



Math Department, University of California, Los Angeles
and Institute for Pure & Applied Mathematics

Extremal and Probabilistic Combinatorics

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Scientific Overview

Extremal and Probabilistic Combinatorics are two of the most central branches of modern combinatorial theory. Extremal Combinatorics deals with problems of determining or estimating the maximum or minimum possible cardinality of a collection of finite objects satisfying certain requirements. Such problems are often related to other areas including Computer Sciences, Information Theory, Number Theory and Geometry. This branch of Combinatorics has developed spectacularly over the last few decades. Probabilistic Combinatorics can be informally described as a (very successful) hybrid between Combinatorics and Probability, whose main objects of study are probability distributions on discrete structures. Probabilistic arguments have proven to be extremely powerful when applied to problems from many areas of Combinatorics and Theoretical Computer Science.

This workshop will bring together researchers representing the whole spectrum of Probabilistic and Extremal Combinatorics, who will communicate new results and discuss directions for future discoveries.

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