WABASH
EXTRAMURAL MODERN ANALYSIS
SEMINAR

April 6

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	**On the Sz.-Nagy–Foias functional calculus** *LÁSZLÓ KÉRCHY , University of Szeged*
3:30–4:00	*More refreshments and conversation*
4:00–5:00	**When does the Fuglede-Kadison determinant vanish?** *HANFENG LI, University at Buffalo, SUNY*
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

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On the Sz.-Nagy–Foias functional calculus

LÁSZLÓ KÉRCHY

The Sz.-Nagy–Foias functional calculus, operating with bounded analytic functions on the open unit disc, proved to be an efficient tool in the study of Hilbert space contractions. After making an overview of some basic structure theorems yielded by this calculus, we introduce the quasianalytic spectral set of a contraction. Roughly speaking this is the largest measurable set on the unit circle satisfying the condition that if a decreasing sequence of functions is asymptotically non-vanishing on this set then the corresponding functions of the contraction form a decreasing sequence of operators which is also asymptotically non-vanishing. We show how this spectral invariant can be used in the study of the hyperinvariant subspace problem.

When does the Fuglede-Kadison determinant vanish?

HANFENG LI

For any countable group, one may consider the Fuglede-Kadison determinant of an element in the integral group ring. We consider the question when the determinant vanishes. This is answered by a result of Kronecker for the integer group case, and by Schmidt for general finitely generated free abelian groups. A few years ago, Deninger proposed an answer for the case the element is invertible in the group algebra of absolutely summable functions. I will answer Deninger's question for the case of sofic groups. The tools used are sofic entropy and combinatorial independence.