

Department of Mathematics, BGU

Probability and ergodic theory (PET)

On Tuesday, January, 17 2017

At 10:50 – 12:00

In Math 101-

Tom Meyerovitch

will talk about

Entropy, Asymptotic pairs and Pseudo-Orbit Tracing for actions of amenable groups

Abstract: Chung and Li [Invent. Math. [2015 proved that for every expansive action of a countable polycyclic-by-finite group Γ on a compact group X by continuous group automorphisms, positive entropy implies the existence of non-diagonal asymptotic pairs. In the same paper they asked if this holds in general for an expansive action of a countable amenable group Γ on a compact space X .

In my talk I plan to explain the notions involved Chung and Li's question and discuss a property of dynamical systems called the "pseudo-orbit tracing property". R. Bowen introduced the pseudo-orbit tracing property in the 1970's for \mathbb{Z} -actions while studying Axiom A maps. I will prove that Chung and Li's question has an affirmative answer if one also assumes pseudo-orbit tracing, and explain implications for algebraic actions (automorphisms of compact abelian groups).

I will also explain why the answer to Chung and Li's question is negative if one doesn't assume the pseudo-orbit tracing property, even when the acting group is \mathbb{Z} , or when the action is algebraic (but not both).