University**

March 2023–Present

#### Research Assistant

*Faculty of Computer Science*

Global Inequity in Burden of Antimicrobial Resistance relative to Genomic Surveillance Intensity (Zaharaa Zeinou)

**Dalhousie University**

April–May 2023

### Supervised Projects

#### Master's Student

*Department of Sociology and Social Anthropology*

Co-supervised a SSHRC-funded Sociology Master's student investigating the experiences of socially isolated men in the 'incel' community through a combination of interviews, qualitative analyses, and natural language processing (Kayla Preston).

**Dalhousie University**

June 2019–June 2020

#### Antimicrobial Resistance Hackathon

*Team Leader*

Led a team of 5 graduate students developing a tool to facilitate automated epidemiological contextualisation of antimicrobial resistance detection.

**Stockholm, Sweden**

December 2019

#### PhD Student

*Department of Molecular Biology and Biochemistry*

Supervised a PhD student on a project investigating the limits of metagenome-assembled genome methods in public health monitoring of critical mobile genetic elements (Baofeng Jia).

**Simon Fraser University**

April 2019–October 2020

#### PhD Student

*Department of Biochemistry & Biomedical Sciences*

Mentorship of a PhD student on a project using machine-learning and experimental validation to identify previously uncharacterised activities of known antimicrobial resistance genes (Kara Tsang).

**McMaster University**

June 2018–Present

<b>Industrial Research Assistance Program Consultancy</b> <i>Team Coordinator</i> Co-supervised a pair of PhD students on a NRC-IRAP funded consultancy project scoping possible predictive use-cases for time-sheet data (Miriã Rafante and Chaoyue Liu).	<b>Dalhousie University</b> <i>June–September 2018</i>
<b>Master's Student</b> <i>Faculty of Computer Science</i> Co-supervision of a Master's student on a project looking at the evolution and spread of World Health Organisation priority antimicrobial resistance gene families (Jackie Purdue).	<b>Dalhousie University</b> <i>March 2018–Present</i>
<b>Bioinformatics Consultancy</b> <i>Team Coordinator</i> Co-supervised 2 PhD students performing microbial genomic analyses for a clinical microbiome company (Miriã Rafante and Chaoyue Liu).	<b>Dalhousie University</b> <i>July–November 2017</i>
<b>Undergraduate Research Project</b> <i>School of Linguistics and Language Studies</i> Co-supervised an honours student characterising the use of "NetSpeak" by self-identified autistic redditors. (Emma Bornheimer)	<b>Carleton University</b> <i>October 2019–July 2020</i>
<b>Undergraduate Research Project</b> <i>Department of Biochemistry &amp; Biomedical Sciences</i> Co-supervised a student using machine-learning to model the impacts of different environmental toxins on <i>Zebrafish</i> (Corie Niu).	<b>McMaster University</b> <i>May 2019–September 2019</i>
<b>Undergraduate Research Project</b> <i>Faculty of Computer Science</i> Co-supervised a summer student performing evolutionary analyses of putative resistance genes (Jocelyn McDonald).	<b>Dalhousie University</b> <i>May–August 2019</i>
<b>Undergraduate Honours Thesis</b> <i>Department of Biology</i> Supervised a student analysing patterns of antimicrobial resistance in a recently released set of 8,000 diverse metagenome assembled genomes (Dayna Mikkelsen).	<b>Dalhousie University</b> <i>October 2018–April 2019</i>
<b>Undergraduate Research Project</b> <i>Faculty of Computer Science</i> Supervised an NSERC-funded research assistant developing machine-learning approaches to detect rRNA gene fragments in metagenomes (Zhou Zhilei).	<b>Dalhousie University</b> <i>July–August 2018</i>
<b>High School Researcher</b> <i>Department of Biosciences</i> Co-supervised a Nuffield Foundation-funded high school student from a deprived area performing research on the evolution of endosymbiotic algae (Katie Jones).	<b>University of Exeter</b> <i>January–March 2016</i>
<b>Undergraduate Honours Thesis</b> <i>Department of Biosciences</i> Supervised an honours project using phylogenetic analyses to understand the evolution of the RNAi system of <i>Paramecium</i> (Chloe Ormrod).	<b>University of Exeter</b> <i>November–December 2014</i>
<b>Undergraduate Honours Thesis</b> <i>Microbiology</i> Supervised a visiting research student registered at the University of Oxford for a project identifying horizontal gene transfers of arsenate resistance (Harry Spencer).	<b>Natural History Museum</b> <i>June–October 2013</i>

## Professional Service

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<b>Conference/Meeting Organization</b> .....	
<b>4th Pathogenomics Research Meeting: Phylodynamics</b> <i>Organiser</i> Invited research seminar and graduate student bioinformatics clinic hosted by Michael Norris and Christina Guzzo at University of Toronto in the MaRS building	<b>University of Toronto</b> <i>16 January 2024</i>
<b>PHA4GE Conference 2023</b> <i>Scientific Program &amp; Steering Committee</i> Academic & Public Health focused conference on themes related to public health use of genomics (e.g., Quality Assurance, Computational Tools, Infrastructure in Resource-Limited Settings, Harmonizing Data Collection, Priority Pathogens, Ethical Data Sharing, One health). 186 attendees from 39 countries including strong representation by African Public Health Experts & researchers w/ keynotes by Anita Ghansah (Noguchi, Ghana), Alan Christoffels (Sanbi, ZA), Torsten Semmler (RKI, DE), and Duncan MacCannell (CDC, US).	<b>Cape Town, South Africa</b> <i>30 October 2024–1st November 2023</i>



**PHA4GE Pre-Conference Workshop** **South African National Bioinformatics Institute**  
27–28th October 2023  
*Organiser*  
 Organised and ran hands-on training on Data Structures working group data specifications and tools, an ideathon on GA4GH standards relevant to public health, and training in python and CZI metagenomics tools. Attendees included 70 clinicians, researchers, and public health workers largely from across Sub-Saharan Africa and South East Asian.

**Tackling antimicrobial resistance – surveillance, prevention, and new treatments** **Dalhousie University**  
3 October 2023  
*Organiser*  
 Co-organised a 1-day conference on antimicrobial resistance research across Dalhousie.

**3rd Pathogenomics Research Meeting: Animal Surveillance** **Sunnybrook Health Sciences Center**  
19 September 2023  
*Organiser*  
 Invited research meeting on animal host response to infections with talks from Andrew Doxey (Waterloo), Zvonimir Poljak (Ontario Veterinary College), and Venkata Duvvuri (Public Health Ontario).

**Global Microbial Identifier 13** **Vancouver, BC**  
13–15th September 2023  
*Session Chair*  
 Chaired the “Keeping Gas in the Tank: Sustainability Round Table with Funders” session on research funding for public health surveillance with speakers from David Blazes (BMGF), Julia Abernethy (Wellcome Trust), Koko Agborsangaya (Genome Canada), and Inka Sastalla (NIH/NIAID).

**Advancing Genomic Epidemiology for Public Health Seminar** **Virtual**  
18 April 2023  
*Moderator*  
 Moderated Q&A and introduction for a virtual seminar given by Professor Caroline Colijn from Simon Fraser University on “Novel Clustering Techniques and Serial Interval Estimation for SARS-CoV-2 Sequences.”

