

Department of Mathematics, BGU

Colloquium

On Tuesday, January ,20 2026

At 14:30 – 15:30

In Math 101-

Itay Glazer (Technion)

will talk about

Mixing of conjugacy classes and character estimates

Abstract: In ,1981 Diaconis and Shahshahani showed that roughly $n \cdot \log(n)$ random transpositions are required to mix a deck of n cards (namely, to produce an approximately random permutation in S_n). In their work, they translated this problem into a question in the representation theory of the symmetric group S_n , about bounding the values of irreducible characters at a transposition $t = (i\ j)$. In this talk, I will explain how this perspective extends far beyond card shuffling; For a finite or compact group G , one can ask how quickly repeated multiplication by a fixed conjugacy class becomes uniformly distributed, and how this problem is controlled by general character estimates. I will describe this general framework, survey some known results, and discuss recent progress on character bounds in unitary groups. Based on a joint work (in progress) with Nir Avni, Peter Keevash and Noam Lifshitz and on a work with Nir Avni and Michael Larsen (arXiv:2402.11108).