

2023 EPIC Symposium

October 17, 2023, Old Mill Toronto

Submitted Posters

*Bold names are presenting authors.

1. Investigating the mechanism of surface lipoproteins translocation via Slam - a type XI secretion system in Gram-negative bacteria
Minh Sang Huynh, Yogesh Hooda, Yuzi (Raina) Li, Maciej Jagielnicki, Christine Chieh-lin Lai and Trevor F Moraes
2. Intranasal immunization of HD-Ad-FS induces robust systemic and airway mucosal immunities against SARS-CoV-2 and variant infection in mice and hamsters.
Peter Zhou, Jacqueline Watt, Juntao Mai, Huibi Cao, Zhijie Li, Rongqi Duan, Ying Quan, Anne-Claude Gingras, James M. Rini, Jim Hu and Jun Liu
3. Transcriptional control of HIV-1 replication.
Jiazhen Jin, Subha Dahal and Alan Cochrane
4. The impact of national income and vaccine hesitancy on country-level COVID-19 vaccine uptake.
Javad Moradpour, Ali Shajarizadeh, Jasmine Carter, Ayman Chit and **Paul Grootendorst**
5. Elucidating mechanisms of susceptibility and resistance to microsporidia in wild isolates of *C. elegans*
Meng Xiao, Yin Chen Wan, Calvin Mok and Aaron W. Reinke
6. Immune kinetics of gonococcal induced pelvic inflammatory disease in mice
Anna Bojagora, Genevieve Mailhot and Scott Gray-Owen
7. Adapting the neisserial type XI translocon, SLAM, as a molecular multitool in antigen production and delivery
Dixon Ng, Natalie YT Au, Christine CC Lai, Sang M Huynh, Quynh Huong Nguyen, Clement Chan, Eshitas A Islam, Jamie E Fegan, Anthony B Schryvers and Trevor F Moraes
8. Evaluating the estimability of within-host disease models
Madeline Jarvis-Cross and Martin Krkosek
9. Inhibition of coronavirus infection by ABO isoagglutinins
Priyal Shah, Beth Binnington, Martin L. Olsson, Jessica Lam and Donald R. Branch
10. Assessment of testes histomorphological changes and spermatogenesis in mice exposed to ART *in utero*
Spencer Brooks, Caroline Dunk, Sarah Sabatinos and Lena Serghides
11. The Kaul Lab: Immune and microbial associations of susceptibility to HIV and other viral infections
Rupert Kaul, Sanja Huibner, Marcio de Carvalho, James Pollock, Diana Yang, Rachel Liu, Jinny Tsang and Eric Armstrong



