Complete Localisation in the Bouchaud-Anderson Model

SPEAKER: Renato dos Santos, NYU Shanghai
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ABSTRACT

The Bouchaud-Anderson model (BAM) is a variant of the parabolic Anderson model (PAM) on the lattice $\mathbb{Z}^d$, obtained by substituting the Laplacian with the generator of a Bouchaud trap model. Two sources of randomness enter in the definition: a random potential and a random trapping landscape, which can be interpreted as local fitness and stability in an underlying population model. We consider potentials with doubly-exponential tails and traps with general unbounded distribution. We show that, in sharp contrast to the behaviour of the PAM, the positive solution to the BAM asymptotically localises with large probability on a single site. Joint work with Stephen Muirhead and Richard Pymar.

BIOGRAPHY

Renato S. dos Santos is a Visiting Assistant Professor at NYU Shanghai. Prior to that, he was a Postdoc at the Weierstrass Institute in the group of Wolfgang König. His research is concentrated on the subject of random motions in random media. He obtained his Ph.D. at Leiden University under the supervision of Frank den Hollander, and was also a Postdoc at the University of Lyon 1 under Nadine Guillotin-Plantard and Christophe Sabot.