Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, March ,16 2023*

At *11:10 − 12:00*

In *101-*

Noam Kolodner (Tel Aviv University)

will talk about

A representation of Out(Fn) by counting subwords of cyclic words

Abstract: We generalize the combinatorial approaches of Rapaport and Higgins–Lyndon to the Whitehead algorithm. We show that for every automorphism φ of a free group F and every word u∈F there exists a finite multiset of words Su,φ satisfying the following property: For every cyclic word w, the number of times u appears as a subword of φ(w) depends only on the appearances of words in Su,φ as subwords of w. We use this fact to construct a faitfhul representation of Out(Fn) on an inverse limit of Z-modules, so that each automorphism is represented by sequence of finite rectangular matrices, which can be seen as successively better approximations of the automorphism.