

Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On Thursday, November ,6 2025

At 11:10 – 12:00

In 101-

Itay Glazer (Technion)

will talk about

Small ball estimates and mixing for word maps on unitary groups

Abstract: Let $w(x,y)$ be a word in a free group. For any group G , w induces a word map $w:G^2 \rightarrow G$. For example, the commutator word $w=xyx^{-1}y^{-1}$ induces the commutator map. In the setting of finite simple groups, Larsen, Shalev and Tiep showed there exists $\epsilon(w)>0$ (depending only on the word w), such that for all sufficiently large G , the probability that a random pair (g_1, g_2) in G^2 satisfies $w(g_1, g_2)=g$ is smaller than $|G|^{-\epsilon(w)}$. They further obtained uniform upper bounds on the L^1 - and L^∞ -mixing times for the random walks induced by the corresponding word measures.

I will discuss analogous results for the family of unitary groups in all ranks.