PIMS LUNCHBOX LECTURE
ROB DEARDON

3 May, 2016
12:00 pm
Downtown Campus, University of Calgary

BAYESIAN STUDY DESIGN FOR NONLINEAR SYSTEMS: AN ANIMAL DISEASE TRANSMISSION EXPERIMENT CASE STUDY

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Experimental design is a branch of statistics focused upon designing experimental studies in a way that maximizes the amount of salient information produced by the experiment. It is a topic which has been well studied in the context of linear systems. However, many physical, biological, economic, financial and engineering systems of interest are inherently non-linear in nature. Experimental design for non-linear models is complicated by the fact that the optimal design depends upon the parameters that we are using the experiment to estimate. A Bayesian, often simulation-based, framework is a natural setting for such design problems. We will illustrate the use of such a framework by considering the design of an animal disease transmission experiment where the underlying goal is to identify some characteristics of the disease dynamics (e.g. a vaccine effect, or the infectious period).

WEBSITE & REGISTRATION: www.pims.math.ca/industrial-event/160429-pllrd
(A light lunch will be provided. Please RSVP)

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