



Colloquium

Classification of Model-Theoretic Structures: A (Tame) Topological Approach

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Abstract

A central guiding meta-question in model theory is the classification of algebraic structures arising under various notions of model-theoretic tameness. A classic example is Zilber's trichotomy, which concerns the classification of strongly minimal sets. It predicts that every strongly minimal set should essentially come from a set, a module, or an algebraically closed field in a strong sense. Its study has led to deep and surprising applications, most notably in Diophantine geometry. More broadly, there are numerous longstanding conjectural classifications for fields and other algebraic structures under tameness conditions such as stability, simplicity, NIP, and o-minimality. In this talk, we present a perspective based on topological and geometric methods, highlighting how suitably "tame" topological or geometric behavior can be exploited to obtain classification results. No prior background in model theory or logic is assumed.

Date: January 26, 2026 (Monday)

Time: 3:00 - 4:30 pm

Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome