

## TITLES AND ABSTRACTS

1. WILHELM WINTER  
WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER

Lectures:

- (1) Nuclearity: approximation and perturbation
- (2) Strongly self-absorbing  $C^*$ -algebras
- (3) Topological dimension
- (4) The Cuntz semigroup and perfect  $C^*$ -algebras
- (5)  $\mathcal{Z}$
- (6)  $\mathcal{Z}$ -stable classification
- (7) The regularity conjecture
- (8) Minimal dynamical systems
- (9) Dynamics and dimension
- (10) Outlook. Open problems.

2. ILIJAS FARAH  
YORK UNIVERSITY

Title: Some remarks on rigidity of coronas

Abstract: I will present some recent results on the structure of corona algebras of sigma-unital  $C^*$ -algebras. Constructions make use of some elementary methods from logic.

3. DAVID KERR  
TEXAS A&M UNIVERSITY

Title: Dynamical independence and  $C^*$ -crossed products

4. PROFESSOR IAN PUTNAM  
UNIVERSITY OF VICTORIA

Title: A Bratteli-Vershik model for Cantor minimal actions of  $Z^2$ .

Abstract: A very long time ago, Richard Herman, Christian Skau and I, using ideas of Anatoly Vershik, constructed a model for minimal homeomorphisms of the Cantor set. This established a nice link between these dynamical systems, Bratteli-diagrams and dimension groups. In the years since then, these connections have been extended to cover actions of  $Z^d$  and, from the dimension groups, to give a complete invariant for orbit equivalence of the actions. The one area where this has not been extended is in generalizing the original model. I will present an overview of the situation and version of the Bratteli-Vershik model for  $Z^2$  systems. Joint work with Thierry Giordano and Christian Skau.

5. JOSE R. CARRION  
PURDUE UNIVERSITY

Title:  $G$ -odometers and decomposition rank

Abstract: A (discrete) residually finite group  $G$  acts on a profinite completion  $\tilde{G}$  by left translation. We study the corresponding crossed product  $C^*$ -algebra  $C(\tilde{G}) \rtimes G$ , and discuss the classification of such algebras using Kirchberg and Winter's decomposition rank.

6. DOMINIC ENDERS  
WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER

Title: Semiprojectivity for subhomogeneous  $C^*$ -algebras

Abstract: We present some new permanence properties for the class of semiprojective  $C^*$ -algebras. These allow us to work out a description of semiprojectivity for subhomogeneous  $C^*$ -algebras in terms of their primitive spectrum. We will also discuss the special role of one dimensional noncommutative CW-complexes (1-NCCW's) in this class.

7. SIRI-MALEN HOYNES  
NTNU-TRONDHEIM

Title: Toeplitz dynamical systems and their  $K$ -theory

Abstract: We will show that the family of Toeplitz systems can be associated to simple dimension groups with non-trivial rational subdimension groups. Furthermore, we will present a class of examples which has a particularly nice Bratteli diagram presentation.

8. MARTINO LUPINI  
YORK UNIVERSITY

Title: Descriptive set theory and classification problems in  $C^*$ -algebras.

Abstract: I will introduce descriptive set theory and explain how it offers a framework to study and compare the complexity of different classification problems, and provides tools to obtain classification and non-classification results in  $C^*$ -algebra theory. No specific background in set theory will be assumed.

9. ADAM SIERAKOWSKI  
UNIVERSITY OF OTTAWA

Title: Strong pure infiniteness of crossed products.

Abstract: Let  $G$  be a discrete group acting by an exact action on a separable  $C^*$ -algebra  $A$ . It is shown that the reduced crossed product  $A \rtimes G$  is strongly purely infinite provided that the action is residually properly outer and  $G$ -separating. When  $A$  is abelian this means that for any  $t \in G \setminus \{e\}$  and any closed  $G$ -invariant subset of the spectrum of  $A$  the set of

points in the subset fixed by  $t$  has empty interior, and that for any two compact subsets, each contained in an open set, one can translate each of the compact sets, still inside of the open sets, in such a way that the translates are disjoint. I will discuss this result and its applications. This is joint work with Eberhard Kirchberg.

10. CHARLES STARLING  
UNIVERSITY OF OTTAWA

Title: Finite symmetry group actions on aperiodic tilings

Abstract: Aperiodic tilings with long-range order, such as the Penrose tiling, naturally give rise to interesting  $C^*$ -algebras. Such tilings frequently exhibit some rotational and dihedral symmetries, and these symmetries define finite group actions on the related  $C^*$ -algebras. We examine these actions and obtain results about the related crossed products: the crossed product has a unique trace, real rank zero, stable rank one, and the order on its  $K$ -theory is determined by the trace. The  $K$ -theory of the crossed product is also computed.

11. KAREN STRUNG  
WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER

Title: UHF slicing and tracial approximation of some approximately RSH  $C^*$ -algebras

Abstract: I will discuss recent joint work with Wilhelm Winter on the tracial approximation of simple unital locally recursive subhomogeneous  $C^*$ -algebras with no non trivial projections and finitely many extreme tracial states. I will show that a certain subclass of these  $C^*$ -algebras are tracially approximately interval algebras after tensoring with the universal UHF algebra. This is an important step forward towards classification of simple  $C^*$ -algebras in absence of the assumption that projections separate traces.