Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, October ,31 2019*

At *11:10 – 12:00*

In *101-*

Barak Weiss (Tel-Aviv University)

will talk about

Geometric invariants of lattices and points close to a line, and their asymptotics

Abstract: Given a lattice Λ and a (perhaps long) vector $v \in \Lambda$, we consider two geometric quantities: - the projection Δ of Λ along the line through v - the "lfit functional" which encodes how one can recover Λ from the projection Δ Fixing Λ and taking some infinite sequences of vectors v_n, we identfiy the asymptotic distribution of these two quantities. For example, for a.e. line L, fi v_n is the sequence of ϵ-approximants to L then the sequence $\Delta(v_n)$ equidistributes according to Haar measure, and fi v'_n is the sequence of best approximants to L then there is another measure which $\Delta(v'_n)$ equidistributes according to. The basic tool is a cross section for a diagonal flow on the space of lattices, and after some analysis of this cross section, the results follow from the Birkhoff pointwise ergodic theorem.

Joint work with Uri Shapira.