

Department of Mathematics, BGU

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# BGU Probability and Ergodic Theory (PET) seminar

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On Thursday, July, 18 2024

At 11:10 – 12:00

In 101-

Adam Dor-On (Hafia University)

will talk about

## **Space-time Martin boundary and ratio-limit boundaries**

Abstract: Ratio-limit boundaries were first studied for their applications to Toeplitz  $C$ -algebras of random walk, but are also interesting in their own right for measuring new types of behavior at infinity. For the purpose of describing Toeplitz  $C$ -algebras of random walks, new boundaries need to be identified in more precise terms. One such boundary is the so-called space-time Martin boundary, as studied by Lalley for random walks on the free group.

In this talk we will discuss ratio-limit boundaries and some work in progress on space-time Martin boundaries of random walks on discrete groups. The space-time Martin boundary is related to the notion of stability studied by Picardello and Woess, which elucidates potential descriptions of the space-time Martin boundaries for random walks on  $\mathbb{Z}^d$  and on hyperbolic groups.