

Model theory of operator algebras

Bradd Hart and Ilijas Farah

July 4, 2011

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- Ilijas Farah, Professor, York University: research in mathematical logic and set theory
- Hidden supervisor: David Sherman, University of Virginia: research in operator theory

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Study the asymptotic behaviour of the theory of matrix algebras.

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- Asymptotics - how does the value of any sentence in continuous logic change as n tends to infinity.
- What does operator algebra have to do with anything?
- $M_n(\mathbb{C})$ is the collection of all operators on n -space; understanding the asymptotic behaviour here would tell us something about certain algebras of operators acting on an infinite dimensional Hilbert space.

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- Some basic analysis and topology will come in handy.

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- There are two levels on which you could ask this question:
- Generically, you will learn how to tackle a research problem in mathematics - learn what you need to in one area to apply it in another, focus on the problem and don't get lost in the details, etc.
- Specifically, you will learn some very modern model theory and how it interacts with other areas of mathematics.