



Michael G. DeGroote
INSTITUTE FOR INFECTIOUS DISEASE RESEARCH



2022

IIDR TRAINEE DAY

Shaping the future of infectious disease research

November 16th, 2022

CIBC Hall MUSC

Forward



Dr. Matthew Miller
Director, IIDR
Associate Professor

It is with tremendous excitement that I welcome you to IIDR Trainee Day 2022! This year marks our return to an in-person event after two years of virtual meetings necessitated by the COVID-19 pandemic. It is a wonderful opportunity for us to reconnect as a community and celebrate the accomplishments of our trainees. Indeed, trainees are the beating heart of our Institute, and this annual event highlights the most important aspects of our mission – to conduct cutting-edge infectious disease research in a world class training environment.

The tagline for this year's Trainee Day is, very aptly, "Shaping the future of infectious disease research". The COVID-19 pandemic has fundamentally shifted the global approach to infectious disease research and prevention. As an Institute who has established national and international leadership in the infectious disease space, it is our responsibility to shape the future of the field to ensure that we are better equipped to prevent and respond to infectious disease threats of the future. Our trainees represent the next generation of leaders who will shape the policies and develop the solutions to realize this ambition. As we will see today, the future is in very good hands! Shaping the future requires that we remember the past. This year it is important that we take a moment to recognize and reflect on the immeasurable contributions that Dr. Gerry Wright has had on building this Institute over the past 15 years as its inaugural Director. It is through Dr. Wright's vision, dedication, and persistence that McMaster has cemented its reputation as a beacon of excellence in infectious disease research. I think it is safe to say that every single person engaged in infectious disease research at McMaster over the past 15+ years has benefited from Dr. Wright's leadership. Indeed, Dr. Wright embodies the quintessential qualities of all great leaders – the ability to inspire and mobilize those around him towards a common goal, the drive to succeed no matter how great the challenge, and most importantly, selfless dedication to those he serves. Indeed, while many can point very directly to ways in which Dr. Wright has elevated their research, he takes greatest pride in those unnoticed actions ("ploughing snow" – as Dr. Wright would say) that clear the road ahead before others ever notice or encounter an obstacle.

Far from stepping back, Dr. Wright has been hard at work enacting his vision to expand McMaster's reputation as an international hub for multi-disciplinary and multi-sectoral leadership in addressing the diverse challenges posed by infectious diseases. As Lead of Canada's Global Nexus for Pandemics and Biological Threats ("Global Nexus"), Dr. Wright quickly recognized the gaps in our preparedness exposed by the COVID-19 pandemic and mobilized an unprecedented, university-wide effort to respond to those challenges by engaging experts from all 6 Faculties, partners in government, public health, and the private sector. Global Nexus presents a wealth of exciting new opportunities for our Institute, and I look forward to working closely with Dr. Wright in this new role to ensure that our collective ambitions are realized.

I would also like to extend my deepest thanks to Dr. Lori Burrows, who generously led the Institute through a very challenging ~1.5 years as Interim Director. Like Dr. Wright, Dr. Burrows leads by example. She is an inspirational and extraordinarily accomplished scientist who has consistently gone out of her way to give back to the scientific community. I am thrilled that Lori will continue to provide leadership to the Institute as Associate Director. I will benefit immensely from her wisdom and experience as I transition into this new role.

On behalf of the entire Institute, it is with great pleasure that I extend a warm welcome to our keynote speaker, Dr. Martha Clokie, Professor of Microbiology at the University of Leicester. Dr. Clokie is an international leader in bacteriophage biology who has made pioneering contributions to the development of phage-based therapeutics. This is a rapidly expanding area with tremendous promise to change the way we treat difficult bacterial infections. We look forward to Dr. Clokie's lecture and to interactions with our trainees, staff, and faculty throughout the day.

