



SPRING SEMESTER 2015

Minerva Foundation Lectures



Wendelin Werner
(ETH Zurich)

“Critical phenomena within (random) planar carpets”

Abstract: This series of two lectures will be a survey of some recent developments concerning some natural two-dimensional fractals (that bear some similarities with the Sierpinski carpets) called Conformal Loop Ensembles and more specifically how to understand and describe a process that can be interpreted as critical phenomena within these carpets. This exhibits a notion of conformal invariance within such domains, even if their fractal dimension is strictly smaller than two. Part of these lectures will be based on joint work with Jason Miller and Scott Sheffield.

“A simple graph-valued Markov processes and renormalization”

Abstract: We describe a simple graph-valued Markov process and will explain how it can provide an elementary approach to some renormalization group ideas and questions. In particular, a (small) perturbation of the conjectured continuous scaling limits of critical models appear as stationary distributions for these Markov chains. We also point out how to relate this approach to some of the known results concerning scaling limits for some two dimensional models (the relation to uniform spanning tree is joint work with Stéphane Benoist and Laure Dumaz).

Time and location:

Wednesday April 8, 4:30-6:00pm, 417 Math

Thursday April 9, 5:40-7:00pm, 520 Math

Friday April 10, 11:00am-12:00pm, 520 Math

Tea will be served at 4:00 pm in the Department of Mathematics Rm 508, 2990 Broadway (at 117th Street)