



Mathematics and CS Seminar

The oriented swap process and last passage percolation

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In the oriented swap process, N ordered particles perform adjacent swaps at random times until they reach the reverse configuration. The last passage percolation model encodes the maximal time spent travelling along directed lattice paths in a random environment. We present new exact distributional identities connecting these two models. In particular, the absorbing time of the oriented swap process has the same law as the point-to-line last passage percolation. They both converge, under an appropriate scaling limit as the size of the system grows, to the GOE Tracy-Widom distribution from random matrix theory. Three celebrated combinatorial bijections will make an appearance: the RSK, Burge, and Edelman-Greene correspondences.

Tuesday, October 6, 2020 04:30pm - 05:15pm

TU Wien - EI 3 Sahulka HS, Gußhausstraße 25-29 (2nd floor)



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