Department of Mathematics and Statistics Colloquium

Reflection in Higher Logics

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Abstract: There is a big difference in the expressiveness of first- and second-order logic. After a brief introduction to infinite cardinals, we discuss how the Lowenheim-Skolem theorems imply that any first-order theory in a countable language has models of every infinite cardinality. On the other hand, some familiar structures can be characterized by their second-order theories. We examine a logic between first- and second-order in which we add a quantifier that roughly says, "for many x." We describe recent work on the Global Chang Conjecture, which shows that a version of Lowenheim-Skolem can hold for this logic.

Monday, March 20 at 3:45 in Roop 103

Refreshments at 3:30