Department of Mathematics
University of Notre Dame

LOGIC SEMINAR

Guest Speaker: Dima Sinapova
Rutgers University

Date: Tuesday, November 28, 2023
Time: 2:00 PM
Location: 125 Hayes-Healy Bldg
Zoom URL: NA

Lecture Title:
Mutual stationarity and the failure of SCH

Abstract

Mutual stationarity is a compactness type property for singular cardinals. Roughly, it asserts that given a singular cardinal κ, stationary subsets of regular cardinals with limit κ have a "simultaneous witness" for their stationarity. This principle was first defined by Foreman and Magidor in 2001, who showed that it holds when the stationary sets are of points of countable cofinality. They also showed that in general this does not generalize to higher cofinality. Whether the principle can consistently hold for higher cofinalities remained open, until a few years ago when Ben Neria showed that from large cardinals mutual stationarity at $\langle \aleph_n \mid n < \omega \rangle$ can be forced for any fixed cofinality. We show that we can obtain mutual stationarity at $\langle \aleph_n \mid n < \omega \rangle$ for any fixed cofinality together with the failure of SCH at $\aleph_\omega$. Along the way we reduce the Ben Neria's large cardinal hypothesis. This is joint work with Will Adkisson.

Dima Sinapova - Rutgers University