Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Nov ,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−>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 unfiorm upper bounds on the L^1- and L^infty-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.