**8th PHA4GE-CLIMB-JPIAMR Microbial Hackathon** **Bath, UK**  
11–13th September 2021  
*Group facilitator*  
 Group facilitator for this BBSRC/CLIMB-funded hackathon.

**2nd Pathogenomics Research Meeting** **Sunnybrook Health Sciences Center**  
11 August 2022  
*Organiser*  
 Research meeting focused on clinical and public health applications for pathogen genomics. Keynote by Tom Braukmann (Public Health Ontario), trainee research updates, and round table including Jared Simpson (OICR), Jennifer Guthrie (Western/PHO), and John Nash (PHAC).

**1st Pathogenomics Research Meeting** **Sunnybrook Health Sciences Center**  
11 April 2022  
*Organiser*  
 Clinically focused pathogenomics research day with talks by myself, roundtable including speakers from OICR, PHO, McMaster, Toronto, and a research grant planning session.

**PHA4GE-CLIMB-JPIAMR AMR Hackathon & Workshop** **Virtual**  
11–13th October 2021  
*Steering Group*  
 Steering Group Member for an international 3-day hackathon involving rapid development of bioinformatic tool for AMR genomics. Primary organiser of the training workshop which featured a global audience (58 countries) of 700 registrants across industry, government, and academia.

**Canadian Association of Postdoctoral Societies Annual Conference** **Dalhousie University**  
3rd November 2019  
*Organiser*  
 Co-organised and hosted this conference and AGM at Dalhousie.

**Grant Reviewing**.....

**PAR-22-225 NIAID Investigator Initiated Program Project Applications P01** **NIH**  
10 April 2024  
*Special Emphasis Panel Member*  
 Served on ZAI1-AWA-M-S2 SEP to review a major P01 grant proposal related to genomic epidemiology of vector-borne disease.

**Discovery Grant** **NSERC**  
January 2024  
*External Reviewer*  
 Provided an external review to Evaluation Group 1501 for a grant on microbial bioinformatics.

**Explore Grant** **New Frontiers in Research Fund**  
December 2022–January 2023  
*External Grant Reviewer*  
 Acted as an external grant reviewer for the 2022 Explore competition stream for high-risk, high-reward, interdisciplinary research.

**SARS-CoV-2 Subgrants 2.0** **PHA4GE**  
April 2022  
*Review Committee*

**AMR Harmonisation Subgrants 2.0** **PHA4GE**  
April 2022  
*Review Committee*

**SARS-CoV-2 Subgrants** **PHA4GE**  
May 2021  
*Review Committee*

**AMR Harmonisation Subgrants***Review Committee***PHA4GE***May 2021***Explore Grant***External Grant Reviewer***New Frontiers in Research Fund***December 2019–January 2020*

Acted as an external grant reviewer for the 2019 Explore competition stream for high-risk, high-reward, interdisciplinary research.

**Preludium Funding Stream***External Grant Reviewer***National Science Centre of Poland***September 2017***Paper/Conference Reviewing****Canadian Society of Virology***Session Reviewer*

Performed reviews of abstracts submitted for Viral Evolution session of CSV 2023 in Saskatoon.

**Conference***March 2024***PHA4GE Conference***Primary Reviewer*

Performed reviews of abstracts submitted for the PHA4GE 2023 conference in South Africa.

**Conference***October 2023***RECOMB-Seq 2020***Workshop Reviewer*

Performed reviews of submissions for RECOM-Seq workshop.

**Conference***January 2020–Present***Publication Peer Review***Journal Reviewer*

Reviewed articles for: PeerJ, Nature Communication, Microbial Genomics, Journal of Open Source Software, Microbiome, Current Biology, BMC Genomics, PLoS Computational Biology, Nature Microbiology, GigaScience, Communications Biology, ASM MSystems, and Bioinformatics

**Journals***February 2014–Present***Thesis Examining****MSc Thesis Proposal Defence***Defence Chair*

"Are Associations between Guideline-Discordant Gestational Weight Gain and Perinatal Outcomes Modified by Area-Level Income? A Population-Based Retrospective Cohort Study of Pregnant Individuals in Nova Scotia." Student: Cameron Bruce

**Community Health & Epidemiology***29 January 2024***PhD Defence***Departmental Representative*

"Data Structures for Colored Counting in Grids and Trees" Student: Younen Gao

**Faculty of Computer Science***18 August 2023***MSc Defence***Defence Chair*

"Mediation of the Association between Interpregnancy Weight Change and Perinatal Outcomes by Gestational Weight Gain." Student: Amy Dodge

**Community Health & Epidemiology***14 August 2023***MSc Thesis Defence***Reader*

"A Kraken-like Tool with k Given at Query Time and an Index for Finding Approximately Longest Common Substrings" Student: Sana Kashgouli

**Faculty of Computer Science***10 August 2023***PhD Thesis Proposal Defence***External Examiner*

"From Expositor to ExpositorOS 2.0: Enhancing Prokaryotic Promoter Prediction through MLP and Transformer-based Models" Student: Miria Rafante Bernadino

**Faculty of Computer Science***26 May 2023***MSc Defence***Defence Chair*

"A comparison of hospitalization outcomes between peritoneal dialysis and home hemodialysis patients in Canada." Student: Meghan Day

**Community Health & Epidemiology***5 November 2022***Committees/Steering Groups****Bench, Bedside, Business, and Beyond: innovative solutions for AMR diagnostics***Network Member*

Research network comprised of partners from universities (bench), hospitals (bedside), for-profits (business), governments and nonprofits (beyond), with expertise in all One Health settings: human, animal, and environmental AMR. Primary aim is to address challenges faced by AMR diagnostics developers. My main contribution is to further develop the JPIAMR Seq4AMR Virtual Benchmarking Platform (VBP) for genotype-to-phenotype microbial benchmarking studies including gold standard whole genome sequences, phenotypes, and metadata

**International***January 2023–Present***Public Health Alliance for Genomic Epidemiology (PHA4GE)***Steering Committee***International***August 2022–Present*

This is an international BMGF-funded organisation attempting to develop open source tools, standards, and protocols to facilitate global capacity building in the public health acquisition and use of pathogen genome data. Members of PHA4GE represent academics, public health scientists, and industry partners from across the world. I also co-chair the Data Structures Working Group which develops, adapts and standardises open data models for microbial sequence data, contextual metadata, results and workflow metrics. The aim of this is to improve the transparency, interoperability and reproducibility of public health sequencing workflows.

### **Public Health Alliance for Genomic Epidemiology (PHA4GE)**

*Data Structure Working Group Co-Chair*

Co-chair of international working group of >45 members completing activities on AMR genomics, Quality Control standards, primer scheme standardisation, and contextual data standards for wastewater.

**International**

*August 2022–Present*

### **GRDI-AMR2**

*Member*

National consortium of academics and public health professionals working on the genomics of Antimicrobial Resistance.

