Department/School: Department of Community Health & Epidemiology

CURRICULUM VITAE

NAME:

MAGUIRE, **Finlay**, Assistant Professor

DEGREES AND CREDENTIALS:

Degrees:
PhD Bioinformatics, University College London, United Kingdom, 2016
Master of Arts Natural Sciences - Biological Sciences, University of Oxford, United Kingdom, 2011

EMPLOYMENT HISTORY:

2022 –	Assistant Professor, Joint: Faculty of Computer Science and Faculty of Medicine (Dept of Community Health & Epidemiology), Dalhousie University, Nova Scotia, Canada
2021 –	Visiting Professor, Shared Hospital Laboratory, Sunnybrook Health Sciences Centre/North York General/Michael Garron Hospital/Scarborough Hospital
2019 – 2021	Postdoctoral Fellow, Faculty of Computer Science, Dalhousie University, Nova Scotia, Canada
2017 – 2019	Postdoctoral Fellow, Faculty of Computer Science, Dalhousie University, Nova Scotia, Canada
2016 – 2017	Postdoctoral Fellow, Living Systems Institute, University of Exeter, United Kingdom
2013 – 2013	Research Associate, Space Life Science Laboratories, National Aeronautics and Space Administration
2010 – 2010	Research Associate, Biosciences, University of Exeter, United Kingdom

HONOURS:

2022	Life Sciences New Talent Collection, Manuscript (Jenkins*, Maguire* et. al., 2021) selected for showcase of exciting and emerging cross-disciplinary research by Royal Society journal editors, The Royal Society
2019	Hacking AMR 2019 Award, Lead a multidisciplinary team at a JPI-AMR an antimicrobial resistance hackathon in Sweden, Canadian Institutes of Health Research, Ontario, Canada
2018	Travel Award, Competitive award to attend ASM NGS 2018, American Society of Microbiology
2018	Travel Award, Competitive award to attend CSM 2018, Canadian Society of Microbiology
2018	Best Presentation, Top presentation at the Dalhousie Computer Science Conference, Dalhousie University, Nova Scotia, Canada
2015	School of Informatics Poster Prize, Best poster prize at University of Edinburgh School of Informatics annual Jamboree, University of Edinburgh, United Kingdom
2014	National Data Science Bowl (Top 5%), Distinction award for top 5% placement out of 1059 teams in a global machine learning competition, National Data Science Bowl
2014	Seizure Prediction Challenge (Top 5%), Top 5% out of 527 teams in an open international machine learning competition run by the American Epilepsy Society, American Epilepsy Society
2013	Research Scholarship, Competitive award to support travel to research fellowship at NASA, Earth and Space Foundation

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2011	Young Scientist Grant, Competitive travel award to attend EMBO 2011, Federal of European Microbiological Societies
2011	Society for General Microbiology Undergraduate Grant, Competitive travel award to attend SGM 2011, Society for General Microbiology
2009	Dukinfield Exhibition in Biological Sciences, Annually renewed scholarship for academic excellence, University of Oxford, United Kingdom

SCHOLARLY and PROFESSIONAL ACTIVITIES:

Event Administration

2022 –	Seminar Co-ordinator, Faculty of Computer Science Research Seminar Series
2023 – 2023	Organiser, Community Health & Epidemiology Research Day 2023
2022 – 2022	Group Facilitator, BBSRC/CLIMB 8th Microbial Bioinformatics Hackathon
2022 – 2022	Organiser, Community Health & Epidemiology Research Day 2022
2021 – 2021	Steering Group, PHA4GE/MRC-CLIMB/JPIAMR 7th Microbial Bioinformatic Hackathon
2021 – 2021	Primary Organiser, PHA4GE/MRC-CLIMB/JPIAMR Antimicrobial Resistance Training Workshop
2020 – 2021	Instructor/Organiser, Canadian Bioinformatics Workshop: Infectious Disease Epidemiology 2021
2021 – 2021	Mentor/Statistics Lead, MicroResearch Halifax 2021
2019 – 2019	Conference Organiser, Canadian Association of Postdoctoral Societies Annual Conference

Journal Review Activities

2023 –	Reviewer, PeerJ
2022 –	Reviewer, Nature Communication
2020 –	Reviewer, Microbial Genomics
2020 –	Reviewer, Journal of Open Source Software
2020 –	Reviewer, Microbiome
2018 –	Reviewer, Bioinformatics
2018 –	Reviewer, Communications Biology
2018 –	Reviewer, GigaScience
2018 –	Reviewer, American Society of Microbiology: MSystems
2017 –	Reviewer, PLOS Computational Biology
2017 –	Reviewer, BMC Genomics
2014 –	Reviewer, Current Biology

Conference Review Activities

2020 –	Reviewer, RECOMB-Seq

Graduate Examination Activities

2022 –	Thesis Defense Chair, Community Health and Epidemiology

Research Funding Application Assessment Activities

2022 –	External Reviewer, Discovery Grant Evaluation Group 1501, Natural Sciences and Engineering Research Council of Canada (NSERC), Ontario
2019 –	External Reviewer, New Frontiers in Research Fund, National Research Council Canada, Ontario
2017 –	External Reviewer, External, National Science Centre of Poland

Organizational Review Activities

2021 –	IQHM Accreditation Bioinformatics Lead, Leading the bioinformatics protocol development and presentation for Sunnybrook Research Institute/Shared Hospital Laboratory's IQHM pathogenomics accreditation effort.

Community and Volunteer Activities

2018 –	Adult General Educational Development (GED) Teacher, Teaching maths, english, sciences, and social sciences to adult learners to help them acquire their high school equivalency qualifications.

