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

Logic Seminar

Definable Skolem functions for weakly o-minimal structures

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Abstract: In this talk we present an overview of progress on the question of which weakly o-minimal structures have definable Skolem functions. Given an o-minimal structure $\mathcal{M}$ expanding a group and a convex predicate U interpreting a nonvaluational convex set, the structure $(\mathcal{M}, \mathsf{U})$ fails to have definable Skolem functions, even after naming constants. More generally, any structure which is elementarily equivalent to a reduct of a model formed in this fashion will also fail to have definable Skolem functions. As a partial converse, when $(\mathcal{M}, \mathsf{U})$ is valuational, modulo adding constants, the expanded structure in fact does have definable Skolem functions. Time permitting, we will give some insight into algorithms that may be used to calculate these functions where they are present.

We will meet for lunch at noon on the first floor of SEO.

Tuesday, January 17 at 4:00 PM in SEO 427