12. Exploring anti-restriction-like proteins in *Streptomyces* phages
Ethan Solomon, Sarah Kronheim and Karen Maxwell
13. Impact of SARS-CoV-2 infection on the neuropathogenic potential of myelin-primed Th17 cells in animal models of MS
Baweleta Isho, Catherine Chi, Salma Sheikh-Mohamed and Jennifer L. Gommerman
14. A new high-throughput method for mapping viral integration sites
Manisha Kabi and Guillaume J. Fillion
15. Automated quantification of *Nematocida parisii* infection within *Caenorhabditis elegans*
Edward B. James and Aaron W Reinke
16. Unlocking the anti-viral arsenal: Targeting SR kinases as a broad-spectrum anti-viral strategy.
Joshua Yang, Ali Zahedi Amiri, Choudhary Ahmed, Subha Dahal, Xenia Fernandes, Jiazhen Jin and Alan Cochrane
17. Friends and foes of HIV: The impact of host protein incorporation into the viral envelope
Arvin T. Persaud, Jasmin Khela, Deepa Chaphekar, Claire Fernandes, Jonathan Burnie and Christina Guzzo
18. COVID-19, sociodemographic risk, and air pollution: Is air pollution mediating disease spread?
Amanda Norton, Maheen Riaz, Laura Rosella and Matthew Adams
19. Modelling the neuro-inflammation of the spinal cord in a polio-like paralysis, using human immune-competent neural avatars
Hera Mohsin, Jake McNairn, Chaoying Long, Kennedy Barkhouse, Ai Tian, Roseanne Nguyen, David Millar, Alex Rigney, Fatima Naimi, YoungJun Ju, E. Ann Yeh, Yun Li and Julien Muffat
20. Elucidating mechanisms of susceptibility and resistance to pathogens in large panel of wild *C. elegans* isolates
Angcy Xiao and Aaron Reinke
21. Phylodynamic investigation of 2022 Enterovirus D68 outbreaks in Ontario, Canada and Maryland, USA reveals differential transmission dynamics
Martin Grunnill, Alireza Eshaghi, Lambodhar Damodaran, Sandeep Nagra, Adriana Peci, Philip Banh, Sandra Isabel, Thomas Braukmann, Alex Marchand-Austin, Jonathan Gubbay, Jianhong Wu, Samir N. Patel and Venkata R. Duvvuri
22. Understanding the global antiphage defence arsenal of a pandemic foodborne pathogen
Landon J. Getz and Karen L. Maxwell
23. Unveiling hidden gems: A flow virometry screening assay identifies CD38, CD97, and CD278 on HIV particles
Jonathan Burnie, **Claire Fernandes**, **Deepa Subhash Chaphekar**, Arvin T. Persaud, Shubeen Ahmed, Vera A. Tang and Christina Guzzo
24. Exploring the fungal frontier: Mycovirome insights for WHO priority pathogens
Sergei Lenskii, Marc Meneghini and Artem Babaian



25. Systematic functional screening reveals an effector-metaeffector interaction between the multifunctional *Chlamydia trachomatis* effector CpoS and CT214
John MacPherson, Nicole Reinhold-Larsson, Michael Starnbach, Alexei Savchenko, Malene Urbanus and Alexander Ensminger
26. A multi-specific, multi-affinity antibody platform neutralizes sarbecoviruses and confers protection against SARS-CoV-2 *in vivo*
Clare Burn Aschner, Krithika Muthuraman, Iga Kurcharska, Hong Cui, Katherine Prieto, Manoj Nair, Maple Wang, Natasha Christie-Holmes, Betty Poon, Jess Lam, Azmiri Sultana, Rob Kozak, Samira Murbareka, John Rubinstein, Edurne Rujas, Bebhinn Treanor, David Ho, Arif Jetha and Jean-Philippe Julien
27. Immune factors associated with *Mycobacterium tuberculosis* infection outcomes and implications for vaccine development
Jacqueline Watt, Wenxi Xu, Dustin Sokolowski, Ming Li and Jun Liu
28. Ostrowski Lab: T cell-mediated control of viral infection
Mario Ostrowski, Elizabeth Yue, Jun Liu, Vitaliy Matveev, Wan Koh, Patrick Budyłowski, Segen Kidane, Philip Samaan, Joseph Vincent De Fazio, Aideen Teeling, Suji Udayakumar, Annam Imran, Serena Chau, Justin Mendoza, Thomas Morningstar, Mutian Wang and Ellaine Tohan
29. Ultrasound-guided transfection of claudin-5 improves lung endothelial barrier function in lung injury without impairing innate immunity
Rajiv Sanwal, Victoria Mintsopoulos, Mihails Ditmans, Alice Lang, Elyse Latreille, Siavash Ghaffari, Negar Khosraviani, Raffi Karshafian, Howard Leong-Poi, David M Hwang, Laurent Brochard, Alberto Goffi, Arthur S Slutsky and Warren L Lee
30. *P. aeruginosa* upregulate anti-phage defence when in a community
Véronique Taylor and Karen Maxwell
31. Investigating the impact of human herpesvirus 6 on oligodendrocytes and astrocytes in cultures derived from human pluripotent stem cells
Kennedy Barkhouse, Chaoying Long, Hera Mohsin, Jake McNairn, Roseanne Ngyuen, Ai Tian, David Millar, Fatima Naimi, YoungJun Ju, Yun Li and Julien Muffat
32. Unleashing Bayesian magic in the realm of HIV and beyond: Harmonizing batch effects in single-cell transcriptomics
Sarah Salloum and Guillaume Filion
33. Delivery of natural product antimicrobials to priority pathogens by *Streptomyces* extracellular vesicles
Kirsten J. Meyer and Justin R. Nodwell
34. Comprehensive phage annotation using Hidden Markov Models and AI.
Tatiana Lenskaia and Alan Davidson
35. Diet and host genetics control the oncogenic response by pks+ *E. coli* in colon carcinogenesis
Bhupesh Kumar Thakur, Yann Malaise, Saurav Roy Choudhury, Anna Neustaeter, Williams Turpin, Catherine Streutker, Julia Copeland, Erin O.Y. Wong, William W. Navarre, David S. Guttman, Kenneth Croitoru, Christian Jobin and Alberto Martin
36. Estimating indoor airborne concentrations of SARS-CoV-2
Zoe Hoskin, Jeffrey Siegel and Sarah Haines