Knowledge and Technology Translation

2019 –	Instructor/Mentor, Teaching on various offerings of the MicroResearch community research

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capacity building workshop (including Meru, Kenya; Halifax, Canada; Yarmouth, Canada) This resulted in mentorship of a team of community members in developing a funded project on evaluating the existing mental health supports for local first responder groups.

2018 – 2018   National Research Council - Industrial Research Assistance Program, 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.

2017 – 2017   Microbial Bioinformatics Consultant, Supervised 2 PhD students performing genomic analyses of candidate microbes for a company developing novel probiotics.

International Collaboration Activities

2019 –   PHA4GE Steering Committee Member & Work Group Chair, Member of the steering committee of the Bill and Melinda Gates Foundation funded Public Health Alliance for Genomic Epidemiology (PHA4GE). This is an international 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

2023 – 2025   B2B2B2 AMRDx Network Member, JPI-AMR Bench, Bedside, Business, and Beyond: innovative solutions for AMR diagnostics Research Network is 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

MEMBERSHIPS

Committee Memberships

2022 –   Committee Member, Ontario Bioinformatics and Data Analysis Working Group, Public Health Ontario

2022 –   Committee Member, Curriculum Committee, Dalhousie University, Nova Scotia, Canada

2021 –   Committee Member, Medical-Mini Interview Case Writing Group, Dalhousie University, Nova Scotia, Canada

2021 –   Committee Member, Shared Hospital Laboratory Microbiology Department Heads, Sunnybrook Health Sciences Centre, Ontario, Canada

2019 –   Committee Member, Data Structures Working Group, Public Health Alliance For Genomic Epidemiology

2022 – 2023   Committee Member, Canada Research Chair in Digital Pathology Search Committee, Dalhousie University, Nova Scotia, Canada

2020 – 2022   Committee Member, Data Analysis and Quality Control Working Groups, Canadian COVID Genomics Network (CanCOGeN)

2017 – 2019   Committee Member, Tool Development Working Group, Integrated Rapid Infectious Disease Analysis (IRIDA) Initiative

Other Memberships

2022 –   Member, CDC: SC2 Sequencing for Public Health Emergency Response, Epidemiology, and Surveillance (SPHERES)

2022 –   Member, GRDI-AMR2 - National Public Health Genomics for Antimicrobial Resistance

SUPERVISIONS:

Summary:

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Completed

Principal Supervisor	1 Post-doctorate

Co-Supervisor	3 Bachelor's
	4 Bachelor's Honours
	1 Certificate
	1 Post-doctorate
	1 Research Associate

In Progress

Principal Supervisor	1 Bachelor's
	1 Doctorate

Co-Supervisor	1 Doctorate

Supervision detail:

Sneha Murthy (Doctorate), Interdisciplinary *Improving metagenome-assembled genome methods for antimicrobial resistance gene analysis*, Co-Supervisor, Jul. 2022 -

David Mahoney (Doctorate), Interdisciplinary PhD *Graph-theoretic approaches to mapping antimicrobial resistance transmission*, Principal Supervisor, May 2023 - May 2028

Yuan Wang (Bachelor's), Computer Science *Natural Language Processing Analysis of Radicalisation Amongst Incels*, Principal Supervisor, May 2022 - Sep. 2022

Peter Jentsch (Post-doctorate), Interdisciplinary *Comparing inter-provincial viral dynamics within vulnerable populations*, Principal Supervisor, Oct. 2021 - Oct. 2022

Somayeh Kafaie (Post-doctorate), Computer Science *Extracting genomic context of mobile AMR genes from metagenomic data using graph-based methods.*, Co-Supervisor, May 2020 - Sep. 2021

Emma Bornheimer (Bachelor's Honours), Linguistics *Reddiquette TL;DR: an exploratory corpus analysis of Netspeak and Autism*, Co-Supervisor, Oct. 2019 - Jun. 2020

Kayla Preston (Research Associate), Sociology *"It's Over": Involuntarily celibate men's perception of women, social media, and the masculine order*, Co-Supervisor, Jun. 2019 - Jun. 2020

Corie Niu (Bachelor's), Biochemistry *Machine-learning on microarray pharmaceutical drug datasets to identify signature probes in waste water efflux*, Co-Supervisor, May 2019 - Sep. 2019

Jocelyn McDonald (Bachelor's), Computer Science *Evolutionary analyses of putative resistance genes*, Co-Supervisor, May 2019 - Sep. 2019

Dayna Mikkelsen (Bachelor's Honours), Biology *AMR surveillance using metagenome-assembled genomes*, Co-Supervisor, Oct. 2018 - Apr. 2019

Zhou Zhilei (Bachelor's), Computer Science *Evaluation of machine-learning approaches to detect rRNA fragments in metagenomic data*, Co-Supervisor, Jul. 2018 - Sep. 2018

Katie Jones (Certificate), Biosciences *How does Paramecium bursaria live in harmony with algae?*, Co-Supervisor, Jan. 2016 - Mar. 2016

COURSES:

Graduate Courses

CH&E 6052 Epidemiology of Infectious Diseases Dalhousie University, Nova Scotia:
  2023 - 2023   Number of Students: 12
CSCI 6802/4181 Algorithms in Bioinformatics Dalhousie University, Nova Scotia:
  2023 - 2023   Number of Students: 21

