

Department of Applied and Computational Mathematics and Statistics Colloquium



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Structural identifiability, differential algebra, and model theory

This is a kind of application of model theory (in mathematical logic) to problems around theoretical mathematical biology and related areas. Via "compartmental models", there exist standard ODE systems which model many real processes. These systems involve some real or complex parameters which one would like to determine from the observed input and output data. I will discuss various obstructions as well as positive solutions to this program. And also, if time permits, I will discuss the issue of reparametrization, where a system is replaced by an equivalent one in which the parameters are suitably identified. I will focus on the qualitative rather than algorithmic aspects of the results.

Mon, Jan 22, 2024

3:45 - 4:45 PM

127 Hayes-Healy Center

Colloquium Tea - 3:15 PM in 101A Crowley Hall