One of the most enjoyable aspects of Trainee Day is the recognition of our trainees' accomplishments with a series of prestigious scholarships that have become the pinnacle of achievement within the Institute. It also provides us with a chance to honour and remember Michael Kamin Hart and Michael Kiley. Michael Kamin Hart was an IIDR trainee who passed away in 2011 after a courageous battle with Non-Hodgkin's Lymphoma. During his time in Dr. Justin Nodwell's laboratory, Michael purified and solved the structure of a potent antimicrobial called "13-deoxytetrodecamycin". Michael Kiley was a loving father who lost his battle to a drug-resistant "superbug". We are extraordinarily grateful to both the Hart and Kiley families for their continuing support of our staff and trainees.

My sincere thanks to all of you for joining us today and especially to the organizing committee who has worked for months behind the scenes to make this day possible. Despite the challenges of the past several years, we have much to celebrate!

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Welcome



Dr. Lesley MacNeil

Trainee Day Chair

Associate Professor, Department of Biochemistry and
Biomedical Sciences

As chair of the 12th IIDR Trainee Day, it is my pleasure to welcome you to our annual research symposium. The last two years have been a testament to the need for infectious disease research and a constant reminder of the importance of the work we do here at the IIDR. After two years online, it is fantastic to be meeting in person and I hope that everyone will take some time to catch up with friends and colleagues.

Trainee Day is a celebration of the students, post-doctoral fellows, and staff whose dedication, hard work and creativity drive the success of the IIDR. In recognition of their accomplishments, we are honoured by ongoing support that allows us to recognize the contributions of our trainees through scholarships. We are grateful to the Hart family for their continued support of the Michael Kamin Hart Memorial scholarships, to the Kiley family for the Michael Kiley scholarship in antibiotic resistance, to the estate of Mildred Gulliver for the Mildred Gulliver Post-doctoral award and to the Wright family for the Gerry Wright and Teresa Gubala Post-doctoral award in infection research.

This year's theme "Shaping the future of infectious disease research" reflects the quality of research at the IIDR and highlights our goal of being at the forefront of infectious disease research. We have an exciting lineup of talks and posters, with close to 80 abstracts submitted. As always, our trainees selected a keynote speaker whose work inspires them. This year's speaker, Dr. Martha Clokie is developing new strategies to fight bacterial infection and combat antimicrobial resistance using phage. Her work has led to significant advancements in the use of phage as therapeutics. We are honoured that she made the trip from Leicester, UK to share this exciting work with us.

On behalf of myself and my co-chair Jake Magolan, I would like to thank everyone who contributed to the planning and success of trainee day. Thank you to our student co-chairs, Sommer Chou and Victoria Coles and all of the trainee day ambassadors who volunteered their time over the last six months to make today happen. Thank you to Dr. Lori Burrows, Dr. Matthew Miller, and Dr. Gerry Wright of the IIDR for their support of the event. Thank you to the faculty members, students, and postdoctoral fellows who volunteered to judge posters and talks. I would like to extend a special thanks to Laurel Person Mecca, Project Coordinator for the IIDR, who was instrumental in planning and organizing Trainee Day.

Lastly, thank you to our generous sponsors for their support. Be sure to stop by their tables at lunch!

Thank you all for joining us today,

Lesley MacNeil

Event Program

8:30 - 8:35 a.m.	Welcome & Land Acknowledgment - Dr. Lesley MacNeil
8:35 - 8:45 a.m.	Opening Remarks - Dr. Matthew Miller
8:45 - 8:50 a.m.	Keynote Introduction - Veronica Tran
8:50 - 9:50 a.m.	Keynote Speaker - Prof. Martha Clokie <i>Getting phages closer to clinical development</i>