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2022 - 2022   Number of Students: 18
2020 - 2021   Number of Students: 22
CSCI 6903/4148 Applied Research in Health Data Science Dalhousie University, Nova Scotia:
2022 - 2022   Number of Students: 7
EPAH6410 & CSCI6410/I4148 Applied Research in Health Data Science Dalhousie University, Nova Scotia:
2023 - 2023   Number of Students: 30
External: CBW-IDE2021 Genomic Epidemiology of Infectious Disease Canadian Bioinformatics Workshop:
2021 - 2021   Number of Students: 50
External: IDE2023 CBW 2023: Genomic Epidemiology of Infectious Disease Canadian Bioinformatics Workshop:
2023 - 2023   Number of Students: 50
External: IDE_VTEC2023 CBW VTEC 2023: Genomic Epidemiology of Infectious Disease Canadian Bioinformatics Workshop:
2023 - 2023   Number of Students: 20
External: JPI-AMR Genomics for Antimicrobial Resistance Research PHA4GE/MRC-CLIMB/JPIAMR:
2021 - 2021   Number of Students: 495
External: MicroResearch MicroResearch MicroResearch:
2020 - 2021   Number of Students: 19
External: MicroResearch MicroResearch - Meru University, Kenya 2023 Meru University of Science and Technology, Kenya:
2023 - 2023   Number of Students: 18
MED1 Professional Competencies 1 Dalhousie University, Nova Scotia:
2022 - 2022   Number of Students: 9

LIFETIME FUNDING:

- Total amount of funding received..$5,690,742.00
    As Principal Investigator..$0.00

EXTERNAL RESEARCH FUNDING:

Year (s)	Source	Type	Investigator	Amount
2024 - 2028	Canadian Institutes of Health Research (CIHR) Title: Investigating the genomic epidemiology, transmission, and infectivity of the non-influenza respiratory viruses Program: Project Grant Spring 2023	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Chris Kandel, Kevin Katz, Xena Li, Prameet Sheth Principal Applicant: Allison McGeer	Funding Total: $970,000.00
2023 - 2027	Canadian Institutes of Health Research (CIHR) Title: Genomic Epidemiology of Methicillin-Resistant Staphylococcus aureus Infections Prior to and During the COVID-19 Pandemic	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Jared Simpson, George Golding, Allison McGeer Collaborators: Robert Kozak	Funding Total: $700,000.00

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Year (s)	Source	Type	Investigator	Amount
	Program: Project Grant			
2023 - 2025	Title: Mpox exposure and transmission at the human-animal interface Program: Team Grant: Building capacity in interdisciplinary research on mpox (monkeypox) and other (re)emerging zoonotic threats	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Andra Banete, Jeff Bowman, Helene Carabin, Oluwafemi Babatunde Daodu, Claire Jardine, Jonathon Kotwa, Robert Kozak, Oliver Lung, Bradley Pickering Principal Knowledge User: Andrea Osborn	Funding Total: $500,007.00
2023 - 2028	Canadian Institutes of Health Research (CIHR) Title: A collaborative, One Health approach to zoonotic virus detection and risk assessment at the wildlife-human nexus Program: Project Grant Fall 2022	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Arinjay Banerjee, Jeff Bowman, Jonathon Kotwa, Bradley Pickering, Yohannes Berhane, Andrew Doxey, Claire Jardin, Darwyn Kobasa, Nelson Lee, Oliver Lung, Allison McGeer, Theo Moraes, Andrea Obsorn, Bradley Pickering, Haibo Zheng	Funding Total: $1,377,000.00
2022 - 2024	Research Nova Scotia Title: Factors affecting risk of obstetrical anal sphincter injury and its consequences in Nova Scotia Program: New Health Investigator Program	Type: Grant Purpose: Operating	My Role: Co-investigator Co-investigators: Victoria Allen, Christy Woolcott, Aisling Clancy, Heather Scott Principal Knowledge User: Holly Sampson	Funding Total: $47,125.00
2022 - 2027	Natural Sciences and Engineering Research Council of Canada (NSERC) Title: Advancing understanding of the evolution of key bacterial and fungal genes in microbial communities through	Type: Grant Purpose: Operating	My Role: Nominated Principal Applicant	Funding Total: $177,500.00

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Year (s)	Source	Type	Investigator	Amount
	metagenomic assembly optimisation and context aware graph algorithms Program: Discovery Grant (and ECR supplement)			
2022 - 2024	Social Sciences and Humanities Research Council of Canada (SSHRC) Title: Social disconnection and masculinity Program: Insight Development Grant	Type: Grant Purpose: Operating	My Role: Co-applicant	Funding Total: $68,842.00
2022 - 2024	Social Sciences and Humanities Research Council of Canada (SSHRC) Title: Is unexplained inequality unfair? Program: Insight Development Grant	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Michel Grignon, Jeremiah Hurley, Susan Kirkland Collaborators: Florence Jusot, Erik Schokkaert, Alain Trannoy, Tom van Ourti	Funding Total: $68,842.00
2021 - 2022	Natural Sciences and Engineering Research Council of Canada (NSERC) Title: Comparing inter-provincial viral dynamics within vulnerable populations Program: Canadian Network for Modelling Infectious Disease	Type: Grant Purpose: Operating	My Role: Nominated Principal Applicant Co-applicants: Sharmistha Mishra, Sandrine Moreira	Funding Total: $70,000.00
2021 - 2024	Canadian Institutes of Health Research (CIHR) Title: SARS-CoV-2 genotype-dependent pathogenesis and transmission Program: Project Grant	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Jean-Philippe Julien, Darwyn Kobasa, Allison McGeer, Theo Moraes, Amy Wong Principal Applicant: Andrew McArthur	Funding Total: $601,000.00