37. Investigating coronavirus-associated neuropathology using human iPSC-derived cultures of neurons and glia
Jake McNairn, Ai Tian, Roseanne Nguyen, Alex Rigney, Patrick Budyłowski, Erin Stout, Kennedy Barkhouse, Hera Mohsin, Afrin Bhattacharya, Wendy Choi, Miguel Torres-Perez, David Millar, Fumao Sun, Yun Li and Julien Muffat
38. Pneumococcal transmission dynamics in Canada: 2010 to 2019
Alison Simmons, David Fisman, Sarah Buchan and Ashleigh Tuite
39. Characterizing CLK protein domains that confer differential effect on HIV-1 gene expression
Xenia Fernandes, Subha Dahal and Alan Cochrane
40. Comparing the genetic diversity present in Influenza A virus propagated either *in vitro* or *in ovo*
Juliette Blais-Savoie, Emily Chien, Winfield Yim, Lily Yip, Nicole Mideo and Samira Mubareka
41. Assessment of the protective potential of monoclonal antibodies against antigen candidate transferrin binding protein B
Natalie Y.T. Au, Dixon Ng, Epshita Islam, Isaac S. Lee, Gursonika Binopal, David Curran, Jamie Fegan, Anthony B. Schryvers, Scott Gray-Owen and Trevor Moraes
42. Employing a synthetic human gut microbial community to study host gene-microbe interactions in inflammatory bowel disease
Giuliano Bayer, Boyan K Tsankov, Bana Samman, Grace V Visser, Tapas Mukherjee, Elisabeth G Foerster, Shaheed Hakim, Emma Allen-Vercoe and Dana J Philpott
43. The systematic study of *Legionella*: from meta-effectors to phage
Malene Urbanus, Beth Nicholson, Morgan Petersen, John MacPherson, Jordan Lin and Alexander Ensminger
44. Detection of bacterial ADP-heptose by a rare intestinal stem cell population drives epithelial regeneration from Paneth cell de-differentiation
Shawn Goyal, Ojas Singh, Derek K.L. Tsang, Cynthia Guo, Caitlin F. Harrigan, Scott A. Yuzwa, Jeffrey L. Wrana, Dana J. Philpott, Scott Gray-Owen and Stephen E. Girardin
45. An epidemiologic investigation of SARS-CoV-2 infection and COVID-19 outcomes among people living with HIV in Ontario: A doctoral dissertation protocol
Cassandra Freitas, Sarah Buchan, Rahim Moineddin, Ann Burchell for the CHES Study Team
46. A Parasite Odyssey: An RNA virus concealed in *Toxoplasma gondii*
Purav Gupta, Aiden Hiller, Jawad Chowdhury, Declan Lim, Dillon Lim, Artem Babaian, Luke Pereira and Alex Morales
47. The Mubareka Lab: Emerging and respiratory virus research
Sophie Aicher, Andra Banete, Juliette Blais-Savoie, Emily Chien, Juan Corredor, Bryan Griffin, Emily Halajian, Jonathon Kotwa, Yaejin Lee, Kuganya Nirmalarajah, Lily Yip, Winfield Yim and Samira Mubareka