

WABASH EXTRAMURAL MODERN ANALYSIS SEMINAR

March 1

2:00 p.m.

at

Wabash College

in rooms 114 and 118 Baxter Hall

*Times given are Eastern Daylight Time,
which is currently local time for Central Indiana and Ohio.*

- 2:00–2:30 *Refreshments and conversation*
- 2:30–3:30 Non-tracial non-commutative probability spaces
NATASHA BLITVIC, Indiana University
- 3:30–4:00 *More refreshments and conversation*
- 4:00–5:00 Nonexistence of free actions of finite groups on the Jiang-Su
algebra
*CHRIS PHILLIPS, University of Oregon and University of
Toronto*
- 5:00–... *Refreshments and farewells*

The purpose of Wabash Seminar talks is to present surveys of interest to all analysts, including graduate students and scholars working in areas far from the speaker's specialty. Come and meet your fellow analysts, learn what's going on, and spread the word.

Next Meeting: April 12

For further information call

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Non-tracial non-commutative probability spaces

NATASHA BLITVIC

I will give a (brief) introduction to non-commutative probability, with emphasis on non-commutative probability spaces that arise as interpolations between the canonical commutation and anti-commutation relations. We will then discuss an interesting family of non-tracial non-commutative probability spaces and develop some combinatorial techniques that allow one to partially circumvent the lack of traciality. This will lead to applications in Segal–Bargmann analysis.

Parts of this talk are based on recent joint work with Todd Kemp.

Nonexistence of free actions of finite groups on the Jiang-Su algebra

CHRIS PHILLIPS

Let G be a finite group. An action of G on a unital C^* -algebra A has a higher dimensional Rokhlin property if there is a compact metric space X with a free action of G which has an asymptotically central equivariant unital embedding in G . (The original definition, due to Hirshberg, Winter, and Zacharias, is more complicated and defines the n -dimensional Rokhlin property for a given integer n .) The Rokhlin property is the case $X = G$ with the translation action.

The Jiang-Su algebra is a simple separable unital infinite dimensional nuclear C^* -algebra which "looks like" the algebra \mathbb{C} in ways important in the Elliott classification program, where it plays a key role. Since it has no nontrivial projections, there are no actions on it which have the Rokhlin property. The higher dimensional Rokhlin property is more general, and does not imply the existence of nontrivial projections, and at one time it was hoped that the Jiang-Su algebra would admit actions of finite groups with this property. We prove that no such actions exist.

The argument also applies to the Cuntz algebra O_∞ (even though it does have nontrivial projections), and most likely to the algebra of continuous functions on the Hilbert cube.

This is joint work with Ilan Hirshberg.