MIT
MATHEMATICS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS

Simple Person's Applied Math Seminar (SPAMS)

Thursday, February 10, 2022

6:00pm – 6:45pm   Room : 2 - 132

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"Communication complexity"

Abstract

Two parties, Alice and Bob, each have some input x and y. Their goal is to communicate to compute a function $f(x, y)$ of their inputs. For which functions f (and which models of communication) is it possible for Alice and Bob to communicate few bits of information and still compute $f(x, y)$? Such problems are studied in communication complexity, a field of theoretical computer science. In this talk we will see several interesting communication protocols and also many lower bounds using ideas from graph theory, linear algebra, and probabilistic and additive combinatorics.