**National**

*May 2022–Present*

### **Ontario COVID Genomics Network**

*Bioinformatics and Data Analysis Working Group*

Provincial working group with representatives from PHO and leading clinical microbiology labs on SARS-CoV-2 sequencing. Scope has now expanded to standardising pathogen genomics across a broader range of key pathogens.

**Ontario**

*March 2021–Present*

### **Institute for Quality Management in Healthcare Accreditation**

*Clinical Pathogen Genomics Accreditation*

Led the formal IQHM accreditation process for bioinformatics workflows and standard operating procedures for use of genomic sequencing.

**Shared Hospital Laboratory**

*July 2021*

### **CDC: SC2 Sequencing for Public Health Emergency Response, Epidemiology, and Surveillance (SPHERES)**

*Member*

US-based consortium of scientists from clinical and public health laboratories, academic institutions, and the private sector to coordinate SARS-CoV-2 sequencing. This remit has expanded to monitoring other disease threats in the public health landscape and serves as a forum for knowledge and data sharing.

*November 2020–*

### **Canadian COVID Genomics Network (CanCOGeN)**

*Workflow Development and Quality Control*

Member and lead developer of the SIGNAL assembly workflow (used by the Public Health Agency of Canada and McMaster University/Sunnybrook). Performing phylogenomic analyses for this group and the Nova Scotia Health Authority. Maintaining open nextstrain evolutionary analyses for Canada and Ontario.

**National**

*April 2020–May 2022*

### **Public Health Alliance for Genomic Epidemiology (PHA4GE)**

*Data Structure Working Group Member*

Project lead for work improving interoperability of antimicrobial resistance gene detection tools in public health lab within the Pan American Health Organisation and co-developing contextual data specifications for SARS-CoV-2 genomics.

**International**

*November 2019–Present*

### **Integrated Rapid Infectious Disease Analysis (IRIDA) Initiative**

*Tool Development Team*

Member and project lead for a tool designed to improve public health infectious disease surveillance and diagnostics using metagenomic data.

**National**

*February 2017–December 2019*

### **Internal Service**

#### **LLM/AI Teaching Policy Working Group**

*Member*

Co-developed a policy around large language models and AI for teaching in the epidemiology program.

**Community Health & Epidemiology**

*March 2024–May 2024*

#### **AI in Medicine**

*Proposal Developer*

Co-developed a proposal for a AI in medicine research center at Dalhousie.

**Faculty of Computer Science**

*January 2024–Present*

#### **Strategic Vision and Capital Campaign Planning Group**

*Member*

Participated in idea development for the faculty's ongoing strategic and priorities for 2023.

**Faculty of Computer Science**

*December 2022*

#### **Genomics in Medicine**

*Member*

Contributed to establishing a collective vision and strategic priorities for the next five years across Dalhousie to foster education, collaboration, and research impact in genomics and bioinformatics.

**University-wide**

*November 2022–Present*

#### **Medical Mini Interview Admissions Committee**

*Committee Member*

Responsible for development of MMI prompts for medical school admissions.

**Community Health & Epidemiology**

*January 2022–Present*

#### **Curriculum Committee**

*Committee Member*

Responsible for curriculum development and review for the masters and PhD programs in Epidemiology.

**Community Health & Epidemiology**

*January 2022–Present*

## Research Seminar Series

Coordinator

Responsible for scheduling, room booking, and prompting faculty-led suggestions for weekly research seminar series.

## Postdoctoral Union

Collective Bargaining Team

Negotiated improved mental health and parental supports.

## Faculty of Computer Science

January 2022–Present

## Dalhousie University

October 2018–March 2019

## Publications

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### Published

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4185 Total Citations (H-index 20) as of 2024/05

1. Griffiths, E., Mendes, I., **Maguire, F.**, Guthrie, J.L., Wee, B.A., Schmedes, S., Holt, K., ..., Timme, R.E. (2024). PHA4GE Quality Control Contextual Data Tags: Standardized annotations for sharing public health sequence datasets with known quality issues to facilitate testing and training, *Microbial Genomics*
2. Lockyer, D., Halpin, M., & **Maguire, F.** (2024). The Emergence of the Incel Community as a Misogyny-Motivated Terrorist Threat. *Terrorism and Political Violence*, 1-17.
3. Halpin, M., Preston, K., Lockyer, D., & **Maguire, F.** (2024). A solider and a victim: Masculinity, violence, and incels celebration of December 6th. *Canadian Review of Sociology*
4. Timme, R. E., Karsch-Mizrachi, I., Waheed, Z., Arita, M., MacCannell, D., **Maguire, F.**, ... & Griffiths, E. (2023). Putting everything in its place: using the INSDC compliant Pathogen Data Object Model to better structure genomic data submitted for public health applications. *Microbial Genomics*, 9(12), 001145.
5. Kotwa, J. D., Lobb, B., Massé, A., Gagnier, M., Aftanas, P., Banerjee, A., ... **Maguire, F.**, Lung, O., Doxey, A.C., Pickering, B., & Mubareka, S. (2023). Genomic and transcriptomic characterization of Delta SARS-CoV-2 infection in free-ranging white-tailed deer (*Odocoileus virginianus*). *Iscience*, 26(11).
6. Nirmalarajah, K., Yim, W., Aftanas, P., Li, A. X., Shigayeva, A., Yip, L., ... **Maguire, F.**, Mubareka, S., Kozak, R. (2023). Use of whole genome sequencing to identify low-frequency mutations in SARS-CoV-2 patients treated with remdesivir. *Influenza and Other Respiratory Viruses*, 17(9), e13179.
7. Sjaarda, C. P., Lau, L., Simpson, J. T., Fattouh, R., Biondi, M. J., **Maguire, F.**, ... & Kozak, R. (2023). Prevalence of Low-Frequency, Antiviral Resistance Variants in SARS-CoV-2 Isolates in Ontario, Canada, 2020-2023. *JAMA Network Open*, 6(7), e2324963-e2324963.
8. Sabrie, N. A. S., Halani, S., **Maguire, F.**, Aftanas, P., Kozak, R., & Andany, N. (2023). Lachnoanaerobaculum orale bacteremia in a patient with acute myeloid leukemia and stomatitis: An emerging pathogen. *IDCases*, 33, e01837.
9. Halpin, M., Richard, N., Preston, K., Gosse, M., & **Maguire, F.** (2022). Men who hate women: The misogyny of involuntarily celibate men. *New Media & Society*, 14614448231176777.
10. Kupfer, N., Clancy, A., **Maguire, F.**, & Stairs, J. (2023). Prevalence and risk factors for urinary incontinence in nulliparous women: a contemporary, population-based cohort study. *Urogynecology*, 29(5), 520-527.
11. Chan, K., Farias, A. G., Lee, H., Guvenc, F., Mero, P., Brown, K. R., ... **Maguire, F.**, ... & Moffat, J. (2023). Survival-based CRISPR genetic screens across a panel of permissive cell lines identify common and cell-specific SARS-CoV-2 host factors. *Heliyon*, 9(1).
12. Pickering\*, B., Lung\*, O., **Maguire\***, F., Kruczkiewicz, P., Kotwa, J. D., Buchanan, T., ... & Bowman, J. (2022). Divergent SARS-CoV-2 variant emerges in white-tailed deer with deer-to-human transmission. *Nature Microbiology*, 7(12), 2011-2024.
13. Tan, C., Linkenheld-Struk, A., Williams, V., Kozak, R., Dhabaan, G., dit Mieusement, L. M., Salt, N., **Maguire, F.**, Chan, A.K., & Leis, J. A. (2022). The role of the environment in transmission of vancomycin-resistant *Enterococcus*: A proof-of-concept study. *Antimicrobial Stewardship & Healthcare Epidemiology*, 2(1), e178.
14. Tozer, K., Sjaarda, C. P., Moslinger, E., Wong, H., Mubareka, S., **Maguire, F.**, ... & Sheth, P. M. (2022, December). Comparison of SARS-CoV-2 Viral Loads in the Nasal Mucosa of Patients Infected With BA. 1, BA. 2, or BA. 5 Omicron Lineages. In *Open Forum Infectious Diseases* (Vol. 9, No. 12, p. ofac564). US: Oxford University Press.
15. Alcock, B. P., Huynh, W., Chalil, R., Smith, K. W., Raphenya, A. R., Wlodarski, M. A., ... , **Maguire, F.**, ... & McArthur, A. G. (2023). CARD 2023: expanded curation, support for machine learning, and resistome prediction at the Comprehensive Antibiotic Resistance Database. *Nucleic acids research*, 51(D1), D690-D699.
16. Sanderson, H., Gray, K. L., Manuele, A., **Maguire, F.**, Khan, A., Liu, C., ... & Beiko, R. G. (2022). Exploring the mobilome and resistome of *Enterococcus faecium* in a One Health context across two continents. *Microbial genomics*, 8(9), 000880.
17. Kim, J. I., **Maguire, F.**, Tsang, K. K., Gouliouris, T., Peacock, S. J., McAllister, T. A., ... & Beiko, R. G. (2022). Machine learning for antimicrobial resistance prediction: current practice, limitations, and clinical perspective. *Clinical microbiology reviews*, 35(3), e00179-21.

