Department of Mathematics, BGU

Operator Algebras and Operator Theory

On *Monday, March ,11 2024*

At *14:00 – 15:00*

In *201*

Ilan Hirshberg (BGU)

will talk about

Values of Rokhlin dimension for finite group actions

Abstract: Finite Rokhlin dimension, a generalization of the Rokhlin property, is a regularity property for actions of certain groups on C-*algebras. The main interest in Rokhlin dimension was its use to establish various permanence properties: for example, fi the C*-algebra acted on has finite nuclear dimension and the action has finite Rokhlin dimension then the crossed product again has finite nuclear dimension. As such, the main interest in Rokhlin dimension was to show that it is finite, and not much attention was paid to its actual value. In particular, while it is known that there are actions with positive finite Rokhlin dimension (that is, have finite Rokhlin dimension but do not have the Rokhlin property, which corresponds to Rokhlin dimension zero), there were no examples of actions of finite groups with finite Rokhlin dimension greater than .2 I'll discuss a recent

preprint in which we provide examples of actions of finite groups on simple AF algebras with arbitrarily large finite Rokhlin dimension. This shows that Rokhlin dimension is not just a tool to establish regularity results, but is an interesting invariant for group actions, which in a sense measures the complexity of the action.

This is joint work with N. Christopher Phillips.