

Limit theorems: from Lindeberg principle to SPDEs

Venue/	Time/
Room 505, Cosmology Building, NTU	4/02 (Wed.) 14:00 - 15:00, 15:30 - 16:30,
	4/08 (Tue.) 15:30 - 17:30,
	4/16 (Wed.) 14:00 - 15:00, 15:30 - 16:30,
	4/23 (Wed.) 14:00 - 15:00, 15:30 - 16:30.

Speaker

Nikolaos Zygouras University of Warwick

Organizer

Jhih-Huang Li National Taiwan University

Introduction & Purposes

This is a mini course that aims at an audience of advanced undergraduate and graduate students as well as to researchers in probability, analysis and beyond. We will start with the robust method of the Lindeberg principle, which was originally used to prove the standard central limit theorem. We will then lift the Lindeberg principle to a setting of more complicated random objects such as multilinear polynomials and Wiener chaoses. The latter are intimately connected with recent developments in Stochastic PDEs and disordered systems and we will demonstrate how the Lindeberg principle can be used to obtain scaling limits of such models. We will then move into nonlinear settings where chaos expansions are replaced by tree structures via the so called Butcher series. Relations to singular SPDEs will also be discussed.

Prerequisite

Introduction to Probability Theory

Contact Murphy Yu (murphyyu@ncts.tw)

