WABASH
EXTRAMURAL MODERN ANALYSIS
SEMINAR

November 23

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	**The Baum-Connes Conjecture and Proper Kasparov Cycles** *SHINTARO NISHIKAWA, Pennsylvania State University*
3:30–4:00	*More refreshments and conversation*
4:00–5:00	**Von Neumann equivalence** *ISHAN ISHAN, Vanderbilt 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: TBD

For further information contact

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The Baum-Connes Conjecture and Proper Kasparov Cycles

SHINTARO NISHIKAWA

Around 1988, Gennadi Kasparov introduced equivariant KK-theory and used it to prove the Novikov conjecture for all groups which act properly and isometrically on a complete, simply connected Riemannian manifold of non-positive sectional curvature or on a homogeneous space G/K for an almost connected group G and its maximal compact subgroup K. His method, which we currently call the gamma element method (or the Dirac and dual-Dirac method), became a powerful and versatile approach for attacking the Novikov conjecture and the Baum-Connes conjecture. I will give a general introduction of his work from the viewpoint of the Baum-Connes conjecture without assuming any knowledge of KK-theory. I will also describe my recent work which in a way simplifies and offers a new perspective on his work.

Von Neumann equivalence

ISHAN ISHAN

The notion of measure equivalence of groups was introduced by Gromov as the measurable counterpart to the notion of quasi-isometry. We introduce a coarser equivalence, which we call von Neumann equivalence. We will show that many "approximation type" properties, (e.g., amenability, property (T)) which are known to be measure equivalence invariant, are also preserved by von Neumann equivalence. We will also show that the new and wide class of groups, called properly proximal groups, introduced by Rémi Boutonnet, Adrian Ioana and Jesse Peterson, is also stable under von Neumann equivalence and thereby obtaining examples of non inner-amenable, non-properly proximal groups. This is based on joint work with Jesse Peterson and Lauren Ruth.