



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY
Department of Mathematics

MATHEMATICS COLLOQUIUM

Breaking the Brownian Chain: time and place

By

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Abstract

We investigate the behaviour of a finite chain of Brownian particles, interacting through a pairwise linear force, with one end of the chain fixed and the other end pulled away at slow speed, in the limit of slow speed and small Brownian noise.

We study the instant when the chain "breaks", that is, the distance between two neighbouring particles becomes larger than a certain threshold. There are three different regimes depending on the relation between the speed of pulling and the Brownian noise. We provide weak limit theorems for the break time and the break position for each regime.

This is a joint work with F.Aurzada and V.Betz from Darmstadt TU, Germany.

Date : 3 August 2022 (Wednesday)

Time : 3:00pm

Venue : Lecture Theater G (near Lifts 25/26)

Zoom Link : <https://hkust.zoom.us/j/94416312281>

Meeting ID : 944 1631 2281

Passcode : 719252

(Host Faculty : Prof. Shiqing LING)

All Are Welcome!