

## **abstract**

COMPUTER SCIENCE/DISCRETE MATH II

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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Mechanism design is not robust. It traditionally guarantees a desired property "at equilibrium", but an equilibrium is by definition very fragile: it only guarantees that no INDIVIDUAL player can profitably deviate from his envisaged strategy. Two or more players, however, may have a lot to gain by coordinating their deviating strategies. Thus, typical mechanisms (e.g., the VCG) are totally vulnerable to PLAYER COLLUSION.

We advocate designing mechanisms in a new and RESILIENT way, yielding games that are invulnerable to, or even take advantage of, player collusion. We exemplify our notions and techniques for guaranteeing revenue in UNRESTRICTED combinatorial auctions, a problem about which very little was previously known, even in a non-collusive setting.

(Partly based on work with Jing Chen.)