9:50 - 10:10 a.m. **Coffee Break**

Session 1 Chair: Victoria Coles

10:10 - 10:20 a.m.	Dr. Justin Nodwell introduces the <i>Michael Kamin Hart Memorial Scholarships</i>
10:20 - 10:25 a.m.	Dr. Tracey Campbell introduces the <i>Hart Staff Award</i> recipient Susan McCusker
10:25 - 10:30 a.m.	Dr. John Whitney introduces the <i>Hart Undergraduate Award</i> recipient
10:30 - 10:45 a.m.	Prakhar Shah <i>Type VIIb secretion system toxins require a bipartite molecular signature for export</i>
10:45 - 10:50 a.m.	Dr. Andrew McArthur introduces the <i>Hart MSc Award</i> recipient
10:50 - 11:05 a.m.	Amogelang R. Raphenya <i>Prevalence of drug-metabolizing enzymes in the human gut microbiome</i>
11:05 - 11:10 a.m.	Dr. Matthew Miller introduces the <i>Hart PhD Award</i> recipient
11:10 - 11:25 a.m.	Ali Zhang <i>Genome-wide CRISPR screens using SARS-CoV-2 variants of concern identify host genetic dependencies in human neuronal cells</i>
11:25 - 11:30 a.m.	Dr. Gerry Wright introduces the <i>Michael Kiley Award</i> recipient
11:30 - 11:45 a.m.	Matthew Surette <i>A helicase-like protein protects RNA polymerase from rifamycin antibiotics</i>
11:45 a.m. - 2:00 p.m.	Lunch & Poster
12:00 p.m. - 1:00 p.m.	Poster Session 1 (Even #)
1:00 p.m. - 2:00 p.m.	Poster Session 2 (Odd #)

Event Program

Session 2 Chair: Sommer Chou

- 2:00 - 2:15 p.m. **Veronica Tran (Burrows Lab)**
Pattern of mutations that confer protection to type IV-pilus targeting bacteriophages
- 2:15 - 2:30 p.m. **Ravneet Sidhu (Poinar Lab)**
Convergent deletion of the plasminogen activator (pla) virulence gene in Yersinia pestis and its functional relevance
- 2:30 - 2:45 p.m. **Alexis Chacon (Gillgrass Lab)**
Utilizing humanized mouse models as translational tools for novel TB vaccine testing in clinically relevant scenarios
- 2:45 - 3:00 p.m. **Derek Chan (Burrows Lab)**
Antibiotics hijack FpvB of Pseudomonas aeruginosa to cross the outer membrane
- 3:00 - 3:15 p.m. **Nancy El-Chaar (Surette Lab)**
Identifying colonization resistance activities of the commensal upper respiratory tract microbiota
- 3:15 - 3:30 p.m. **Amal Mathai (Li & Brennan Lab)**
Towards the development of Genomic RNA detection method using SARS-CoV-2 RNA as a model

3:30 - 3:40 a.m. **Coffee Break**

Session 3 Chair: Sommer Chou

- 3:40 - 3:45 p.m. **Dr. Dawn Bowdish** introduces the *Mildred Gulliver Scholarships in Infectious Diseases and Postdoctoral Award* recipient
- 3:45 - 4:00 a.m. **Jessica Breznik**
The COVID-in-LTC Study: Examining vaccine responses in older adults
-
- 4:00 - 4:05 p.m. **Dr. Dawn Bowdish** introduces the *Gerard Wright and Teresa Gubala Postdoctoral Award in Infection Research Award* recipient
- 4:05 - 4:20 p.m. **Candice Quin**
Tet2 mutations drive inflammaging, increasing risk of respiratory infections in older adults
- 4:20 - 4:25 p.m. Closing Remarks - **Dr. Jakob Magolan**

4:30 - 6:30 p.m. Social & Award Ceremony @ Faculty Club, Great Hall

*Presenting the Norgen Biotek Undergraduate Poster Award, the Mildred Gulliver Best Graduate Oral Talk Award, IIDR Awards of Excellence (poster), & raffle prizes!

Keynote

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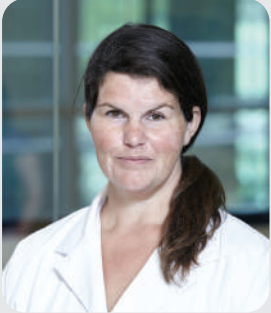
Prof. Martha Clokie

Professor of Microbiology
Department of Genetics and Genome Biology
University of Leicester

