Department of Mathematics
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LOGIC SEMINAR

Guest Speaker: Jing Zhang
University of Toronto

Date: Tuesday, October 3, 2023
Time: 2:00 PM
Location: 125 Hayes-Healy Bldg
Zoom URL: NA

Lecture Title:
Higher dimensional combinatorics

Abstract

We describe an organizing framework to study higher dimensional infinitary combinatorics based on Cech cohomology, originating from works by Barry Mitchell, Barbara Osofsky and others. A central combinatorial notion is n-dimensional coherence sequences, generalizing the 1-dimensional ones studied extensively by Todorcevic using the method of minimal walks. We will discuss ZFC results suggesting $\aleph_n$ is not "compact for $n+1$-dimensional combinatorics" and consistency results that $\aleph_{\omega+1}$ can be "compact for n-dimensional combinatorics for all n". The talk will be purely combinatorial. Joint work with Jeffrey Bergfalk and Chris Lambie-Hanson.