

abstract

Computer Science/Discrete Mathematics Seminar I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We show that it is possible to encode any communication protocol between two parties so that the protocol succeeds even if a $(1/4 - \epsilon)$ fraction of all symbols transmitted by the parties are corrupted adversarially, at a cost of increasing the communication in the protocol by a constant factor (the constant depends on ϵ). This encoding uses a constant sized alphabet. This improves on an earlier result of Schulman, who showed how to recover when the fraction of errors is bounded by $1/240$. We also show how to simulate an arbitrary protocol with a protocol using the binary alphabet, a constant factor increase in communication and tolerating a $1/8 - \epsilon$ fraction of errors.

If time permits we will discuss recent effort in the direction of making the construction more efficient. Joint work with Anup Rao.