

**Speaker:** Samuel Livingstone (University College London)

**Date:** 17/10/2023 at 13:15 (1 West 2.03)

**Title:** Some advances and applications of robust gradient-based Markov chain Monte Carlo

**Abstract:**

I will discuss some recent work on gradient-based Markov chain Monte Carlo. At their best gradient-based algorithms are often state-of-the-art, but they can also behave erratically in various ways. In the first part of the talk I'll introduce a gradient-based scheme called the Barker proposal that can often match the performance of competitors such as MALA and HMC but is probably more robust. I will in particular highlight the benefits this brings in the context of adaptive MCMC. If time permits, in the second part of the talk I will talk about ongoing work using MCMC for automatic model selection in poly-hazard models. The first part is joint work with Giacomo Zanella, Jure Vogrinc & Max Hird, the second is joint with Luke Hardcastle and Gianluca Baio.