Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, May ,30 2024*

At *11:10 − 12:00*

In *101-*

Lior Tenenbaum (Technion)

will talk about

Periodic approximation of substitution subshfits

Abstract: In studying higher dimensional Schrödinger operators of quasicrystals, one is lead to find suitable periodic approximations. This means in particular that the spectrum converges as a set to the limiting spectrum. It turns out that for this to hold, the convergence of the underlying dynamical systems is exactly what is needed. This is the starting point of the present talk.

We focus on aperiodic subshfits defined through symbolic substitutions. These substitution subshfits provide models of aperiodic ordered systems. We find natural sequence candidate of subshfits to approximate the aforementioned substitution subshfit. We characterize when these sequences converge, and fi so at what asymptotic rate. Some well-known examples of substitution subshfits are discussed during the talk. We will also discuss the motivation for this characterization, arising from an attempt to study higher dimensional quasi-crystals. This is based on a Joint work with Ram Band, Siegfried Beckus and Felix Pogorzelski.