

Department of Mathematics, BGU

Probability and ergodic theory (PET)

On Tuesday, May 23 2017

At 10:50 – 12:00

In Math 101-

Sebastián Donoso (University of O’ Higgins)

will talk about

Quantitative multiple recurrence for two and three transformations.

Abstract: In this talk I will provide some counter-examples for quantitative multiple recurrence problems for systems with more than one transformation. For instance, I will show that there exists an ergodic system $(X, \mathcal{X}, \mu, T_1, T_2)$ with two commuting transformations such that for every $\ell < 4$ there exists $A \in \mathcal{X}$ such that $\mu(A \cap T_1^n A \cap T_2^n A) < \mu(A)^\ell$ for every $n \in \mathbb{N}$. The construction of such a system is based on the study of “big” subsets of \mathbb{N}^2 and \mathbb{N}^3 satisfying combinatorial properties.

This a joint work with Wenbo Sun.