

The Directed Landscape in Half-Space

Lingfu Zhang

A central object in the KPZ universality class is the directed landscape, a random directed metric on \mathbb{R}^2 . It serves as the 1:2:3 universal scaling limit of planar random metrics generated by i.i.d. random weights. In this talk, I will present a joint work with Duncan Dauvergne on the half-space setting, where a boundary is present. We construct a family of half-space directed landscapes, indexed by a boundary parameter, and prove that these arise as scaling limits of two discrete models: half-space exponential last-passage percolation and half-space colored TASEP. Key ingredients in our proof include joint stationary measures, moderate deviation bounds, and a characterization based on half-space TASEP formulas recently derived by Xincheng Zhang.