Prof. Clokie is an internationally renowned expert in bacteriophage biology with over 100 published papers. Over the last 15 years, she has pioneered studies of developing phages for therapeutic purposes for humans and animals. She has a track record of carrying out the fundamental science needed to use phages in applied settings evidenced by her work on human associated *Clostridium difficile* and *Salmonella* associated with pigs. Much of Prof. Clokie's work uses genomic and structural approaches to identify key traits associated with phage efficacy to clear infection. Her work also incorporates studying phage-bacterial interactions in physiologically relevant models and in animal trials. Her recent publications led to two recent British Research Council awards to design phage products for use in livestock. She has had projects

funded directly by Industry (Enbiotix funded *C. difficile* phage therapeutic programme) and others with close Industry collaborations (eg. ABagri on phages for use in poultry). Prof. Clokie developed and regularly runs a course to teach phage biology to African academics, as part of a Gates funded 'Phages for Global Health' Yale-Leicester collaboration. All of her applied work is rooted in fundamental biology and her early phage research was focussed on understanding how ocean bacteriophages controlled their marine bacterial hosts. Her work paved the way for a new research field which is still very much active, that of determining complex ways that phages interact with their bacterial hosts.

Awards



Susan McCusker | Staff

Susan McCusker joined the CMCB in 2009 as a technician in the cell and protein biology lab and the high throughput screening lab. She has her Master's degree in microbiology from the University of Guelph, where she worked on the bacterium *Mycobacterium paratuberculosis*. Prior to joining the CMCB, Susan worked in the private sector developing diagnostic tests for infectious diseases.



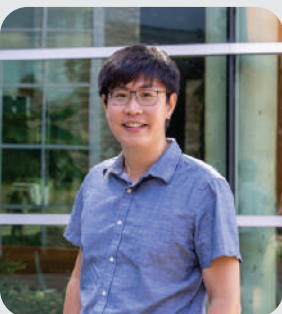
Prakhar Shah | Undergraduate student

Prakhar completed his undergraduate biochemistry studies from McMaster University in 2022 and rejoined the biochemistry department as a graduate student under the supervision of Dr. John Whitney. He hopes to learn more about the type VII secretion system in Gram positive bacteria during his tenure. Outside the lab, he enjoys watching TV and volunteering in STEM initiatives.



Amogelang R. Raphenya | MSc student

Amogelang R. Raphenya is the Lead Software Engineer in Dr. Andrew G. McArthur's laboratory. His master's project involves developing a resource for understanding microbiome drug metabolism in the human microbiome. Amogelang uses software design for analytical tools for drug resistance prediction from genomic data, oversees the central design of CARD, and performs analysis of transcriptome data from laboratories throughout the Faculty of Health Sciences. Amogelang is a rabid squash and soccer player and the father of three.



Ali Zhang | PhD candidate

Ali is an MD/PhD candidate in Dr. Matthew Miller's lab. His primary research project is on combinatorial therapies to prevent and treat influenza virus and SARS-CoV-2 infections. Ali is an editor-in-chief for the McMaster University Medical Journal, and is the McMaster institutional representative for the Clinician Investigator Trainee Association of Canada. Outside of work, Ali enjoys spending his time with his Labrador retriever Rio.

Awards



Matthew Surette | PhD Candidate

Matt Surette completed his BSc. in microbiology at the University of Guelph and is currently a PhD candidate under the supervision of Dr. Wright. His research interests encompass the regulation and biochemistry of antibiotic resistance and how these traits evolved in nature. He'll present the discovery of a broadly distributed enzyme that ejects rifamycin antibiotics bound to their molecular target, RNA polymerase, to confer resistance.



Dr. Jessica Breznik | Postdoctoral fellow

Jessica Breznik holds a postdoctoral fellowship with the McMaster Institute for Research on Aging. Her current research examines SARS-CoV-2 vaccine efficacy and hybrid immunity in older adults. She received her PhD in Medical Sciences in the labs of Dr. Dawn Bowdish and Dr. Deborah Sloboda examining sex differences in obesity-associated chronic inflammation. She has worked for the Population Health Research Institute and the Public Health Agency of Canada.



Dr. Candice Quin | Postdoctoral fellow

Dr. Candice Quin joined the Bowdish lab as a postdoctoral researcher in 2020, after having completed a PhD at the University of British Columbia. Her long-term goal is to provide older adults with as many healthy, independent years of living as possible. Her research focusses on immune impairment with age and how age-associated epigenetic changes impact risk of respiratory infections.

