

**Stanford University**  
**Departments of Mathematics and Statistics**

PROBABILITY SEMINAR

4pm, Monday, March 2, 2020  
Sequoia Hall Room 200

Refreshments served at 3:30pm in the Lounge.

**Speaker:** Shirshendu Ganguly, *UC Berkeley*

**Title:** **Fractal geometry in models of random growth**

**Abstract:**

In last-passage percolation models lying in the Kardar–Parisi–Zhang (KPZ) universality class, geodesics are oriented paths moving through random noise accruing maximum weight. Varying the endpoints of such geodesics gives rise to a random energy field which under proper scaling and centering has been conjectured to converge to a random function termed as the Space-Time Airy sheet. The latter object has been constructed recently as a limit for one particular integrable model in the KPZ universality class. Reporting recent progress in our understanding of this rich universal object, we will discuss results about the coupling structure of the geodesic energy as the endpoints are varied, exhibiting random fractal geometry, via an understanding of coalescence of geodesics, and Brownian regularity properties of the energy profiles.