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

Departmental Colloquium

An ergodic advertisement for descriptive graph combinatorics

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Abstract: A flourishing subject in modern descriptive set theory is the study of countable Borel equivalence relations on Polish spaces. Each such equivalence relation can always be generated in two ways: as the orbit equivalence relation of a Borel action of a countable group, and as the connectedness relation of a locally countable Borel graph. These strong connections between equivalence relations, group actions, and graphs create an extremely fruitful interplay between descriptive set theory, ergodic theory, measured group theory, percolation theory, and descriptive graph combinatorics. As an example, I will discuss how descriptive set theoretic thinking combined with combinatorial and measure theoretic arguments yields a pointwise ergodic theorem for quasi-probability-measure-preserving locally countable graphs.

Friday, September 14 at 3:00 PM in 636 SEO