

Date: 2020.9.10. 9:00-10:00 (Beijing time)

Tencent meeting: 606 1859 8357

Zoom: 676 976 69137 (psw 123456)

Speaker: Hui He (Beijing Normal University)

Title: Branching Brownian motion conditioned on small maximum

Abstract: We consider a standard binary branching Brownian motion on the real line. It is known that the maximal position M_t occupied by a particle at time t , centered by $m_t = \sqrt{2}t - \frac{3}{2\sqrt{2}} \log t$ converges in law toward a randomly shifted Gumbel distribution. Derrida and Shi (2017, Journal of Physics A: Mathematical and Theoretical) conjectured the precise asymptotic behavior of the corresponding lower deviation probability $\mathbb{P}(M_t \leq c\sqrt{2}t)$ for $c < 1$. We verify their conjecture and additional information on the branching Brownian motion conditioned on having a small maximum. This talk is based joint works with Xinxin Chen and Bastien Mallein.