

abstract

COMPUTER SCIENCE/DISCRETE MATH, I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Szemerédi's regularity lemma asserts, roughly speaking, that any large dense graph can be approximated to any specified accuracy by a much simpler "finite complexity" object; it has had many applications in graph theory, combinatorial number theory, and property testing. Here we revisit the lemma from an information-theoretic perspective, and discuss a recent strengthening of the lemma in which the approximation becomes dramatically improved after adding or deleting a small number of edges to the graph. Using this stronger version one obtains a corresponding lemma for hypergraphs, which has a number of deep consequences which we will discuss.