WABASH
EXTRAMURAL MODERN ANALYSIS
SEMINAR

November 14, 2015

2:00 p.m.
at
Wabash College
in rooms 114 and 118 Baxter Hall

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

2:00–2:30	*Refreshments and conversation*
2:30–3:30	**Sheaves on von Neumann algebras and moduli spaces of homomorphisms** *ALEXANDRU CHIRVARSITU, University of Washington at Seattle*
3:30–4:00	*More refreshments and conversation*
4:00–5:00	**Automorphisms of Nuclear C*-algebras** *YASUHIKO SATO, Kyoto University*
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: TBA

For further information call

Marius Dadarlat, Purdue University, (765) 494–1940
E–mail: mdd@math.purdue.edu
Web: http://www.math.purdue.edu/~mdd/Wabash/

Sheaves on von Neumann algebras and moduli spaces of homomorphisms

ALEXANDRU CHIRVARSITU

For two von Neumann algebras M and N, the space of not-necessarily-unital homomorphisms $N \to M$ with finite supporting projection up to conjugacy by unitaries in M can be equipped with various structures whose existence might be a bit surprising: it is always a conditionally complete poset, a partial semigroup, and under certain conditions on M it has a convex structure extending the partial semigroup addition.

This observation arises naturally in the context of studying embeddable von Neumann algebras in the sense of Connes, where M is the ultrapower of the hyperfinite II_1 factor and one seeks particularly nice morphisms from N into it.

We discuss a general construction of conditionally complete posets out of presheaves on a category of subalgebras of M, unifying several examples in the literature which include the one mentioned above and a recent construction due to S. Atkinson of a convex structure on the set of morphisms from a C*-algebra into a von Neumann algebra up to approximate unitary conjugacy.

Automorphisms of Nuclear C*-algebras

YASUHIKO SATO

In the recent progress of the classification theorem of C*-algebras, we have seen connections with the regularity properties and associated conditions in the theory of injective von Neumann algebras, which is shown by A. Connes and U. Haagerup. In particular, it is known that the proof with Connes' approach is based on his results on automorphisms of injective factors. In this talk, along the recent evolution of Elliott's program, I will revisit classification theorems of automorphisms on nuclear C*-algebras and discuss the connections between them.