Talks



Veronica Tran | MSc student

Veronica Tran is a master's student in the Burrows lab. She is interested in the use of phages in the treatment of antibiotic resistant infections. Her talk focuses on the mutations that are selected for when *Pseudomonas aeruginosa* is challenged by type IV pilus-targeting phages.



Ravneet Sidhu | PhD candidate

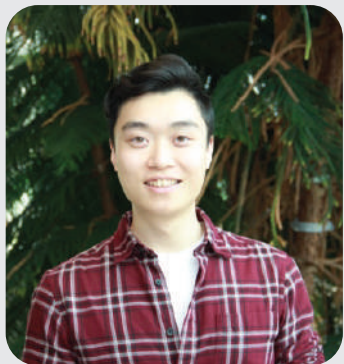
Ravneet is a PhD student in the Department of Biology, working under the supervision of Dr. Hendrik Poinar at the McMaster Ancient DNA Centre. Here she uses ancient DNA from archaeological samples to study the evolution, spread, and persistence of *Yersinia pestis*, the causative bacterium of the Black Death (1346-1352).



Alexis Chacon | MSc student

Alexis is a second-year medical science master's student in the Gillgrass Lab. Her research involves investigating immune responses and novel TB vaccine efficacy in HIV, TB and HIV/TB co-infected humanized mouse models. Outside of the lab, Alexis enjoys photography, hiking, yoga, drawing and hanging out with her cat Klyde!

Talks



Derek Chan | PhD Candidate

Derek completed his BSc at the University of Waterloo in biochemistry (co-op). He joined the Burrows lab in 2018 as a MSc student and transferred to the PhD program. His main research area of interest is identifying and characterizing iron-dependent antimicrobials that target the opportunistic bacterial pathogen *Pseudomonas aeruginosa*.



Nancy El-Chaar | MSc student

Nancy completed her B.Sc. at McMaster, majoring in Life Sciences with a minor in Health and Aging. She is co-supervised by Dr. Michael Surette and Dr. Dawn Bowdish. Her project focuses on the aging-associated changes in the microbiome of the upper respiratory tract, and the consequent influences that increase susceptibility to respiratory diseases in the elderly population.



Amal Mathai | PhD candidate

Amal Mathai completed his BSc in Biology at the University of Toronto. He joined the Li lab as a Master's student under the co-supervision of Dr. Yingfu Li and Dr. John D. Brennan and later decided to pursue his PhD studies there as well. Amal's project focuses on understanding the science behind nucleic acid diagnostic tests and developing simple and cheap biosensors that can detect infectious agents in biological samples.

Posters

1. AARTHI PASUPATHI

MSc

Functional assays for profiling substrate specificity of human microbiome-encoded glycoside hydrolases

2. AMELIA MONTEMARANO

Undergraduate

Investigating the role of microglia in ZIKV-induced neuropathology

3. AMNA ABBAS

Undergraduate

Have we finally found the novel genes responsible for producing novobiocin-inactivating enzymes?

4. ANDREA ALEXEI

MSc

Identification, structure, and enzymatic properties of a monofunctional (p)ppApp hydrolase

5. ANDREW ALEXANDRESCU

Undergraduate

Exploring the use of small molecule inhibitors of *Pseudomonas aeruginosa* biofilm formation as antibiotic adjuvants

6. ANMOL MARWAHA

Undergraduate

Investigating the stimulation of LigD polymerase activity by Ku protein in bacterial non-homologous end joining

7. DR. BIBANJEET GILL

Postdoctoral Fellow

Elucidating metabolic signatures of dysbiosis in the female genital tract

8. CHRISTINE BAGLIO

Undergraduate

Novel factors impacting *Streptomyces* exploratory and classical development

9. DANA SOWA

PhD

Ku is a multi-purpose arm for binding DNA and stimulating LigD ligation

10. DR. DARREN FLYNN-PRIM-ROSE

Postdoctoral Fellow

Products of compartmental models; systematizing simulation construction

11. DENISE CATACUTAN

MSc

Understanding and leveraging bacterial cell physiology in the context of infection

