



Probability Seminar

Title: Geometry and topology of smooth Gaussian fields

Speaker: Michael McAuley (Technological University Dublin)

Date: Wed 16th April 2025 at 2:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: Gaussian fields arise in a variety of contexts in both pure and applied mathematics. While their geometric properties are well understood, their topological features pose deeper mathematical challenges. In this talk, I will begin by highlighting some motivating examples from different domains. I will then outline the classical theory that describes the geometric behaviour of Gaussian fields, before turning to more recent developments aimed at understanding their topology. The talk is intended for a general mathematical audience: no prior knowledge of Gaussian fields will be assumed.