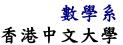**Department of Mathematics**
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Analysis Seminar

A Topological Version of the Furstenberg-Kesten Theorem

Professor Ai-Hua Fan
Huazhong Normal University & Université de Picardie

Abstract: The Lyapunov exponent of random products of non-negative matrices exists almost surely by the Furstenberg-Kesten theorem. But the Furstenberg-Kesten theorem tells us nothing about a given sample of matrices. We find conditions to ensure the existence of Lyapunov exponent for EVERY generic choice of matrices. If one of the matrices from which we select our matrices is of rank one, there is a closed formula for the Lyapunov exponent. Applications are given to the multifractal analysis of weighted Birkhoff averages. This is a joint work with Meng Wu.

Date: Friday, 5 May 2023
Time: 10:30 a.m. – 11:30 a.m.
Venue: Rm 222, Lady Shaw Building,
         The Chinese University of Hong Kong, Shatin

All are Welcome!