

Department of Mathematics, BGU

Operator Algebras and Operator Theory

On Monday, December ,25 2017

At 16:00 – 17:00

In 101-

Adam Dor-On (Technion)

will talk about

Representations of Toeplitz-Cuntz-Krieger algebras

Abstract: By a result of Glimm, we know that classifying representations of non-type-I C^* -algebras up to unitary equivalence is essentially impossible (at least with countable structures). Instead of this, one either restricts to a tractable subclass or weakens the invariant.

In the theory of free semigroup algebras, the latter is done for Toeplitz-Cuntz algebras, and is achieved via two key results in the theory: the first is a theorem of Davidson, Katsoulis and Pitts on the 2×2 structure of free semigroup algebras, and the second, a Lebesgue-von Neumann-Wold decomposition theorem of Kennedy.

This talk is about joint work with Ken Davidson and Boyu Li, where we generalize this theory to representations of Toeplitz-Cuntz-*Krieger* algebras associated to a directed graph G . We prove a structure theorem akin to that of Davidson, Katsoulis and Pitts, and provide a Lebesgue-von Neumann Wold decomposition using Kennedy's theorem. We discuss some of the difficulties and similarities when passing to the more general context of operator algebras associated to directed graphs.