WABASH
EXTRAMURAL MODERN ANALYSIS
SEMINAR

November 9

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	**Uniqueness of Cartan Subalgebra in II_1 Factors** ***THOMAS SINCLAIR, UCLA***
3:30–4:00	***More refreshments and conversation***
4:00–5:00	**The pointwise convergence of the Fourier Series** ***VICTOR LIE, Purdue 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: Spring 2014

For further information call

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Uniqueness of Cartan Subalgebra in II_1 Factors

THOMAS SINCLAIR

A Cartan subalgebra is a maximal abelian "normal" subalgebra of a II_1 factor. These subalgebras arise naturally in von Neumann algebras constructed from ergodic actions of discrete groups. Historically, the classification of Cartan subalgebras has proven an extremely challenging problem. In this talk I will survey some recent results on classes of II_1 factors for which the uniqueness (or absence) of Cartan subalgebra up to unitary conjugacy has been established, completely clasifiying the Cartan subalgebras in the strongest possible sense. I will also explain how much of this work, as well as current work in the subject, has focused around II_1 factors of groups which satisfy various negative-curvature type properties.

The pointwise convergence of the Fourier Series

VICTOR LIE

In this talk we will focuss on one of the major themes of harmonic analysis - the pointwise convergence of the Fourier Series. We will start by describing (at an elementary level) the main tools and concepts used to prove the celebrated theorem of Carleson (1966) stating that the Fourier Series of an $L^2(\mathbb{T})$ function f is almost everywhere convergent to f. Next we will elaborate on two different directions extending Carleson's result: a conjecture of Stein regarding the boundedness of the polynomial Carleson operator and the behavior of the (classical) Carleson operator near L^1. Recent results of the author on both themes will be presented. This talk is accessible to a general audience.