

# Sebastian Zaninovich (UBA): GUE Fluctuations Near the Axis in One-Sided Ballistic Deposition

## **Abstract:**

Ballistic deposition is an interface growth model in  $1 + 1$ -dimensions where blocks fall at each site of  $\mathbb{Z}$  and stick at the first place of contact with the surface they form. It is conjectured to belong to the KPZ universality class, but it remains mostly mathematically intractable.

In this talk we introduce the one-sided ballistic deposition model where the blocks that fall only attach to their left side. Our main result is that it has GUE Tracy-Widom fluctuations when the spatial coordinate is near the origin. The proof is based on a graphical construction of the process in terms of a directed Last Passage Percolation model. Using this graphical construction, we define the notion of geodesics for the height function and show that, in the same regime, the wandering exponent governing the transversal fluctuations of these geodesics is  $2/3$ .