Microbiology & Infectious Diseases Research Days

Monday, June 3rd, 2019 – Trainee Day (Selected from Abstracts)
Tuesday, June 4th, 2019 – Invited Lectures & Poster Session

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/

Monday, June 3rd, 2019

9:30 - 9:40 WELCOME ADDRESS

9:45 – 10:00: Avid Mohammadi
Characterizing the impact of penile-vaginal sex on HIV-susceptible CD4+ 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

51) Nutriome Effects on Host Immunological Control of Protozoal Infections

Emma Hagopian1, Shveta Bhasker1, Ruwandi Kariyawasam2, David Harris1, Priyanka Challa1, Celine Lecce1, Rachel Lau3, Andrea K. Boggild1,2,3,4,5

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Immunologic control of parasitic infections is a combination of humoral and cellular immunity, where genetic factors including host nutritional status underline the host immune response to protozoal infections. Inadequate nutritional status impairs the functioning of the immune system, resulting in increased susceptibility to protozoal infections. We aim to synthesize such knowledge, focusing on the interrelationships between nutrients and immune function. More specifically, we will demonstrate the ways in which nutrient deficiencies such as zinc, iron and vitamin A impact immune response and defence in patients with infectious diseases such as Malaria. Five electronic databases were searched including PubMed, Embase, Medline, Scopus, and LILACS with combinations of search terms such as Parasite* AND (Immunology OR Immunity OR Immune System OR Immune Function OR Immune Impairment OR Immune Response OR Immune Status) from database inception to March 13, 2019. A total of 30 872 articles were retrieved: 15 254 articles on PubMed, 8192 on Embase, 5909 on Medline, 1411 on Scopus, and 106 on LILACS. After eliminating duplicates using Mendeley software, a total of 21 821 articles remained for title screening. Titles, abstracts, and full-text articles will be systematically double screened by two reviewers with a tertiary arbitrator. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) will be implemented. Data extraction will be performed by two reviewers and the quality of the articles will be critically evaluated using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. The data will be summarized to systematically map published literature that will illuminate a number of ways in which nutrient deficiencies alter and impair immune function in patients with protozoal infections. This synthesized body of information will ultimately inform therapeutic decisions in the context of protozoal infections and will aim to improve patient prognosis.