18. McLaughlin, A., Montoya, V., Miller, R. L., Mordecai, G. J., **COVID, C.**, Worobey, M., ... & Joy, J. B. (2022). Genomic epidemiology of the first two waves of SARS-CoV-2 in Canada. *Elife*, 11, e73896.
19. Raphenya, A. R., Robertson, J., Jamin, C., de Oliveira Martins, L., **Maguire, F.**, McArthur, A. G., & Hays, J. P. (2022). Datasets for benchmarking antimicrobial resistance genes in bacterial metagenomic and whole genome sequencing. *Scientific data*, 9(1), 341.
20. Banerjee, A., Lew, J., Kroeker, A., Baid, K., Aftanas, P., Nirmalarajah, K., **Maguire, F.**, ... & Falzarano, D. (2022). Immunogenicity of convalescent and vaccinated sera against clinical isolates of ancestral SARS-CoV-2, beta, delta, and omicron variants. *Med*, 3(6), 422-432.
21. Zhabokritsky, A., Mubareka, S., Kozak, R. A., **Maguire, F.**, Yip, L., Yip, P., & Powis, J. (2023). Persistent infection with severe acute respiratory coronavirus virus 2 (SARS-CoV-2) in a patient with untreated human immunodeficiency virus (HIV). *Infection Control & Hospital Epidemiology*, 44(2), 350-351.
22. Lee, B. D., Gitter, A., Greene, C. S., Raschka, S., **Maguire, F.**, Titus, A. J., ... & Boca, S. M. (2022). Ten quick tips for deep learning in biology. *PLoS computational biology*, 18(3), e1009803.
23. Griffiths, E. J., Timme, R. E., Mendes, C. I., Page, A. J., Alikhan, N. F., Fornika, D., **Maguire, F.**, ... & MacCannell, D. R. (2022). Future-proofing and maximizing the utility of metadata: The PHA4GE SARS-CoV-2 contextual data specification package. *Gigascience*, 11, giac003.
24. Jenkins BH, **Maguire F**, Leonard G, Eaton JD, West S, Housden BE, Milner DS, Richards TA *Emergent RNA-RNA interactions can promote stability in a nascent facultative phototrophic endosymbiosis*, Proceedings of the National Academy of Sciences, 2021
25. Stairs J, **Maguire F**, Lehmann C, Cox A (2021) *Cannabinoid Therapy in Female Pelvic Medicine and Reconstructive Surgery: Current Evidence and Future Directions* Current Bladder Dysfunction Reports
26. Preston K, Halpin M, **Maguire F** (2021) *The Black Pill: New Technology and the Male Supremacy of Involuntarily Celibate Men* Men and Masculinities, 1097184X211017954
27. Jenkins BH\*, **Maguire F\***, Leonard G, Eaton JD, West S, Housden BE, Milner DS, Richards TA. (2021) *Characterization of the RNA-interference Pathway as a Tool for Reverse Genetic Analysis in the Nascent Phototrophic Endosymbiosis, Paramecium bursaria* Royal Society Open Science
28. Tsang KK, **Maguire F**, Zubyka HL, Chou S, Edalatmand A, Wright GD, Beiko RG, McArthur AG (2021) *Identifying novel  $\beta$ -lactamase substrate activity through in silico prediction of antimicrobial resistance* Microbial Genomics
29. **Maguire F\***, Baofeng J\*, Gray K, Lau V, Beiko RG, Brinkman FSL. (2020) *Metagenome-assembled genome binning methods disproportionately fail for plasmids and genomic islands* Microbial Genomics, 6(10)
30. Nasir J, Kozak R, Aftanas P, Raphenya AR, Smith K, **Maguire F**, Maan H, Alruwaili M, Banerjee A, Mbareche H, Alcock B, Knox N, Mossman K, Wang B, Hiscox J, McArthur A, Mubareka S (2020) *A comparison of whole genome sequencing of SARS-CoV-2 using amplicon-based sequencing, random hexamers, and bait capture* Viruses, 12(8), 895
31. Stairs JA, Bergey B, **Maguire F**, Scott S (2020) *Motivation to access laparoscopic skills training: results of a national survey of obstetrics and gynaecology residents* PLOS ONE, 15 (4), e0230931
32. Peabody M, Lau WYV, **Maguire F**, Beiko RG, Brinkman FSL, Hoad G. (2020) *PSORTm: predicting bacterial and archaeal protein subcellular localization prediction tool from metagenomic data* Bioinformatics, 36 (10), 3043-3048
33. Chambouvet A, Monier A, **Maguire F**, Itoiz S, del Campo J, Elies P, Edvardsen B, Eikreim W, Richards TA. (2019) *Intracellular infection of diverse diatoms by an evolutionary distinct relative of the fungi* Current Biology 29(23):4093-101.
34. Stairs J, Bal N, **Maguire F**, Scott H (2019) *A resident-led clinic that promotes the health of refugee women through advocacy and partnership* Canadian Medical Education Journal 10(4):e102.
35. Wideman JG, Monier A, Rodríguez-Martínez R, Leonard G, Cook E, Poirier C, **Maguire F**, Milner DS, Irwin NA, Moore K, Santoro AE. (2020) *Unexpected mitochondrial genome diversity revealed by targeted single-cell genomics of heterotrophic flagellated protists* Nature Microbiology 5(1):154-65.
36. Alcock B, Raphenya A, Lau T, Tsang K, Bouchard M, Edalatmand A, Huynh W, Nguyen A, Cheng A, Liu S, Min S, Miroshnichenko A, Tran H, El Werfalli R, Nasir J, Oloni M, Speicher D, Florescu A, Singh B, Faltyn M, Hernández-Koutoucheva A, Sharma A, Bordeleau E, Pawlowski A, Zubyk H, Dooley D, Griffiths E, **Maguire F**, Winsor G, Beiko RG, Brinkman FSL, Hsiao W, Van Domselaar G, McArthur AG (2020) *CARD 2020: Antibiotic resistance surveillance with the Comprehensive Antibiotic Resistance Database* Nucleic Acids Research 48(D1):D517-25.
37. **Maguire F**, Rehman MA, Carrillo C, Diarra MS, Beiko RG. (2019) *Identification of primary antimicrobial resistance drivers in agricultural nontyphoidal Salmonella enterica serovars using machine learning* MSystems 4(4):e00211-19.
38. Milner DS, Attah V, Cook E, **Maguire F**, Savory FR, Morrison M, Müller CA, Foster PG, Talbot NJ, Leonard G, Richards TA. (2019) *Environment-dependent fitness gains can be driven by horizontal gene transfer of transporter-encoding genes* Proceedings of the National Academy of Sciences, 116(12):5613-22.
39. Leonard G, Labarre A, Milner DS, Monier A, Soanes D, Wideman JG, **Maguire F**, Stevens S, Sain D, Grau-Bové X, Sebé-Pedrós A. (2018) *Comparative genomic analysis of the 'pseudofungus' Hyphochytrium catenoides* Open biology, 8(1):170184.
40. Richards TA, Leonard G, Mahé F, del Campo J, Romac S, Jones MD, **Maguire F**, Dunthorn M, De Vargas C, Massana R,

