

Seminar

Prof. Gabriel Lord

Radboud University, Netherlands

Topic

Methods for Domain Preservation in Stochastic Systems

Date | Time

29 July 2024 (Monday) | 10:30 am – 11:30 am (HK Time)

Venue:

TU817

Abstract:

Many stochastic (partial) differential equations that arise in mathematical biology preserve positivity (eg concentrations should be positive) or solutions should lie in a certain domain (eg $[0, 1]$ for stochastic gating variables). The question then arises how to preserve these domains in a numerical simulation. We develop a numerical method based on exponential integrators that naturally preserve such domains and discuss convergence and efficiency. This work is joint with Utku Erdogan.