12. DIRK GREBENC

PhD

Structural and functional characterization of DUF4176, a globular family of effector targeting factors for the type VIIb secretion

13. DIRK HACKENBERGER

PhD

Using DNA sequencing as a sepsis diagnostic

14. DOMINIQUE TERTIGAS

MSc

Characterizing the gut microbiome of ulcerative colitis patients using culture-dependent approaches

15. ELIZABETH LACH

MSc

Use of hexafluoroisopropyl sulfamate (HFIPS) for the synthesis of sulfamate- and sulfamide inhibitors of metallo- β -lactamases

16. EMILY FENG

PhD

Type III IFNs regulate disease tolerance during genital HSV-2 infection

17. ENZO BARACUHY

MSc

Elucidating the role of non-replicating particles in oncolytic bovine herpesvirus-1 therapy

18. EVAN SHEPHERDSON

PhD

Cryptic specialized metabolites drive *Streptomyces* exploration and enhance competitive fitness

19. FELIX CROTEAU

PhD

Environmental DNA drives CRISPR adaptation in *S. thermophilus*

20. GARY LIU

MSc

Deep learning driven exploration of synthetically viable antibiotic space

21. GAYATRI NAIR

PhD

Novel bacteriophage stressors

22. GRACE KIM

MSc

Association between the early microbiome and the development of Asthma: Characterization of *Bifidobacterium longum* subsp. infantis

23. GREGORY KORFANTY

PhD

Genotypic, phenotypic, and susceptibility profiles of *Aspergillus fumigatus* populations obtained from soils around the world.

24. HALEY ZUBYK

PhD

EdeM: A remarkable antibiotic biosynthesis enzyme that performs an intramolecular transcarboxylation to make β -serine

Posters

25. HARMAN DEV

Undergraduate

Identifying critical residues for DNA binding in a bacterial helicase involved in double-strand break repair

26. HIVA MESBAHI

PhD

Impact of microbiota on neurodegeneration in *C. elegans* models of tauopathy

27. IKRAM QADERI

MSc

Investigating the functional role of TfpY – a type IV pilin accessory protein

28. JAKE COLAUTTI

PhD

AmpDh3 is not a toxic effector of the type VI secretion system in *Pseudomonas aeruginosa*

29. JALEES NASIR

PhD

Viral fishing expedition: design and application of respiratory virus baits

30. JENNA BENOIT

PhD

Rapid waning and unique response kinetics of humoral and cellular immune responses to SARS-CoV-2 vaccination in patients on immunomodulatory drugs

31. JONATHAN MONTEIRO

Undergraduate

Natural killer cells restrict IL-6-mediated immunopathology during viral infection

32. KARYN MUKIRI

MSc

Predicting the total resistome

33. KATARINA IACOBUCCI

Undergraduate

Using *Saccharomyces boulardii* to express bacterial microcins against adherent-invasive *Escherichia coli* infections in a Crohn's disease model

34. KATHERINE DYKEMA

Undergraduate

Vancomycin kills *Pseudomonas aeruginosa* in iron-limited media

35. KEATON SMITH

Undergraduate

Advancements in curation of the comprehensive antibiotic resistance database

36. KENNETH RACHWALSKI

PhD

A fluorescent reporter screen for cell envelope stress identifies an inhibitor of *E. coli* pro-lipoprotein-diacyl transferase, Lgt

37. KEVIN ZHAO

PhD

Age and TNF cooperate to impair the ability of macrophages to kill *Streptococcus pneumoniae*

38. KRISTI LICHIMO

MSc

Determining the mechanism of the ImuABC translesion DNA synthesis complex

39. LUKE YAEGER

PhD

Metabolic connections between folate and peptidoglycan pathways in *P. aeruginosa* inform the rational design of a dual action inhibitor

40. MADELEINE LEPARD

Staff

A novel HLA-transgenic humanized mouse model of HIV and TB co-infection

41. MADELINE MCCARTHY

PhD

Targeted capture of the genome, mobilome, and resistome of uncultivable clinical bacterial pathogens

