**CANSSI Saskatchewan**

**Health Science Collaborating Centre**

**Winter 2022 Webinar Series**

**Thursday, March 17**

**10 – 11 am CST**

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Bayesian parameter inference and model selection for

COVID-19 transmission models

**ABSTRACT**

Nonlinear ordinary differential equations (ODEs) are used in a wide range of scientific problems to model complex dynamic systems. For example, many transmission models have been proposed and adapted to reflect changes in policy for mitigating the spread of COVID-19. These transmission models often contain unknown parameters that are of scientific interest, which have to be estimated from noisy measurements of the dynamic system. Generally, there is no closed-form solution for nonlinear ODEs, and the likelihood surface for the parameter of interest is multi-modal and very sensitive to different parameter values. In this talk, I will introduce our annealed sequential Monte Carlo method to conduct Bayesian inference for parameters in COVID-19 transmission models and Bayesian model selection.

***Registration link:***

<https://usask-ca.zoom.us/meeting/register/tJYvdeyspzMtHN1bJhpX-m4IAb-myEVFUhVM>

*Everyone is welcome!*