- Chambouvet A. (2015) *Molecular diversity and distribution of marine fungi across 130 European environmental samples* Proceedings of the Royal Society B: Biological Sciences, 282(1819):20152243.
41. Chambouvet A, Gower DJ, Jirků M, Yabsley MJ, Davis AK, Leonard G, **Maguire F**, Doherty-Bone TM, Bittencourt-Silva GB, Wilkinson M, Richards TA. (2015) *Cryptic infection of a broad taxonomic and geographic diversity of tadpoles by *Perkinsea protists** Proceedings of the National Academy of Sciences, 112(34):E4743-51.
  42. Smith DJ, Thakrar PJ, Bharrat AE, Dokos AG, Kinney TL, James LM, Lane MA, Khodadad CL, **Maguire F**, Maloney PR, Dawkins NL. (2014) *A balloon-based payload for Exposing Microorganisms in the Stratosphere (E-MIST)* Gravitational and Space Research, 31;2(2).
  43. **Maguire F**, Henriquez FL, Leonard G, Dacks JB, Brown MW, Richards TA. (2014) *Complex patterns of gene fission in the eukaryotic folate biosynthesis pathway* Genome Biology and Evolution 6(10):2709-20.
  44. **Maguire F**, Richards TA. (2014) *Organelle Evolution: A Mosaic of 'Mitochondrial' Functions* Current Biology 24(11):R518-20.
  45. Chambouvet A, Berney C, Romac S, Audic S, **Maguire F**, De Vargas C, Richards TA. (2014) *Diverse molecular signatures for ribosomally 'active' *Perkinsea* in marine sediments* BMC Microbiology 14(1):110.

### Pre-prints

1. Kafaie, S., Beiko, R. G., & **Maguire, F.** (2023). Sarand: Exploring Antimicrobial Resistance Gene Neighborhoods in Complex Metagenomic Assembly Graphs. bioRxiv
2. Sivakumar, A., Willows, K., **Maguire, F.**, & Stairs, J. (2022). The Newcomer Well Woman Clinic: A Cross-Sectional Evaluation of an Innovative Care Model to Support the Sexual and Reproductive Health Needs of Refugee Women. ResearchSquare
3. Nirmalarajah, K., **Maguire, F.**, Yim, W., Aftanas, P., Li, A. X., Shigayeva, A., ... & Kozak, R. (2022). Use of whole genome sequencing to identify low-frequency mutations in COVID-19 patients treated with remdesivir. medRxiv
4. Matthews T, Bristow F, Griffiths E, Petkau A, Adam J, Dooley D, Kruczkiewicz P, Curatcha J, Cabral J, Fornika D, Winsor G, Courtot M, Bertelli C, Roudgar A, Fejaio P, Mabon P, Enns E, Thiessen J, Keddy AWS, Isaac-Renton J, Gardy J, Tang P, **The IRIDA consortium**, Carriço J, Chindelevitch L, Chauve C, Graham M, McArthur AG, Taboada E, Beiko RG, Brinkman FSL, Hsiao WWL, Van Domselaar G (2018) *The Integrated Rapid Infectious Disease Analysis (IRIDA) Platform* bioRxiv, 10.1101/381830

## Presentations

### Invited Talks

#### Biochemistry/Lab Medicine & Pathology

*Invited Seminar*

Phylogenetics for Viral Zoonoses

**University of Toronto**

16 January 2024

#### Canadian Bioinformatics Workshop Planning Meeting

*Meeting Presentation*

Trainee Barriers and Needs in Bioinformatics/Computational Biology

**Ontario Institute of Cancer Research**

30 November 2023

#### PHA4GE Conference

*Rapporteur*

Data Structures Breakout Group Plenary Reporting

**Cape Town, South Africa**

1 November 2023

#### PHA4GE Conference

*Conference Presentation*

Data Structures Working Group: Tools and Resources

**Cape Town, South Africa**

30 October 2023

#### Futures in Tech Event

*Public Talk*

Fighting Infectious Diseases using Computer Science

**Halifax**

30 October 2023

#### PHA4GE In-Person Meeting

*Meeting Presentation*

Data Structure Working Group Report: Improving the structure of pathogen genomics data for effective public health action

**Brussels, Belgium**

November 2022

#### Genomics Research and Development Initiative - Antimicrobial Resistance

*Invited Seminar*

Graph-based AMR Metagenomic Analysis: Best of Both Worlds

**Winnipeg (Remote)**

September 2022

#### Africa CDC: Africa Pathogen Genomics Initiative

*Invited Presentation*

hAMRization: simplifying prediction and reporting of antimicrobial resistance genes

**Addis Adaba, Ethiopia (Remote)**

August 2022

<b>Institute of Comparative Genomics</b> <i>Invited Seminar</i> There and back again: characterising SARS-CoV-2 wildlife spillover and spillback	<b>Dalhousie University</b> <i>July 2022</i>
<b>CIHR Institute of Infection and Immunity Meet-the-Community</b> <i>Invited Presentation</i> There and back again: characterising highly divergent SARS-CoV-2 in white-tailed deer with potential spillback into humans	<b>Halifax</b> <i>June 2022</i>
<b>Open Dialogue Live</b> <i>Roundtable</i> Data and its impact on health	<b>Halifax</b> <i>12 April 2022</i>
<b>Sunnybrook Research Institute</b> <i>Invited Seminar</i> Utility of genomics in characterising a potential SARS-CoV-2 wildlife reservoir with spillback into humans	<b>Toronto</b> <i>11 April 2022</i>
<b>SPHERES</b> <i>Invited Seminar</i> Highly divergent white-tailed deer SARS-CoV-2 with potential deer-to-human transmission	<b>San Francisco (Remote)</b> <i>2 March 2022</i>
<b>JPI-AMR Seq4AMR Meeting 2021</b> <i>Invited Seminar</i> 3 Ways to Skin a Metagenome: Strengths and Weaknesses of AMR Metagenomic Methods	<b>Erasmus MC University Medical Center</b> <i>7–8 December 2021</i>
<b>PHA4GE/MRC-CLIMB/JPIAMR Antimicrobial Resistance Training Workshop</b> <i>Virtual Meeting</i> Genomic methods for antimicrobial resistance surveillance	<b>Virtual</b> <i>October 2021</i>
<b>Community Health &amp; Epidemiology</b> <i>Teaching Seminar</i> Using Genomes in Epidemiology Exemplified by SARS-CoV-2	<b>Dalhousie University</b> <i>4 March 2021</i>
<b>Community Health &amp; Epidemiology/Computer Science</b> <i>Departmental Seminar</i> The Right Tool for the Job: Collaborative Data Science Responses to Health Crises	<b>Dalhousie University</b> <i>4 March 2021</i>
<b>International FAIR Convergence Symposium</b> <i>Workshop</i> Overcoming Challenges of SARS-CoV-2 Genomics Data Sharing for Public Health Surveillance, Outbreak Investigations and Research using the PHA4GE SARS-CoV-2 Contextual Data Specification	<b>Virtual</b> <i>1–3 December 2020</i>
<b>Biochemistry and Biomedical Sciences Seminar</b> <i>Departmental Seminar</i> Around the Resistome in 80 Ways: an Empirical Evaluation of Antimicrobial Resistance Gene Detection Methods	<b>McMaster University</b> <i>3 December 2019</i>
<b>MicroResearch</b> <i>Workshop</i> Review of Mental Health Programs, Processes and Services for First Responders in the Halifax Regional Municipality	<b>Dartmouth General Hospital, Halifax, NS</b> <i>16–27 September 2019</i>
<b>Faculty of Medicine Research Day</b> <i>Faculty Conference</i> Machine-Learning Based Identification of Novel Resistance Gene Activity	<b>Dalhousie University</b> <i>13–14 May 2019</i>
<b>Faculty of Medicine Research Day</b> <i>Faculty Conference</i> A Collaborative Examination of the Online Communities of Autistic Individuals	<b>Dalhousie University</b> <i>13–14 May 2019</i>
<b>Research Group Seminar</b> <i>Brinkman Lab</i> Socially Focused Research With Bioinformatics Tools	<b>Simon Fraser University</b> <i>26 March 2019</i>
<b>Joint Departmental Seminar</b> <i>Remote presentation</i> AMRtime: Rapid Accurate Identification of Antimicrobial Resistance Determinants from Metagenomic Data	<b>Universities of Auckland and Waterloo</b> <i>19 October 2018</i>
<b>Conference Oral Presentations</b> .....	
<b>Canadian Society of Microbiology</b> <i>Annual Conference</i> Precise Identification of Antimicrobial Resistance Determinants Using Metagenomic Data	<b>Sherbrooke, QC</b> <i>10–13 June 2019</i>
<b>American Society of Microbiology</b> <i>Rapid Applied Microbial NGS and Bioinformatic Pipelines Conference</i> AMRtime: Rapid Accurate Identification of Antimicrobial Resistance Determinants from Metagenomic Data	<b>Washington, DC</b> <i>23–26 September 2018</i>

<b>Integrated Rapid Infectious Disease Analysis</b> <i>Annual General Meeting</i> Using Machine Learning Methods to Accurately Classify AMR in Metagenomic Data	<b>National Microbiology Labs, Winnipeg</b> 22 June 2018
<b>Dalhousie Computer Science In-House Conference</b> <i>Departmental Conference</i> BayeHem: Bayesian Optimisation of Genome Assembly	<b>Dalhousie University</b> 24–26 January 2018
<b>Canadian Institute For Advanced Research</b> <i>Integrated Microbiology Meeting</i> An Analysis of RNAi Pathway Components and Function in <i>Paramecium</i>	<b>Toronto, ON</b> 1–5 June 2016
<b>Machine Learning for Life Sciences</b> <i>Workshop</i> Casting a Deep Net: Classifying Plankton from Shadowgraph Images	<b>University of Exeter</b> 2nd June 2015
<b>Machine Learning for Life Sciences</b> <i>Workshop</i> Stumbling Over the Decision Boundary	<b>University of Exeter</b> 1st June 2015
<b>European Molecular Biology Organisation</b> <i>Young Investigators Program</i> Endosymbiont Proteins Implicated in the Maintenance of the Photosynthetic Endosymbiosis between <i>Paramecium bursaria</i> and <i>Chlorella</i>	<b>EMBO Heidelberg</b> 2–7 December 2013
<b>Conference Poster Presentations</b> .....	
<b>Canadian Society of Microbiology</b> <i>Annual Conference</i> Integrated Rapid Infectious Disease Analysis: A Comprehensive Platform for Public Health Bioinformatics and Antimicrobial Resistance Surveillance Using Genomic Data	<b>Sherbrooke, QC</b> 10–13 June 2019
<b>Canadian Society of Microbiology</b> <i>Annual Conference</i> The Cost of Speed: Evaluating Systematic Failures in Metagenomic Antimicrobial Resistance Profiling	<b>University of Manitoba</b> 18–21 June 2018
<b>European Molecular Biology Organisation</b> <i>Young Investigators Program</i> Key Principles in Molecular Phylogenetics	<b>EMBO Heidelberg</b> 2–7th December 2013
<b>European Molecular Biology Organisation</b> <i>Comparative Genomics of Eukaryotic Microorganisms Conference</i> Endosymbiont Proteins Implicated in the Maintenance of the Photosynthetic Endosymbiosis between <i>Paramecium bursaria</i> and <i>Chlorella</i>	<b>Sant Feliu de Guixols, Spain</b> 19–24th October 2013
<b>Systematics Association</b> <i>Young Systematists Forum</i> Folate Biosynthesis Gene Fusion Evolution in the Eukaryotes	<b>Natural History Museum, London</b> 1st December 2011
<b>Society for General Microbiology</b> <i>Annual Conference</i> Evolution of Folate Biosynthesis Gene Fusion in the Eukaryotes	<b>University of York</b> 5–7th September 2011
<b>European Molecular Biology Organisation</b> <i>Comparative Genomics of Eukaryotic Microorganisms Conference</i> Evolution of Folate Biosynthesis Gene Fusions in the Eukaryotes	<b>Sant Feliu de Guixols, Spain</b> 15–20th October 2011
<b>Co-Authored Presentations</b> .....	
<b>World One Health Congress</b> <i>Poster</i> Novel betacoronaviruses in white-footed mice ( <i>Peromyscus leucopus</i> ) from southern Ontario, Canada (Presenter: Simon Jeeves)	<b>Cape Town, South Africa</b> 20–23 September 2024
<b>World One Health Congress</b> <i>Poster</i> Phenotypic characterization and experimental risk assessment of the divergent B.1.641 SARS-CoV-2 variant from North American white-tailed deer (Presenter: Samira Mubareka)	<b>Cape Town, South Africa</b> 20–23 September 2024
<b>World One Health Congress</b> <i>Poster</i> Detection and characterization of two alphacoronaviruses in bats in eastern Ontario, Canada (Presenter: Jon Kotwa)	<b>Cape Town, South Africa</b> 20–23 September 2024
<b>Canadian Animal Health Laboratorians Network Annual Meeting</b> <i>Talk</i> A nested pan-coronavirus SYBR green RT-PCR: application to coronavirus surveillance in <i>Peromyscus leucopus</i> in Toronto, Ontario (Presenter: Jon Kotwa)	<b>Ottawa</b> 2 June 2024



<b>Lab Medicine and Pathology Research Day</b>	<b>Toronto</b>
<i>Talk</i>	25 April 2024
Comparison of pharyngeal and invasive isolates of <i>Streptococcus pyogenes</i> by whole genome sequencing from Toronto collected in 2023 (Presenter: Joe Zeppa)	
<b>Lab Medicine and Pathology Research Day</b>	<b>Toronto</b>
<i>Talk</i>	25 April 2024
Investigating associations between SARS-CoV-2 genomic signatures, clinical characteristics, and disease severity using supervised machine learning (Presenter: Kuganya Nirmalarajah)	
<b>American Association for Applied Linguistics</b>	<b>Virtual</b>
<i>Talk</i>	20–23 March 2021
“TL;DR: An Exploratory Corpus Analysis of Netspeak and Autism” ( <i>Emma Bornheimer</i> )	
<b>American Society of Microbiology: Next Generation Sequencing</b>	<b>Virtual</b>
<i>Talk</i>	7–11 December 2020
hAMRonization: Improving the Utility of Antimicrobial Resistance Gene Prediction Tools Using the PHA4GE AMR Gene Detection Specification ( <i>Catarina Inês Mendes</i> )	
<b>EASST/4S (Society for Social Studies of Science)</b>	<b>Virtual</b>
<i>Talk</i>	18–21 August 2020
“It’s Over”: Involuntarily Celibate Men’s Perception of Women, Social Media, and the Masculine Order ( <i>Kayla Preston</i> )	
<b>International Society for Evolutionary Protistology</b>	<b>Virtual</b>
<i>Talk</i>	10–14 August 2020
Emergent RNA-RNA Interactions Can Promote Stability in a Nascent Endosymbiosis ( <i>Ben Jenkins</i> )	
<b>Choanoflagellates and Friends</b>	<b>Virtual</b>
<i>Talk</i>	26–27 May 2020
Emergent RNA-RNA Interactions Can Promote Stability in a Nascent Endosymbiosis ( <i>Ben Jenkins</i> )	
<b>ASM Microbe</b>	<b>Cancelled</b>
<i>Poster</i>	19–21 June 2020
Metagenomic Analysis and the Resistance Gene Identifier (RGI) - Sensitivity & Accuracy, Sequence Variation & Allele Networks, and Pathogen Prediction ( <i>Amogelang Raphenya</i> )	
<b>ASM Microbe</b>	<b>Cancelled</b>
<i>Poster</i>	19–21 June 2020
Evolving Threat Detector (ETD) - Automated Epidemiological Contextualization and Analysis of Antibiotic Resistome Predictions ( <i>Amogelang Raphenya</i> )	
<b>Emerging Statistical Challenges: Analysis of Human Microbiome Data</b>	<b>Banff, BC</b>
<i>Talk</i>	15–20 September 2019
Has anyone seen my plasmid? Probing the dark corners of metagenome-assembled genomes ( <i>Robert Beiko</i> )	
<b>Society of Environmental Toxicology and Chemistry</b>	<b>Toronto, ON</b>
<i>Talk</i>	3–7 November 2019
Challenges and Opportunities for Microbiome Analysis in Toxicology ( <i>Fiona Brinkman</i> )	
<b>Intelligent Systems for Molecular Biology/ECCB</b>	<b>Basel, Switzerland</b>
<i>Poster</i>	21–25 July 2019
Combining Multiple Features and Algorithms to Learn Antimicrobial Resistance Genotype-Phenotype Relationships ( <i>Kara Tsang</i> )	
<b>ASM Microbe</b>	<b>San Francisco, CA</b>
<i>Talk</i>	20–24 June 2019
Prediction of Antimicrobial Resistance Genes and Mutations for Genomic and Metagenomic Sequencing Data ( <i>Amogelang Raphenya</i> )	
<b>ASM Microbe</b>	<b>San Francisco, CA</b>
<i>Poster</i>	20–24 June 2019
Resistome and Variant Prediction for Improved Antimicrobial Surveillance with the Comprehensive Antibiotic Resistance Database ( <i>Brian Alcock</i> )	
<b>Applied Bioinformatics and Public Health Microbiology</b>	<b>EBI, UK</b>
<i>Poster</i>	5–7 June 2019
PSORTm and AMRtime: Adapting Predictive Genome-Scale Bioinformatic Approaches to the Challenges of Metagenomic Data ( <i>Venus Lau</i> )	
<b>Applied Bioinformatics and Public Health Microbiology</b>	<b>EBI, UK</b>
<i>Poster</i>	5–7 June 2019
Integrated Rapid Infectious Disease Analysis (IRIDA): A Comprehensive and Distributed Platform for Public Health Genomic Epidemiology ( <i>Will Hsiao</i> )	

**Canadian Conference on Medical Education***Talk*

Motivation to Access Laparoscopic Skills Training by Obstetrics and Gynaecology Residents: A Novel Tool to Characterize Motivation  
(*Jocelyn Stairs*)

**Niagra, ON**

11–16 April 2019

**CUGH: Translation and Implementation for Impact in Global Health Conference***Poster*

Halifax Newcomer Well Woman Clinic: Promoting the Health of Refugee Women Through Advocacy and Partnership (*Jocelyn Stairs*)

**Chicago, IL**

8–10 March 2019

**School of Informatics Jamboree***Poster*

Classifying Plankton Species with Deep Learning and Computer Vision (*Gavin Gray*)

**University of Edinburgh**

26 March 2015

**National Association for Research in Science Teaching***Poster*

Working on the Public's Perception and Understand of Science and Scientists through a Popular, Open-Access 'AskScience' Website  
(*Leigh Ariño de la Rubia*)

**Indianapolis, IN**

25–28th March 2012

**Tennessee Maths and Science Education Research Conference***Poster*

Online Conversations as a Way of Understanding the Public's Views of the Natural of Science: Research on Reddit's 'AskScience'  
(*Leigh Ariño de la Rubia*)

**Murfreesboro, TN**

2–3rd February 2012

## Knowledge Translation/Mobilisation

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**Broadcast Media**.....**MicroBinfie Podcast***Podcast*

"Global Microbial Identifier with Finlay Maguire and Emma Griffiths"

**Online**

15 October 2023

**MicroBinfie Podcast***Podcast*

"Challenges in Clinical/Public Health Bioinformatics: Stories from the front-lines"

**Online**

26 January 2023

**MicroBinfie Podcast***Podcast*

"What are the major challenges for getting AMR genomics into the clinic?"

**Online**

3 March 2022

**CBC Mainstreet***National news*

Jeff Douglas: "Ontario deer-borne COVID"

**Radio**

3 March 2022

**CTV Atlantic***Provincial news*

"Sociology of Involuntarily Celibate Men".

**Canada**

27 July 2021

**MicroBinfie Podcast***Podcast*

"SARS-CoV-2 In Canada: Addressing Data Sharing and Privacy"

**Online**

25 March 2021

**MicroBinfie Podcast***Podcast*

"SARS-CoV-2 surveillance in Canada with CANCOGEN"

**Online**

16 March 2021

**CTV Toronto***Provincial news*

"SARS-CoV-2 Variants in Ontario".

**Canada**

11 March 2021

**CBC***National news*

Interviewed by Blair Sanderson for a CBC syndicated radio piece on SARS-CoV-2 variant and lineage designation.

**Canada**

18 February 2021

**CTV Atlantic***Provincial news*

Video interview with Heidi Petracek for the lead-story on the 6pm Saturday news regarding SARS-CoV-2 variant tracking.

**Canada**

13 February 2021

**News 95.7***Local radio*

Interviewed live by Jordi Morgan to explain SARS-CoV-2 variants on the Rick Howe show.

**Canada**

12 February 2021

<b>CBC</b> <i>National news</i> Interviewed by a producer Sarah Bridge to provide background on how SARS-CoV-2 variants are being tracked in Canada for CBC's National (hosted by Adrienne Arseneault).	<b>Canada</b> 3 February 2021
<b>MicroBinfie Podcast</b> <i>Podcast</i> "The Untrained Monkey"	<b>Online</b> 8 October 2020
<b>Text Media</b> .....	
<b>Conversation</b> <i>International website</i> Michael Halpin & Finlay Maguire "Yes, the incel community has a sexism problem, but we can do something about it"	<b>USA</b> 8 June 2023
<b>Psypost</b> <i>International website</i> Eric Dolan "Analysis of 3.5 million comments uncovers disturbing insights into the incel community"	<b>USA</b> 12 June 2023
<b>Los Angeles Times</b> <i>International newspaper</i> Melissa Healy "Future of the pandemic and animal reservoirs"	<b>USA</b> 9 June 2023
<b>Globe and Mail</b> <i>National newspaper</i> Michael Halpin: "Incels want to make Dec. 6 a day of celebration. It's everyone's job to prevent that"	<b>Canada</b> 6 December 2022
<b>Journal of the American Medical Association</b> <i>International Journal</i> Jyoti Madhusoodanan "SARS-CoV-2 Animal Reservoirs"	<b>USA</b> 3 August 2022
<b>Dalhousie News</b> <i>University newsletter</i> Philip Moscovitch "Public health, private data: Coexistence not only possible, it's critical".	<b>Canada</b> 7 April 2022
<b>Smithsonian Magazine</b> <i>International magazine</i> Carroyn Wetzel "First Possible Case of Covid-19 Spreading From Deer to Humans."	<b>USA</b> 4 March 2022
<b>National Geographic</b> <i>International magazine</i> Dina Fine Maron "A deer may have passed COVID-19 to a person, study suggests"	<b>USA</b> 4 March 2022
<b>Dalhousie News</b> <i>University newsletter</i> Alison Auld "Researchers detect first potential case of deer-to-human transmission of COVID-19".	<b>Canada</b> 2 March 2022
<b>New York Times</b> <i>International newspaper</i> Emily Anthes "New Coronavirus Lineage Discovered in Ontario Deer. New York Times."	<b>USA</b> 1 March 2022
<b>WebMD</b> <i>International website</i> Caroyn Crist "Deer-borne SARS-CoV-2".	<b>USA</b> 1 March 2022
<b>Guardian Newspaper</b> <i>International newspaper</i> Leyland Cecco "Possible case of deer-to human Covid infection identified in Canada."	<b>United Kingdom</b> 28 February 2022
<b>CBC News</b> <i>National newspaper</i> Jaela Bernstein "Canadian researchers discover 1st possible case of deer spreading COVID-19 virus to a human."	<b>Canada</b> 27 February 2022
<b>Globe and Mail</b> <i>National newspaper</i> Ivan Semeniuk authored an article 'In genetic arms race with COVID-19 variants, Canada's labs fight for better ways to share findings with each other and the world' featuring my work and data from work on SARS-CoV-2 genomics within Canada.	<b>Canada</b> 25 November 2021
<b>National Post</b> <i>National news</i> Mike Halpin authored an article in 'The Conversation' that was published in this national newspaper about our Incel related work (published as Preston <i>et. al.</i> in Men and Masculinity. Work was also mentioned in the Sun Newspaper and the Signal Halifax.	<b>Canada</b> 8 July 2021
<b>Chronicle Herald</b> <i>Newspaper</i>	<b>Canada</b> 11 February 2021

Interviewed by John McPhee for piece on SARS-CoV-2 variants in Nova Scotia: <https://www.thechronicleherald.ca/news/local/genetic-coding-important-tool-in-tracking-covid-19-variants-551919/>

**DalNews**

*University News*

**Canada**

*28 January 2021*

Interview for an "Ask an Expert" column about genomic epidemiology and the use of genomics in the SARS-CoV-2 pandemic (<https://www.dal.ca/news/2021/01/29/ask-an-expert--finlay-maguire-on-using-genomic-data-to-better-un.html>)

**Science**

*Leading Academic Journal*

**Online and Print**

*10 March 2021*

Interviewed for a news article by Meredith Wadman on issues with SARS-CoV-2 genome data access via GISAID.

**Globe and Mail**

*Newspaper*

**Canada**

*23–28 December 2020*

Interviewed 4 times by Ivan Semeniuk (science reporter) to provide scientific background material for articles on SARS-CoV-2 genomic epidemiology in Canada.

**Other Activities**.....

**Industrial Research Assistant Program**

*Supervisor*

**Dovico**

*2018*

Supervised 2 PhD students in the creation of a report on possible use-cases for machine learning by an HR/time-sheet software-as-a-service company.

**Industrial Research Assistant Program**

*Microbial Bioinformatics Consultant*

**Nubiyota**

*2017*

Supervised 2 PhD students performing genomic analyses of candidate microbes for a company developing novel probiotics.

**BBC Cloud Lab Documentary**

*Scientific Advisor*

**NASA**

*2013*

Acted as NASA representative and scientific advisor (uncredited) for the British Broadcasting Company documentary on atmospheric sciences. Developed microbial sampling and exposure protocols and briefed the cast and producers on the relevant microbiological background.