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Year (s)	Source	Type	Investigator	Amount
2021 - 2022	Canadian Institutes of Health Research (CIHR) Title: SARS-CoV-2 variants under investigation (VUIs) and variants of concern (VOCs); phenotyping gaps in transmission, reinfection and response to medical countermeasures Program: Operating Grant	Type: Grant Purpose: Operating	My Role: Co-applicant Co-applicants: Andrew McArthur, Allison McGeer, Theo Moraes, Karen Mossman, Prameet Sheth, Fiona Kouyoumdjian, James Worthington, Ginette Clarke, Leonardo Susta	Funding Total: $499,276.00
2021 - 2022	Genome Canada Title: National VirusSeq data portal Program: VirusSeq Data Portal Call	Type: Grant Purpose: Infrastructure	My Role: Co-knowledge User Co-investigators: Yann Joly, Kieran O'Doherty, Jared Simpson, Ioannis Ragoussis, Brad Wouters Co-knowledge Users: Andrew McArthur, David Alexander, Mel Krajden, Paul Gordon, Julie Hussin, Robert G. Beiko, Sally Otto, Caroline Coljin Principal Applicant: Lincoln Stein, William Hsiao, Fiona Brinkman	Funding Total: $300,000.00
2020 - 2023	MicroResearch Nova Scotia Title: Are We Helping the Helpers? A Review of Mental Health Programs, Processes and Supports Currently in Place for Halifax Regional Municipality First Responders Program: MicroResearch Project Grant	Type: Grant Purpose: Operating	My Role: Co-Principal	Funding Total: $3,000.00
2019 - 2024	Nvidia Corporation Title: Large-Scale Identification and Analysis of Promoter Sequences in 43,105 Bacterial Genomes	Type: Grant Purpose: Equipment	My Role: Principal Applicant	Funding Total: $4,000.00

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Year (s)	Source	Type	Investigator	Amount
	Program: Accelerated Data Science Program			
2019 - 2020	Social Sciences and Humanities Research Council of Canada (SSHRC) Title: NEETs, Incels, and Wizards: The Experiences of Socially Isolated Men Program: Explore Grant	Type: Grant Purpose: Operating	My Role: Principal Applicant	Funding Total: $4,950.00
2019 - 2022	Donald Hill Family Title: Donald Hill Family Fellowship in Computer Science Program: Donald Hill Family Fellowship	Type: Fellowship	My Role: Nominated Principal Applicant	Funding Total: $165,000.00
2011 - 2016	University College London Title: UCL-NHM Joint-Institution PhD Studentship Program: PhD Studentship	Type: Scholarship	My Role: Principal Applicant Principal Applicant: Max Telford	Funding Total: $120,000.00

INTERNAL RESEARCH FUNDING:

Year (s)	Source	Type	Investigator	Amount
2023 - 2024	Dalhousie University Title: Conference: Tackling antimicrobial resistance – surveillance, prevention, and new treatments Program: 2023 Faculty of Medicine Conference Grant	Type: Grant Purpose: Workshop	My Role: Co-applicant Co-applicant: John Archibald, Deborah Adewole	Funding Total: $5,000.00

CONTRIBUTIONS:

Life-time summary count according to the following categories:

Refereed Journal Articles..36
Non-Refereed Journal Articles...5

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PUBLICATIONS:

<u>Refereed Journal Articles</u>

36. Chan, Katherine, Farias, Adrian Granda, Lee, Hunsang, Guvenc, Furkan, Mero, Patricia, Brown, Kevin R, . . . Moffatt, Jason. (2022, December 30). Survival-based CRISPR genetic screens across a panel of permissive cell lines identify common and cell-specific SARS-CoV-2 host factors. *Heliyon*, e12744. https://doi.org/10.1016/j.heliyon.2022.e12744

35. *Pickering, Brad, *Lung, Oliver, *Maguire, Finlay, Kruczkiewicz, Peter, Kotwa, Jonathon, Buchanan, Tore, . . . Bowman, Jeff. (2022, November 10). Divergent SARS-CoV-2 variant emerges in white-tailed deer with deer-to-human transmission. *Nature Microbiology*, 7, 2011–2024. doi:10.1101/2022.02.22.481551

34. Kupfer, Nathalie, Clancy, Aisling, Maguire, Finlay & Stairs, Jocelyn. (2022, November 9). Prevalence and risk factors for urinary incontinence in nulliparous women: a contemporary, population-based cohort study. *Urogynecology*, SPV.0000000000001296. Retrieved from https://journals.lww.com/fpmrs/Fulltext/9900/Prevalence_and_Risk_Factors_for_Urinary.47.aspx

33. Tan, Charlie, Linkenheld-Struk, Amber, Williams, Victoria, Kozak, Robert, Dhabaan, Ghulam, dit Mieusement, Lorraine M, . . . Leis, Jermone A. (2022, November 4). The role of the environment in transmission of vancomycin-resistant Enterococcus: A proof-of-concept study. *Antimicrobial Stewardship & Healthcare Epidemiology*, 2(1), e178. Retrieved from https://doi.org/10.1017/ash.2022.318

32. Tozer, Kyla, Sjaarda, Calvin P, Moslinger, Emily, Wong, Henry, Mubareka, Samira, Maguire, Finlay, . . . *Sheth, Prameet M. (2022, October 22). Comparison of SARS-CoV-2 viral loads in the nasal mucosa of patients infected with BA.1, BA.2 or BA.5 Omicron lineages. *Open Forum Infectious Diseases*, ofac564. Retrieved from https://doi.org/10.1093/ofid/ofac564

31. Alcock, Brian P, Huynh, William, Chalil, Romeo, Smith, Keaton W, Raphenya, Amogelang R, Wlodarski, Mateusz, . . . McArthur, Andrew G. (2022, October 20). CARD 2023: expanded curation, support for machine learning, and resistome prediction at the Comprehensive Antibiotic Resistance Database. *Nucleic Acids Research*, Database, gkac920. Retrieved from https://doi.org/10.1093/nar/gkac920

30. Sanderson, Haley, Gray, Kristen L, Manuele, Alexander, Maguire, Finlay, Khan, Amjad, Liu, Chaoyue, . . . Beiko, Robert G. (2022, September 21). Exploring the mobilome and resistome of Enterococcus faecium in a One Health context across two continents. *Microbial Genomics*, 8(9). Retrieved from https://doi.org/10.1099/mgen.0.000880

29. McLaughlin, Angela, Montoya, Vincent, Miller, Rachel L, Mordecai, Gideon J, CanCOGen Consortium, Worobey, Michael, . . . Joy, Jeffrey B. (2022, July). Genomic epidemiology of the first two waves of SARS-CoV-2 in Canada. *eLife*. doi:10.7554/eLife.73896

28. Raphenya, Amogelang, Robertson, James, Jamin, Casper, de Oliveira Martins, Leonardo, Maguire, Finlay, McArthur, Andrew G & Hays, John P. (2022, June 15). Datasets for benchmarking antimicrobial resistance genes in bacterial metagenomic and whole genome sequencing. *Scientific Data*, 9, 341. Retrieved from https://doi.org/10.1038/s41597-022-01463-7

27. Banerjee, Arinjay, Lew, Jocelyne, Kroeker, Andrea, Baid, Kaushal, Aftanas, Patryk, Nirmalarajah, Kuganya, . . . Falzarano, Darryl. (2022, June). Immunogenicity of convalescent and vaccinated sera against clinical isolates of ancestral SARS-CoV-2, Beta, Delta, and Omicron variants. *Med*, 3(6), 422-432.e3. doi:10.1101/2022.01.13.475409v1

26. Kim, Jee In, Maguire, Finlay, Tsang, Kara K, Gouliouris, Theodore, Peacock, Sharon J, McAllister, Tim A, . . . Beiko, Robert G. (2022, May 25). Machine learning for antimicrobial resistance prediction: Current practice, limitations, and clinical perspective. *Clinical Microbiology Reviews*, 35(3), e00179-21. Retrieved from https://doi.org/10.1128/cmr.00179

25. Zhabokritsky, Alice, Mubareka, Samira, Kozak, Robert, Maguire, Finlay, Yip, Lily, Yip, Paul & Powis, Jeff. (2022, May 20). Persistent infection with SARS-CoV-2 in a person with untreated HIV. *Infection Control & Hospital Epidemiology*, 10.1017/ice.2022.140, 1-2. Retrieved from

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https://doi.org/10.1017/ice.2022.140

24. Lee, Benjamin D, Gitter, Anthony, Greene, Casey S, Raschka, Sebastian, Maguire, Finlay, Titus, Alexander J, . . . Boca, Simina M. (2022, March 24). Ten quick tips for deep learning in biology. *PLoS Computational Biology*, 18(3), e1009803. Retrieved from https://doi.org/10.1371/journal.pcbi.1009803

23. Griffiths, Emma, Timme, Ruth E, Mendes, Catarina Inês, Page, Andrew J, Alikhan, Nabil-Fareed, Fornika, Dan, . . . MacCannell, Duncan R. (2022, February 16). Future-proofing and maximizing the utility of metadata: The PHA4GE SARS-CoV-2 contextual data specification package. *GigaScience*, 11, giac003. Retrieved from https://doi.org/10.1093/gigascience/giac003

22. Preston, Kayla, Halpin, Michael & Maguire, Finlay. (2022, January). The black pill: new technology and the male supremacy of involuntarily celibate men. *Men and Masculinities*, 24(5), 1097184X211017954. Retrieved from https://doi.org/10.1177/1097184X21101795

21. Jenkins, Benjamin H, Maguire, Finlay, Leonard, Guy, Eaton, Joshua D, West, Steven, Milner, David S & Rivchards, Thomas A. (2021, September 21). Emergent RNA-RNA interactions can promote stability in a nascent phototrophic endosymbiosis. *Proceedings of the National Academy of Sciences*, 118(38), e2108874118. Retrieved from https://doi.org/10.1073/pnas.2108874118

20. Stairs, Jocleyn, Maguire, Finlay, Lehmann, Christian & Cox, Ashley. (2021, May). Cannabinoid therapy in female pelvic medicine and reconstructive surgery: current evidence and future directions. *Current Bladder Dysfunction Reports*, 16(11), 1-10. Retrieved from https://doi.org/10.1007/s11884-021-00632-5

19. *Jenkins, Benjamin H, *Maguire, Finlay, Leonard, Guy, Eaton, Joshua D, West, Steven, Housden, Benjamin E, . . . Richards, Thomas A. (2021, April 21). Characterization of the RNA-interference pathway as a tool for reverse genetic analysis in the nascent phototrophic endosymbiosis, Paramecium bursaria. *Royal Society Open Science*, 8(4), 210140. Retrieved from https://doi.org/10.1098/rsos.210140

18. Tsang, Kara K, Maguire, Finlay, Zubyka, Haley L, Chou, Sommer, Edalatmand, Arman, Wright, Gerard D, . . . McArthur, Andrew G. (2021, January 8). Identifying novel beta-lactamase substrate activity through in silico prediction of antimicrobial resistance. *Microbial Genomics*, 7(1), 1-12. Retrieved from https://doi.org/10.1099/mgen.0.000500

17. *Maguire, Finlay, *Jia, Baofeng, Gray, Kristen L, Lau, Wing Yin Venus, Beiko, Robert G & Brinkman, Fiona S L. (2020, October 1). Metagenome-assembled genome binning methods with short reads disproportionately fail for plasmids and genomic Islands. *Microbial Genomics*, 6(10), 1-12. Retrieved from https://doi.org/10.1099/mgen.0.000436

16. Nasir, Jalees A, Kozak, Robert A, Aftanas, Patryk, Raphenya, Amogelang R, Smith, Kendrick M, Maguire, Finlay, . . . Mubareka, Samira. (2020, July 15). A comparison of whole genome sequencing of SARS-CoV-2 using amplicon-based sequencing, random hexamers, and bait capture. *Viruses*, 12(8), 10.3390/v12080895. Retrieved from https://doi.org/10.3390/v12080895

15. Peabody, Michael A, Lau, Wing Yin Venus, Hoad, Gemma R, Jia, Baofeng, Maguire, Finlay, Gray, Kristen L, . . . Brinkman, Fiona S L. (2020, May 15). PSORTm: a bacterial and archaeal protein subcellular localization prediction tool for metagenomics data. *Bioinformatics*, 36(10), 3043 - 3048. Retrieved from https://doi.org/10.1093/bioinformatics/btaa136

14. Stairs, Jocelyn, Bergey, Bradley W, Maguire, Finlay & Scott, Stephanie. (2020, April 2). Motivation to access laparoscopic skills training: Results of a Canadian survey of obstetrics and gynecology residents. *PLOS ONE*, 15(4), 0230931 - 0230931. Retrieved from https://doi.org/10.1371/journal.pone.0230931

13. Stairs, Jocelyn, Bal, Navi, Maguire, Finlay & Scott, Heather. (2019, November 28). A resident-led clinic that promotes the health of refugee women through advocacy and partnership. *Canadian Medical Education Journal*, 10(4), 102 - 102. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6892310

12. Wideman, Jeremy G, Monier, Adam, Rodríguez-Martínez, Raquel, Leonard, Guy, Cook, Emily, Poirier, Camille, . . . Richards, Thomas A. (2019, November 25). Unexpected mitochondrial genome diversity revealed by targeted single-cell genomics of heterotrophic flagellated protists.

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Nature Microbiology, 5(1), 154 - 165. Retrieved from https://doi.org/10.1038/s41564-019-0605-4

11. Chambouvet, Aurélie, Monier, Adam, Maguire, Finlay, Itoïz, Sarah, Del Campo, Javier, Elies, Philippe, . . . Richards, Thomas A. (2019, November 14). Intracellular infection of diverse diatoms by an evolutionary distinct relative of the fungi. *Current Biology*, 29(23), 4093 - 4101. Retrieved from https://doi.org/10.1016/j.cub.2019.09.074

10. Alcock, Brian P, Raphenya, Amogelang R, Lau, Tammy T Y, Tsang, Kara K, Bouchard, Mégane, Edalatmand, Arman, . . . McArthur, Andrew G. (2019, October 29). CARD 2020: antibiotic resistome surveillance with the comprehensive antibiotic resistance database. *Nucleic Acids Research*, 48(D1), 517 - 517. Retrieved from https://doi.org/10.1093/nar/gkz935

9. Milner, David S, Attah, Victoria, Cook, Emily, Maguire, Finlay, Savory, Fiona R, Morrison, Mark, . . . Richards, Thomas A. (2019, March 6). 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 - 5622. Retrieved from https://doi.org/10.1073/pnas.1815994116

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Non-Refereed Journal Articles

5. Sivakumar, Aditi, Willows, Karla, Maguire, Finlay & Stairs, Jocelyn. (2022, December). 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. *Research Square*. Research Type: Clinical Research

4. Nirmalarajah, Kuganya, *Maguire, Finlay, Yim, Winfield, Aftanas, Patryk, Li, Angel X., Shigayeva, Altynay, . . . *Kozak, Robert. (2022, November 22). Use of whole genome sequencing to identify low-frequency mutations in COVID-19 patients treated with remdesivir. *medRxiv*. https://doi.org/10.1101/2022.11.20.22282552

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2. Halpin, Michael, Preston, Kayla, Lockyer, Dem & Maguire, Finlay. (2022, October 4). A solider and a victim: Masculinity, violence, and incels celebration of Marc Lépine. *socArXiv*. https://doi.org/10.31235/osf.io/cseun

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PRESENTATIONS:

30. Other. (2022, December). "Utility of pathogenomics: tracking clinically relevant evolution in SARS-CoV-2". Community Health & Epidemiology Departmental Seminar, Halifax, Canada.
29. Emma Griffiths. Informal Talk. (2022, November). "Data Structure Working Group Report: Improving the structure of pathogen genomics data for effective public health action". International PHA4GE In-Person Meeting, Brusells, Belgium.
    Research Type: Public Health Research
28. Other. (2022, September). "Graph-based AMR Metagenomic Analysis: Best of Both Worlds". National Genomics Research and Development Initiative - Antimicrobial Resistance (GRDI-AMR) Seminar, Winnipeg, Canada.
    Research Type: Public Health Research
27. Abstracts and/or Papers Read. (2022, August). "hAMRonization: simplifying prediction and reporting of antimicrobial resistance genes". International Africa CDC: Africa Pathogen Genomics Initiative Focus Group on Antimicrobial Resistance Genomic Surveillance, Addis Ababa, Ethiopia.
    Research Type: Public Health Research
26. Other. (2022, July). "There and back again: characterising SARS-CoV-2 wildlife spillover and spillback". Institute of Comparative Genomics All-Lab Seminar, Halifax, Canada.
25. Other. (2022, June). "There and back again: characterising highly divergent SARS-CoV-2 in white-tailed deer with potential spillback into humans". Canadian Institutes of Health Research Institute of Infection and Immunity (III) Meet-the-Community Event, Halifax, Canada.
24. Carla Heggie, Samuel Stewart. Workshops and/or Round Tables. (2022, April 12). "Data and its impact on health". Local Open Dialogue Live, Halifax, Canada.
    Research Type: Public Health Research
23. Other. (2022, April 11). "Utility of genomics in characterising a potential SARS-CoV-2 wildlife reservoir with spillback into humans". Sunnybrook Research Institute Seminar, Toronto, Canada.
    Research Type: Public Health Research
22. Other. (2022, March 2). "Highly divergent white-tailed deer SARS-CoV-2 with potential deer-to-human transmission". International US CDC: SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES), San Francisco (Remote), United States.
    Research Type: Public Health Research
21. Other. (2022, January). "Metagenomics for AMR: Reads to Graphs". International Seq4AMR, Amsterdam (Remote), Netherlands.
    Research Type: Clinical Research
20. Ines Mendes. Other. (2022, January). "hAMRonization: Enhancing antimicrobial resistance prediction using PHA4GE standards and specification". International 13th International Meeting on Microbial Epidemiological Markers, Bath, United Kingdom.
    Research Type: Public Health Research
19. Workshops and/or Round Tables. (2021, October). "Genomic methods for antimicrobial resistance surveillance". PHA4GE/MRC-CLIMB/JPIAMR Antimicrobial Resistance Training Workshop, Virtual, United Kingdom.
18. Workshops and/or Round Tables. (2021, September). "Statistical methods in health research". MicroResearch Halifax 2021, Halifax, Canada.
17. Lecture. (2021, April). "Using Genomes in Epidemiology Exemplified by SARS-CoV-2". Invited Teaching Seminar, Halifax, Canada.
16. Lecture. (2021, April). "The Right Tool for the Job: Collaborative Data Science Responses to Health Crises". Departmental Seminar, Halifax, Canada.
15. Workshops and/or Round Tables. (2020, December). "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". International FAIR Symposium, Virtual, Canada.

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14. Keynote Address. (2019, December). "Around the Resistome in 80 Ways: an Empirical Evaluation of Antimicrobial Resistance Gene Detection Methods". McMaster University, Biochemistry and Biomedical Sciences Seminar, Hamilton, Canada.
13. Informal Talk. (2019, December). "Evolving Threat Detector: Identifying Emerging Antimicrobial Resistance". Joint Programme Initiative: Hacking AMR, Stockholm, Sweden.
12. Workshops and/or Round Tables. (2019, September). "Review of Mental Health Programs, Processes, and Services for First Responders in the Halifax Regional Municipality". MicroResearch Dartmouth, Halifax, Canada.
11. Abstracts and/or Papers Read. (2019, June). "Precise Identification of Antimicrobial Resistance Determinants Using Metagenomic Data". Canadian Society of Microbiology Annual Conference, Sherbrooke, Canada.
10. Abstracts and/or Papers Read. (2019, May). "Machine-Learning Based Identification of Novel Resistance Gene Activity". Dalhousie University, Faculty of Medicine Research Day, Halifax, Canada.
9. Sorenson-Duncan T. Abstracts and/or Papers Read. (2019, May). "A Collaborative Examination of Online Communities of Autistic Individuals". Dalhousie University, Faculty of Medicine Research Day, Halifax, Canada.
8. Keynote Address. (2019, March). "Socially Focused Research With Bioinformatics Tools". Simon Fraser University, Group Seminar, Vancouver, Canada.
7. Keynote Address. (2018, October). "AMRtime: Rapid Accurate Identification of Antimicrobial Resistance Determinants from Metagenomic Data". University of Auckland/University of Waterloo, Joint Departmental Seminar, Auckland, New Zealand.
6. Abstracts and/or Papers Read. (2018, September). "AMRtime: Rapid Accurate Identification of Antimicrobial Resistance Determinants from Metagenomic Data". American Society of Microbiology Rapid Applied Microbial NGS and Bioinformatic Pipelines Conference, Washington, United States.
5. Abstracts and/or Papers Read. (2018, June). "Using Machine Learning Methods to Accurately Classify AMR in Metagenomic Data". Integrated Rapid Infectious Disease Analysis Annual General Meeting, Winnipeg, Canada.
4. Abstracts and/or Papers Read. (2018, January). "BayeHem: Bayesian Optimisation of Genome Assembly". Dalhousie University Computer Science In-House Conference, Halifax, Canada.
3. Abstracts and/or Papers Read. (2016, June). "An Analysis of RNAi Pathway Components and Function in Paramecium". Canadian Institute For Advanced Research Microbial Evolution Meeting, Toronto, Canada.
2. Lecture. (2015, June). "Casting a Deep Net: Classifying Plankton from Shadowgraph Image". Machine Learning for Life Sciences, Penryn, United Kingdom.
1. Lecture. (2015, June). "Stumbling Over the Decision Boundary". Machine Learning for Life Sciences, Penryn, United Kingdom.

INTERVIEWS AND MEDIA RELATIONS:

Broadcast Interviews

12. (2023, January 26). *Challenges in Clinical/Public Health Bioinformatics*. Stories from the front-lines of bioinformatics. MicroBinfie Podcast.
11. Interviewer: Jeff Douglas. (2022, March 3 - 2022, March 3). *Ontario deer-borne COVID*. Mainstreet. CBC.
10. (2022, March 3 - 2022, March 3). *Clinical AMR pathogenomics*. What are the major challenges for getting AMR genomics into the clinic?. MicroBinfie Podcast.
9. (2021, July 27 - 2021, July 27). *Sociology of Involuntarily Celibate Men*. CTV News Atlantic. CTV News.
8. (2021, March 24 - 2021, March 24). *Inter-provincial Data Sharing for Genomic Epidemiology*. SARS-CoV-2 In Canada: Addressing Data Sharing and Privacy. Micro Binfie Podcast.
7. (2021, March 16 - 2021, March 16). *Canadian SARS-CoV-2 Sequencing*. SARS-CoV-2 surveillance

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in Canada with CANCOGEN. Micro Binfie Podcast.
6.   (2021, March 11 - 2021, March 11). *SARS-CoV-2 Variants in Ontario*. CTV News Toronto. CTV Toronto.
5.   (2021, February 22 - 2021, February 22). *Complex world of tracking variants of COVID 19*. CBC Radio Morning News. CBC Radio.
4.   (2021, February 18 - 2021, February 18). *NextStrain Genomic Epidemiology of SARS-CoV-2*. CBC News: The National. CBC.
3.   (2021, February 13 - 2021, February 13). *Tracking and Evolution of SARS-CoV-2 Variants*. CTV News Atlatnic. CTV Atlantic.
2.   (2021, February 12 - 2021, February 12). *SARS-CoV-2 Variants in Nova Scotia*. Rick Howe Show. News 95.7.
1.   (2020, October 8 - 2020, October 8). *Developing Bioinformatics Training Programs*. The Untrained Monkey. Micro Binfie Podcast.

