

TITLES AND ABSTRACTS:

Martín Argerami:

Title: Finite-Dimensional Operator Systems and Connes Embedding Problem

Abstract: In its most bare bones definition, an operator system is nothing but a unital selfadjoint subspace of $\mathcal{B}(H)$. As such, it is hard to see what benefit one can get of studying such things, in particular the finite-dimensional ones. We will see, however, that with the right point of view they become very interesting objects to study with connections with many problems in operator algebras. More concretely, we will start by describing the basic elements of the theory, and then move to some of the applications and connections. In particular, we will explain a reformulation of Connes Embedding Problem in terms of certain finite-dimensional operator systems.

Tristan Bice:

Title: Traces and Ultrapowers.

Valerio Capraro:

Ruy Exel:

Title: Dynamical systems associated to separated graphs, graph algebras, and paradoxical decompositions.

Martino Lupini:

Title: Model theoretic reformulations of the Connes Embedding Problem

Abstract: After recalling the fundamental notions of the logic for tracial von Neumann algebras, I will present several reformulations of the Connes Embedding Problem in this framework due to Farah, Goldbring, Hart, and Sherman.

Brice R. Mbombo:

Title: On universal topological groups

Abstract: A topological group G is universal for a class C of topological groups if $G \in C$ and for every topological group $H \in C$ there is an isomorphism of topological groups between H and a subgroup of G . The question of the existence of a topological group of uncountable weight remains open. The question in the case of Polish groups was formulated by Ulam in 1935 and solved by Uspenskij in 1986. Other positive answers were given to the question of the existence of a universal Polish group, Uspenskij 1990, and Ben Yacoov 2012.

According to Katetov, for every infinite cardinal m satisfying $m^n \leq m$ for all $n < m$, there exists a unique m -homogeneous universal metric space U_m of weight m . This generalizes the classical Urysohn universal metric space $U = U_{\aleph_0}$.

In this talk, we will present some universal polish groups and observe that for m uncountable the group $\text{Iso}(U_m)$ is not a universal group of weight m .

This work is part of a recent Phd thesis carried out under the supervision of Prof Vladimir Pestov (Ottawa)

Fagner Rodrigues:

Title: The dynamic of the convolution map

Abstract: Fixed a compact topological group G , we consider the set of probability measures on G , denoted by $P(G)$. In this talk we are going to study the main dynamical properties of the dynamical system $\Phi_{\{\nu\}}: P(G) \rightarrow P(G)$, where $\Phi_{\{\nu\}}(\mu) = \nu \ast \mu$.

Charles Starling:**Marcelo Sobottka:**