Thick Points of Random Walk and Multiplicative Chaos

SPEAKER: Antoine Jego, University of Vienna
TIME: 1:45 -2:45 pm, Tuesday, November 26, 2019
VENUE: Room 310, Pudong Campus, 1555 Century Avenue
(上海纽约大学310教室, 上海市浦东新区世纪大道1555号)

ABSTRACT
The study of thick points of planar random walk, where the walk goes back unusually often, goes back to a famous paper of Erdos and Taylor in 1960. This talk will be dedicated to recent progress on this topic. I will in particular discuss the scaling limit of the set of thick points, considerably refining estimates of Dembo, Peres, Rosen and Zeitouni. This scaling limit is described by a random measure which is the analogue of Gaussian multiplicative chaos measures for the local times of planar Brownian motion. I will discuss the construction of this new object and some of its properties. Finally, I will explain a characterisation of this random measure which is a key step in the proof of the above scaling limit.

BIOGRAPHY
I am a PhD student at the university of Vienna under the supervision of Nathanael Berestycki. I did my studies at the Ecole Normale Superieure in Paris.