Classification of Amenable C*-algebras
Classification des algèbres C* moyennables
(Org: **George Elliott** (University of Toronto), **Benjamin Itza-Ortiz** (Autonomous University of Hidalgo), **Fernando Mortari** (UFSC) and/et **Zhuang Niu** (University of Wyoming))

VIVIANE BEUTER, Federal University of Santa Catarina
Simplicity of skew inverse semigroup rings with an application to Steinberg algebras

Given an action α of an inverse semigroup $\mathcal{S}$ on a associative ring $\mathcal{A}$ one may construct its associated skew inverse semigroup ring $\mathcal{A} \rtimes_\alpha \mathcal{S}$. We assume that $\mathcal{A}$ is commutative and we define a certain commutative subring $\mathcal{T}$ of $\mathcal{A} \rtimes_\alpha S$ which coincides with the embedding of $\mathcal{A}$ in $\mathcal{A} \rtimes_\alpha S$ whenever S is unital. Our main result asserts that $\mathcal{A} \rtimes_\alpha S$ is a simple ring if, and only if, $\mathcal{T}$ is a maximal commutative subring of $\mathcal{A} \rtimes_\alpha S$ and $\mathcal{A}$ is $\mathcal{S}$-simple. As an application of our result we present a new proof of the simplicity criterion for a Steinberg algebra $A_R(\mathcal{G})$ associated with a Hausdorff and ample groupoid $\mathcal{G}$.

ANDREW DEAN, Lakehead University
Classification Problems Involving Real C-algebras*

We shall discuss results on classifying categories of real C*-algebras and actions on them using K-theoretic invariants.

GUIHUA GONG,
Classification of inductive limit C-algebras with ideal property*

A C*-algebra is said to have ideal property if each of its ideal is generated by projections inside the ideal. This class of C*-algebras is a common generalization of unital simple C*algebras and real rank zero C*-algebras. In this talk, we will present a classification of AH algebras with ideal property. The invariant involves scaled ordered total K-theory, tracial state spaces of cutting down algebras and new ingredient of Hausdorffized algebraic K_1 of cutting down algebras with certain compatibility. The talk is based on two joint papers of Gong-Jiang-Li-Pasnicu and Gong-Jiang-Li.

BHISHAN JACELON, University of Toronto

DAVID KERR, Texas A&M University

LIANGQING LI,
Exponential length of commutator unitaries of simple AH C-algebras.*

Abstract: Let A be a unital C^*-algebra, and let $CU(A)$ denote the closure of the set of all commutators of the unitary group of A. Let $cel_{CU}(A)$ denote supremum of exponential lengths of all $u \in CU(A)$. Huaxin Lin proved that if A is a TAI algebra, then $cel_{CU}(A) \leq 2\pi$. Lin also proved that for each countable ordered weakly unperforated Riesz group (G, G_+) and each countable group H, there is a simple AH algebra of tracial rank one such that $(K_0(A), K_0(A)_+, K_1(A)) = (G, G_+, H)$ and $cel_{CU}(A) > \pi$. In this talk, I will present the following theorem: for any simple AH algebra A of traicial rank one, $cel_{CU}(A) = 2\pi$. This is a joint work with Chunguang Li and Ivan Valesques.

HUAXIN LIN, University of Oregon
Recent results in the Elliott program

We will discuss recent progresses in the Elliott program of classification of simple amenable C*-algebras, including non-unital cases

PING WONG NG, University of Luisiana at Lafayette

N. CHRISTOPHER PHILLIPS, University of Oregon

LEONEL ROBERT, University of Louisiana at Lafayette
Dixmier sets of C-algebras*

I call "Dixmier set" a closed convex subset of a C*-algebra that is invariant under unitary conjugation. Similar sets can be defined in the dual of a C*-algebra (now using the weak* topology). I will talk about several natural questions on these sets and the answers that we know. Some of this work is joint with Ng and Skoufranis, some joint with Archbold and Tikuisis, some is still in progress.

LUIS SANTIAGO, Lakehead University

MARIA GRAZIA VIOLA, Lakehead University
Structure of ideals in a spatial L^p AF algebra

Spatial L^p AF algebras were introduced by Phillips and Viola, and shown to be completely classifiable by their scaled preordered K_0 group. In this talk we describe the structure of ideals of a spatial L^p AF algebra. We also show that any spatial L^p AF algebra is residually incompressible and completely residually incompressible. We conclude by discussing some properties of the automorphisms of a spatial L^p AF algebras.