

Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, May, 16 2024*

At *11:10 – 12:00*

In *101-*

Omri Sarig (Weizmann Institute of Science)

will talk about

Equidistribution of Discrepancy Sequences (Joint with Dolgopyat)

Abstract: Let α be an irrational number and let J be a sub interval of $[0,1]$. The discrepancy sequence of J is $D(N)$, where

$$D(N) := \left| \frac{\text{the number of visits of } n\alpha \bmod 1 \text{ to } J \text{ for } 1 < n < N}{N} - |J| \right|$$

Weyl's Equidistribution Theorem says that $D(N) = o(N)$. But this sequence is not necessarily bounded.

I will characterize the irrationals α of bounded type, for which the discrepancy sequence of the interval $[0,1/2]$ is equidistributed on $(1/2)\mathbb{Z}$. This is joint work with Dima Dolgopyat.