מכון ויצמן למדע

THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Geometric Functional Analysis and Probability Seminar

Room 155 ,Ziskind Building
on Thursday, Apr 11, 2019
at 13:30

Lisa Hartung
Mainz

From 1 to 6 in branching Brownian motion

Abstract:

Brownian motion is a classical process in probability theory belonging to the class of "Log-correlated random fields". It is well known do to Bramson that the order of the maximum has a different logarithmic correction as the corresponding independent setting.
In this talk we look at a version of branching Brownian motion where we slightly vary the diffusion parameter in a way that, when looking at the order of the maximum, we can smoothly interpolate between the logarithmic correction for independent random variables ($\frac{1}{2\sqrt 2}\ln(t)$) and the logarithmic correction of BBM ($\frac{3}{2\sqrt 2}\ln(t)$) and the logarithmic correction of 2-speed BBM with increasing variances ($\frac{6}{2\sqrt 2}\ln(t)$). We also establish in all cases the asymptotic law of the maximum and characterise the extremal process, which turns out to coincide essentially with that of standard BBM. We will see that the key to the above results is a precise understanding of the entropic repulsion experienced by an extremal particle. (joint work with A. Bovier)