<u>Text Interviews</u>

20.   Interviewer: Michael Halpin. (2022, December 6). *Incel Social Media Discussion of Marc Lépine*. Globe and Mail. Retrieved from https://www.theglobeandmail.com/opinion/article-ecole-polytechnique-incels-violence-against-women
19.   Interviewer: Jyoti Madhusoodanan. (2022, August 3). *SARS-CoV-2 Animal Reservoirs*. Journal of the American Medical Association. Retrieved from https://jamanetwork.com/journals/jama/fullarticle/2795140
18.   Interviewer: Philip Moscovitch. (2022, April 7). *Public health, private data: Coexistence not only possible, it's critical*. Dalhousie News. Retrieved from https://www.dal.ca/news/2022/04/06/data-health-open-dialogue.html
17.   Interviewer: Corryn Wetzel. (2022, March 4). *First Possible Case of Covid-19 Spreading From Deer to Humans*. Smithsonian Magazine. Retrieved from https://t.co/XS6sNESPdi
16.   Interviewer: Dina Fine Maron. (2022, March 4). *A deer may have passed COVID-19 to a person, study suggests*. National Geographic. Retrieved from https://t.co/X1PRqM4Iyv
15.   Interviewer: Alison Auld. (2022, March 2). *Researchers detect first potential case of deer-to-human transmission of COVID-19*. Dalhousie News. Retrieved from https://www.dal.ca/news/2022/03/02/covid-deer-animals.html
14.   Interviewer: Emily Anthes. (2022, March 1). *New Coronavirus Lineage Discovered in Ontario Deer*. New York Times. Retrieved from https://www.nytimes.com/2022/03/01/health/coronavirus-variant-deer-ontario.html
13.   Interviewer: Caroyln Crist. (2022, March 1). *Deer-borne SARS-CoV-2*. WedMD. Retrieved from https://www.webmd.com/lung/news/20220301/deer-to-human-covid-transmission-first-possible-case
12.   Interviewer: Leyland Cecco. (2022, February 28). *Possible case of deer-to human Covid infection identified in Canada*. Guardian Newspaper. Retrieved from https://www.theguardian.com/world/2022/feb/28/deer-human-covid-transmission-possible-canada
11.   Interviewer: Jaela Bernstien. (2022, February 27). *Canadian researchers discover 1st possible case of deer spreading COVID-19 virus to a human*. CBC News. Retrieved from https://www.cbc.ca/news/science/covid19-deer-may-spread-to-humans-1.6366023
10.   Interviewer: Ivan Semeniuk. (2021, November 25). *In genetic arms race with COVID-19 variants, Canada's labs fight for better ways to share findings with each other and the world*. Globe and Mail Newspaper. Retrieved from https://t.co/4OGVDseQ88
9.   (2021, July 27). *How women-hating 'incels' are plotting WW3 so men can 'take back society' as part of their twisted beliefs*. Sun Newspaper. Retrieved from https://t.co/7f4owymB95
8.   (2021, July 24). *Incels are surprisingly diverse but united by hate*. Salon.com. Retrieved from https://t.co/DbOAQwUFox
7.   (2021, July 22). *Delving into the Online World of Incels*. Halifax Examiner. Retrieved from https://t.co/uPtOUfD1mv

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6.   (2021, July 8). *Incels are surprisingly diverse but united by hate*. National Post. Retrieved from https://t.co/5NXdzgzR5d
5.   (2021, July 6). *Incels are surprisingly diverse but united by hate*. The Conversation. Retrieved from https://t.co/qXM8mHRxXS
4.   Interviewer: Meredith Wadman. (2021, March 12). *Critics decry access, transparency issues with key trove of coronavirus sequences*. Science. Retrieved from https://t.co/ZTjTI1ceii
3.   Interviewer: John McPhee. (2021, February 12). *Genetic coding important tool in tracking COVID-19 variants*. Chronicle Herald. Retrieved from https://tinyurl.com/bddf63y7
2.   Interviewer: Lindsay Dowling-Savelle. (2021, January 29). *Ask an expert: Finlay Maguire on using genomic data to better understand how COVID-19 and its variants behave*. Dalhousie News. Retrieved from https://t.co/3bKPgEcwtq
1.   Interviewer: Ivan Semeniuk. (2020, December 26). *COVID-19 variants reveal evolution's power to rearm pandemic*. Globe and Mail. Retrieved from https://t.co/gnAWyA6lgK

OTHER CONTRIBUTIONS:

Published Abstract

2.   Maguire, Finlay. Emma Griffiths, Ruth Timme, David Aanensen, Allison Black, Josefina Campos, Leonid Chindelevitch, Alan Christoffels, Luis Coelho, Bede Constantinides, Michael Feldgarden, Emma Hodcroft, John Lees, Duncan MacCannell, Andrew Page, ..., Finlay Maguire. PHA4GE: Improving the structure of pathogen genomics data for effective public health action. (2022, November 28).
      Research Type: Public Health Research
      Bill and Melinda Gates Foundation Grand Challenges in Global Health, Belgium, Brussels, Gates Open Research
1.   Maguire, Finlay. Jamie Southgate, Rangarirai Matima, Alecia Naidu, Nawaal Weitz, Michael Bridger, Alan Christoffels, PHA4GE Working Group Members. PHA4GE: Improving openness and interoperability in public health bioinformatics. (2022, November 26).
      Research Type: Public Health Research
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