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

Midwest Model Theory Seminar

Continuous combinatorics and natural quasirandomness

Leonardo Nagami Coregliano (University of Chicago)

Abstract: The theory of graph quasirandomness studies several asymptotic properties of the random graph that are equivalent when stated as properties of a deterministic graph sequence and was one of the main motivations for the theory of dense graph limits, also known as theory of graphons. Since the theory of graphons can itself be used to study graph quasirandomness and can be generalized to a theory of dense limits of models of a universal first-order theory, a natural question is whether a general theory of quasirandomness is possible. In this talk, I will briefly introduce the general theory of dense limits of combinatorial objects (often associated with the name continuous combinatorics) and talk about the notion of natural quasirandomness, a generalization of quasirandomness to the same general setting of universal first-order theories. The main concept explored by our quasirandomness properties is that of unique coupleability that roughly means that any alignment of two limit objects on the same ground set "looks random". This talk is based on joint work with Alexander A. Razborov.

Please email jfreitag@uic.edu for the login information.

Tuesday, February 23 at 4:00 PM in the internet