Mathematics, Statistics, and Computer Science **@ UIC**

Logic Seminar

Existentially closed C-algebras*

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Abstract: A C*-algebra A is said to be existentially closed if, roughly, every set of equations involving norms of non-commutative *-polynomials which has a solution in B(H) has a sequence of approximate solutions in A. A basic result in continuous logic shows that every separable C*-algebra is contained in a separable, existentially closed C*-algebra. In this talk I will survey some basic properties of existentially closed C*-algebras. In particular I will describe how existential closure is deeply connected to several open problems in C*-algebras such as Kirchberg's problem on whether every separable C*-algebra embeds in an ultrapower of the Cuntz algebra O_2, as well as Kirchberg's C*-algebraic reformulation of of Connes' embedding problem. This talk is based on joint work with Isaac Goldbring.

Tuesday, September 9 at 4:00 PM in SEO 427