



Departmental PhD Thesis Exam

Wednesday, June 19th, 2023 at 11:00 a.m. (sharp)
via Zoom / BA6183

PhD Candidate : David Pechersky

Supervisor : Ilia Binder

Thesis title : Discrete Complex Analysis and Convergence of Observables on
Orthodiagonal Maps



Abstract

Discrete complex analysis is the study of discrete holomorphic functions. These are functions defined on graphs embedded in the plane that satisfy some discrete analogue of the Cauchy-Riemann equations. While the subject is classical, it has seen a resurgence in the past 20-30 years with the work of Kenyon, Mercat, Smirnov, and many others demonstrating the power of discrete complex analysis as a tool for understanding 2D statistical physics at criticality.

In this talk, we'll discuss how discrete complex analysis can be applied to solve a purely deterministic problem for a very general class of discretizations of 2D space accommodating a notion of discrete complex analysis.