42. MATTHEW ZAMBRI

PhD

Streptomyces explorers use both DivIVA and MreB to build their cell wall

43. MAYA GEORGE

MSc

Identifying novel anti-mycobacterial agents via the screening of a prefractionated library

44. MEGHAN PEPLER

PhD

Genetic regulation by ribonuclease in *Streptomyces*

45. MELISSA SPEAGLE

Undergraduate

Investigating a bacterial fitness cost associated with fosfomycin resistance in a nutrient-limited environment

46. MICHAEL D'AGOSTINO

PhD

Development and application of a next-generation single-dose mucosal COVID-19 vaccine

47. MICHAELA HUGHES-BUTLER

Undergraduate

Correlating fungal diversity with metabolite bioactivity in fungi collected from a temperate rainforest

48. DR. MIN XU

Postdoctoral Fellow

A multi-synergy system encoded by a supercluster in Actinobacteria

Posters

49. MONICA WARNER
PhD

Unravelling the role of a DNA helicase in bacterial double-strand break repair

50. MUGDHA DAVE
MSc

Standardization of bacterial pathogen genomic sequencing reporting

51. NATHAN ROBERGE
PhD

Uncovering the mechanism of phage-encoded peptide inhibition of type 4 pilus motor function

52. RABIA FATIMA
PhD

Temperate phage-antibiotic synergy in multi-drug resistant *Pseudomonas aeruginosa*

53. RODION GORDZEVICH
PhD

Three-way natural synergy targets biotin biosynthesis in Gram-negative pathogens

54. DR. SERGEY YEGOROV
Postdoctoral Fellow

Exploring the systemic and mucosal immunogenicity of Sputnik-V, a heterologous adenoviral COVID-19 vaccine

55. DR. SHERIDAN BAKER
Postdoctoral Fellow

Investigating the transmission of *Clostridioides difficile* in Hamilton hospitals

56. SOFYA ERMOLINA
MSc

Determining the role of age-associated inflammation in cognitive decline

57. ELIZABETH BALINT
PhD

Bystander activated CD8+T cells mediate neuropathology during viral infection via antigen-independent cytotoxicity

58. VIDTHIYA JEYANATHAN
Undergraduate

Role of memory alveolar macrophages in host defense against influenza A infection

59. VITHUSHAN SURENDRAN
PhD

Senataxin is involved in generating antibody diversity through class switch recombination in B-cells

60. WA YAN CHOI
Undergraduate

Examination of tissue immune cell composition in TB and HIV/TB co-infected humanized mice

61. WILL MACAULAY
Undergraduate

Antimicrobial Discovery via Myxobacteria Secondary Metabolites

62. DR. XUEFEI CHEN
Postdoctoral Fellow

A microbial natural product fractionation library identifies a cryptic lipopeptide antifungal compound

63. YASAMIN GHASEMI
Undergraduate

Exploring the antibacterial activity of a novel fungal metabolite and its synergistic potential with antibiotics

64. YONA TUGG
MSc

Investigating the role of broadly-neutralizing IgA antibodies in response to influenza A virus infection

65. YUE WANG
PhD

Emerging fungal pathogen: *Candida auris*

66. ZAYNI-DEAN AL-AZAWI
Undergraduate

Coming up purple: a bromophenol blue-based high-throughput antibiotic screen

67. ANDREI BOGZA
Undergraduate

A live-cell imaging model for *Salmonella* infection of macrophages

Thank you —



IIDR Trainee Day 2022 Organizing Committee

Dr. Lesley MacNeil
Chair

Dr. Jakob Magolan
Vice Chair

Laurel Person Mecca
Project Coordinator

Sommer Chou

Victoria Coles

Amirahmad Azhieh

Dominika Boron

Jenna Benoit

Rabia Fatima

Gayatri Nair

Ikram Qaderi

Dominique Tertigas

Veronica Tran

Sponsors



Special thanks to Norgen Biotek for sponsoring
the Norgen Biotek undergraduate award.



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