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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Probability Seminar

Title : On breadth-first constructions of scaling limits of random graphs and random unicellular maps

Speaker : Sanchayan Sen, Indian Institute of Science, Bangalore

Date : Wednesday, September 19, 2018

Time : 2:15 PM

Venue : Feynman Lecture Hall, ICTS Campus, Bangalore

Abstract : Consider the scaling limits of (i) uniform connected graphs with a given surplus, and (ii) random unicellular maps of a given genus. We give alternate constructions of these scaling limits that start with suitably tilted Brownian continuum random trees and make ‘horizontal’ point identifications, at random heights, using the local time measures. Consequently, these constructions can be seen as continuum analogues of the breadth-first construction of a finite connected graph. In particular, this gives a breadth-first construction of the scaling limit of the critical Erdos-Renyi random graph, which answers a question posed by Addario-Berry, Broutin, and Goldschmidt. Based on joint work with Gregory Miermont.