

Department of Mathematics, BGU

Geometry and Group Theory

On Sunday, January ,22 2017

At 14:30 – 15:30

In 101-

Tom Meyerovitch (BGU)

will talk about

Automorphisms of compact groups and algebraic actions.

Abstract: Actions of countable discrete groups Γ on a compact (metrizable) group X by (continuous) group automorphisms are a rich class of dynamical systems. The case where X is abelian is an important subclass, also called “algebraic actions”. By Pontryagin duality, algebraic actions are in one-to-one correspondence with $\mathbb{Z}\Gamma$ -modules. There is a fascinating “dictionary” between the two, a beautiful interplay between dynamics, Fourier analysis, and commutative or noncommutative algebra. In the last several years, much progress has been made towards understanding the algebraic actions of general countable groups. Somehow surprisingly, operator algebras turn out to be important for such a study. This introductory talk will cover some basic aspects of the theory. (New results and open questions might be discussed in a followup talk).