

# UNIVERSITY OF TORONTO

## Microbiology & Infectious Diseases Research Days

Monday, June 3rd, 2019 – Trainee Day (Selected from Abstracts)

Tuesday, June 4th, 2019 – Invited Lectures & Poster Session

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**Talks in Medical Sciences Building, Room 2170**

**Posters & Lunch in Medical Sciences Building,  
Room 2171 (C. David Naylor Student Commons)**

**Website:** <http://microbeto.ca/mid-2019/>

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### Monday, June 3<sup>rd</sup>, 2019

#### **9:30 - 9:40 WELCOME ADDRESS**

##### **9:45 – 10:00: Avid Mohammadi**

Characterizing the impact of penile-vaginal sex on HIV-susceptible CD4<sup>+</sup> T cell subsets in the female genital tract

##### **10:05 - 10:20: Erin O. Y. Wong**

Developing defined microbiota to model inflammation in the mouse gut

##### **10:25 - 10:40: Nora Mellouk**

An ATG16L1-dependent pathway promotes plasma membrane repair and limits *Listeria monocytogenes* cell-to-cell spread

#### **10:45 - 11:15: COFFEE BREAK**

##### **11:20 - 11:35: Jean-Paul R. Soucy**

Joint modelling of resistance to six antimicrobials in urinary *Escherichia coli* isolates in Quebec, Canada

##### **11:40 – 11:55: Sarah Birstonas**

EHEC utilizes two-component systems to modulate expression of major flagellar subunit protein, FliC, in response to host intestinal cues

##### **12:00 - 12:15: Nathaniel Winsor**

NLRP6 regulates the colonic mucus layer during *Tritrichomonas* infection

#### **12:35 – 1:30: LUNCH**

##### **1:35 - 12:50: Samuel Salamun**

Epstein-Barr Virus Protein BMRF1 Modulates Cellular SUMO and DNA Damage Response Pathways by Binding the Cellular NuRD Complex

##### **1:55 - 2:10: Nicola Case**

Elucidating the mechanism of *Candida albicans* morphogenesis in response to phagocytosis by macrophages

##### **2:15 - 2:30: Sarah Kronheim**

A small molecule anti-phage defense mechanism in *Streptomyces*

#### **2.30 - 3:00: COFFEE BREAK**

##### **3:05 - 3:20: Alexandra Willis**

Understanding inherited immunity using a *C. elegans* model of microsporidia infection

##### **3:25 - 3:40: Genevieve Mailhot**

Differentiating between protective and pathogenic neutrophil responses during *Neisseria gonorrhoeae* infection

##### **3:45 – 4:00: Tiffany Fitzpatrick**

Successes of anti-RSV prophylaxis among infants in Ontario: results from a multi-decade, population-based controlled interrupted time series analysis using health administrative data

# Poster Presentations

## 41) Management of Common Intestinal Parasites in Pregnancy: A Systematic Review of Fetal and Neonatal Outcomes

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Parasitic infections in pregnancy necessitate consideration of numerous factors including potential maternal-to-child parasite transmission risk during pregnancy and delivery and potential anti-parasitic drug toxicity to the fetus and development of the newborn. For these considerations, a substantial knowledge gap exists, with no definitive published and authoritative resource to guide clinical decision-making. We aim to map the available literature regarding the efficacy, safety, and tolerability of treatment of intestinal parasites in pregnancy, and synthesize the available literature on specific parasitic infections and anti-parasitic agents. Five electronic databases were searched (Medline, EMBASE, CINAHL, Cochrane Library of Systematic Reviews, and CENTRAL) and titles, abstracts, and full-texts of included studies and reviews were screened from database inception to July 2018, without language restriction. 2479 articles were identified and 1774 articles were retrieved for title, abstract and full-text screening.

Two independent reviewers with a tertiary arbitrator screened all systematic reviews, randomized controlled trials, cohort studies, smaller observational studies, case-control studies, case series, and case reports assessing or reporting the efficacy, safety, or tolerability of anti-parasitic drugs used in management of parasitic infections during pregnancy. Two independent reviewers extracted the data and assessed trial quality using the GRADE approach. Data were summarized using qualitative and quantitative measures for specific parasitic infections as well as efficacy and safety of anti-parasitic agents. Risk of bias for each study was determined.

Preliminary data showed Mebendazole treatment in mothers with soil-transmitted helminth infection had no adverse birth outcomes and may have a protective effect against “very low birth weight” newborns. With increased international travel and migration of migrant and vulnerable populations, it can be expected that health practitioners will be faced with managing parasitic infections in pregnant patients. Currently, quality evidence supporting specific management strategies is limited. Synthesizing the current literature on anti-parasitic agents and treating parasitic infections in pregnancy can translate into multidisciplinary clinical recommendations for improved pregnancy care.