THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PROBABILITY

Gaussian limits for polynomial chaos and 2d directed polymers

By

Dr. Francesca COTTINI

University of Luxembourg and
National University of Singapore

Abstract

We will present a general and novel criterion, based only on second moment assumptions, to show the convergence towards a Gaussian limit for polynomial chaos, i.e. multilinear polynomials of independent random variables. This result is motivated by the study of 2d directed polymers and of the related 2d Stochastic Heat Equation, for which many convergence results were proved in recent years. Our criterion allows us to recover these results in a simpler way and, furthermore, to obtain novel Gaussian limits for the partition function of directed polymers under the subcritical regime and slightly beyond, too.

Date: 1 February 2024 (Thursday)

Time: 5:00pm

Venue: Room 4472 (Lifts 25/26)

All are Welcome!