Lunenfeld-Tanenbaum Research Institute
Sinai Health System

UNIVERSITY OF TORONTO

Principal Investigator Candidate Seminar Series For Data Science and Health Research

Dr. Robyn S. Lee

Department of Epidemiology
Center for Communicable Disease Dynamics
Harvard T.H. Chan School of Public Health

Title:

Data Science and Infectious Disease: From Outbreaks to Antimicrobial Resistance

Thursday December 20th, 2018 @10:30a.m

Location: Level 3 Cooper Centre
60 Murray Street, 3rd floor

Host Dr. Shelley Bull

Dr. Robyn Lee is currently a Postdoctoral Research Fellow in the Center for Communicable Disease Dynamics at the Harvard T.H. Chan School of Public Health, where she is investigating how within-host diversity, which is often overlooked using routine sequencing approaches used by public health, may be used to increase resolution of transmission.

Dr. Lee has a clinical background in Intensive Care nursing and holds a PhD in Epidemiology from McGill. During her PhD, she used whole genome sequencing (WGS) in conjunction with clinical and epidemiological data to resolve tuberculosis transmission in the Canadian Arctic. Her work on TB helped guide regional public health interventions and challenged the dogma that strain-related factors drive transmission, instead suggesting that social and environmental were mediating the epidemiological success of TB in the North. Following her PhD, Dr. Lee completed a Postdoctoral Fellowship in Bioinformatics at the Microbiological Diagnostic Unit Public Health Laboratory (MDU-PHL) at the University of Melbourne (Australia). While at the MDU, she led population-level studies on *Neisseria gonorrhoeae* as well as VRE, and served as the Lead Bioinformatician for a multi-centre study examining the feasibility of WGS for surveillance of multi-drug resistant organisms in Melbourne hospitals. Her postdoctoral work has provided valuable insight into the antimicrobial resistance mechanisms and transmission of these clinically-relevant pathogens.

Dr. Lee's primary research interest is on the application of genomics to infectious disease. Using data science skills, her future research program will integrate genomics with epidemiology and bioinformatics in order to investigate infectious disease transmission and antimicrobial resistance, with the aim of informing clinical and public health interventions.