

2025 Microbiology and Infectious Diseases Research Days

Presented by



UNIVERSITY OF
TORONTO



EPIC

Emerging & Pandemic
Infections Consortium

In collaboration with the Division of Infectious Diseases, Department of Medicine, University of Toronto, the Division of Infectious Diseases at The Hospital for Sick Children, the Institute for Pandemics and U of T's postgraduate medical and clinical microbiology programs.

May 26-27, 2025

WITH SUPPORT FROM

- * **Day 1: Trainee Talks**
Medical Sciences Building, Room 3154, U of T

Day 2: [Keynote & Spotlight Talks and Poster Sessions](#)
Medical Sciences Building, Room 3154 and David Naylor
Student Commons, U of T



*AGENDA FOR DAY 1

EPIC is a collaborative initiative between the University of Toronto and five hospital partners.



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Microbiology and Infectious Diseases Research Days

TRAINEE TALKS - MAY 26, 2025
MEDICAL SCIENCES BUILDING, ROOM NO. 3154

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| 9:00 AM | Registration David Naylor Student Commons, MSB |
| 9:20 AM | Welcome and opening remarks Scott Gray-Owen |
| 9:30 AM | The adamantanyl diamine SQ109 exerts antifungal activity through inhibition of squalene synthase in the fungal pathogen <i>Candida albicans</i> Sara Fallah (PI: Leah Cowen) |
| 9:55 AM | From data providers to data leaders: developing community-led quantitative research capacity using HIV/STI program data in Kenya Nancy Tahmo (PI: Sharmistha Mishra) 2025 EPIC Doctoral Awards recipient |
| 10:20 AM | Systematic functional screening reveals metaeffector regulation of a multifunctional <i>Chlamydia trachomatis</i> effector John MacPherson (PI: Alexander Ensminger) |
| 10:45 AM | Coffee break |
| 11:10 AM | Remodeling the front line: <i>Salmonella</i> exploits host cell membrane dynamics for invasion Hongxian (James) Zhu (PI: John Brumell) 2025 EPIC Future Leaders Prize recipient |
| 11:35 AM | A significant contribution of the classical pathway of complement in SARS-CoV-2 neutralization of convalescent and vaccinated sera Patrick Budykowski (PIs: Mario Ostrowski, Goetz Ehrhardt) 2025 EPIC Future Leaders Prize recipient |
| 12:00 PM | Safety and immunogenicity of adjuvanted subunit respiratory syncytial virus (RSV) vaccination in high-risk transplant recipients Adrian Alexander (PIs: Victor Ferreira, Victoria Hall) |

Microbiology and Infectious Diseases Research Days

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| 12:25 PM | Lunch |
| 1:15 PM | Profiling miRNA changes in Epstein-Barr virus lytic infection identifies a function for BZLF1 in upregulating miRNAs from the DLK1-DIO3 locus Ashley Campbell (PI: Lori Frappier) 2025 EPIC Future Leaders Prize recipient |
| 1:40 PM | Trainee Flash Talks (10 talks, 5 mins each) |
| 2:40 PM | Coffee break |
| 3:00 PM | Clinical characteristics and exposure patterns among individuals evaluated for Mpox disease in Nigeria. Evaezi Okpokoro (PIs: Darrell Tan and Sharmistha Mishra) 2025 EPIC Researcher Mobility Awards recipient |
| 3:25 PM | Mechanism of APOBEC3B relocalization by Epstein-Barr virus BORF2 Farren Clark (PI: Lori Frappier) |
| 3:50 PM | Assessing the health system impact of a potential H5NX influenza pandemic in Ontario, Canada: A microsimulation model Shant Torkom Yeretdzian (PI: Beate Sander) |
| 4:15 PM | Integrative prediction and benchmarking of protein-protein interactions in <i>Plasmodium falciparum</i> gametocytes Khairatun Fatima Binte Yusuff (PI: John Parkinson) |
| 4:40 PM | Closing remarks |

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**TRAINEE FLASH TALKS- MAY 26, 2025, 1:40 - 2:40 PM
MEDICAL SCIENCES BUILDING, ROOM NO. 3154**

Ecological correlates of the gut resistome following antibiotic treatment

Eric Armstrong (PI: Bryan Coburn)

Characterizing pathogenicity differences among *Gardnerella* in the vaginal microbiome

Jhenielle Campbell (PI: William Navarre)

Exploring the metabolism of *Neisseria gonorrhoeae* through genome-scale metabolic modelling

Duncan Carruthers-Lay (PIs: John Parkinson, Scott Gray-Owen)

Investigating the differential vulnerability of microglia and astrocytes to HHV-6A exposure, and the impact of selective infection on neuronal function

Daniela Cobo (PI: Julien Muffat)

Disruption of bacterial biofilms by genetically modified stem cell-derived macrophages

Micheal Litvack (PI: Martin Post)

SLAM - a molecular multipurpose tool for diagnostic innovations

Dixon Ng (PI: Trevor Moraes)

Multi-omics analysis of the maternal gut microbiome reveals functional changes during pregnancy

Grace Parish (PI: John Parkinson)

Therapeutic efficacy of INT131 in an EcoHIV mouse model of HIV-associated neurocognitive impairment

Celene Titus (PI: Reina Bendayan) 2025 EPIC Doctoral Awards recipient

Phylogenetic modeling of seasonal respiratory viruses: Influenza A and respiratory syncytial virus circulated in 2023-24, Ontario, Canada

Xin Wei (PIs: Thomas Braukmann, Venkata R. Duvvuri)

Thank you to our volunteers!

ORGANIZING COMMITTEE

Upton Allen (SickKids ID)
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Sunitha Chari (EPIC)
Natasha Christie-Holmes (EPIC)
Scott Gray-Owen (EPIC)
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Pierre-Philippe Piche-Renaud (SickKids ID)
Anna Waldmann (EPIC TAC)

TRAINEE ADVISORY COMMITTEE

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|-----------------------|-----------------|
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| Sophie Dyzenhaus | Anna Waldmann |
| Mindy Lam | Jacqueline Watt |

ABSTRACT SELECTION COMMITTEE

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WE ALSO THANK THE TALK AND POSTER JUDGES!