

**NMI Workshop on  
Static and Dynamic Mechanism Design  
Indian Statistical Institute, New Delhi  
August 01 - 04, 2015  
Venue: ISI Auditorium, Academic Block**

**PROGRAMME**

**Saturday, August 1, 2015**

9.30 - 11 am: Introduction to Mechanism Design (Arunava Sen, Indian Statistical Institute, Delhi).

*The lecture will introduce the basic models for mechanism design. It will introduce the notions of dominant and Bayesian incentive compatibility and the Revelation Principle.*

11 - 11.30 am: Tea Break

11.30 am - 1 pm: The Voting Problem and Domain Restrictions (Debasis Mishra, Indian Statistical Institute, Delhi).

*The lecture will present the Gibbard-Satterthwaite Theorem and the Median Voter Theorem for single peaked preferences. The basic ideas of the proofs will be discussed.*

1 - 2 pm: Lunch

2 - 3.30 pm: Introduction to Matching Theory (Souvik Roy, Indian Statistical Institute, Kolkata)

*The lecture will introduce the basic model of one-to-one, two-sided matching. It will discuss the Gale-Shapley Deferred Acceptance Algorithm. The model will be extended in two directions: (a) many-to-one matching and (b) externalities.*

3.30 - 4 pm Tea Break

4 - 5 pm: Student Research Presentations.

*Optimal Auction for Two Uniformly Distributed Goods*

Thirumulanathan D., Indian Institute of Science

*Information Design in Collective Decision Games*

Seher Gupta, New York University

### **Sunday, August 2, 2015**

9.30 - 11 am: Mechanism Design with Monetary Transfers (Swaprava Nath, Indian Statistical Institute, Delhi).

*This lecture will discuss mechanism design with quasi-linear preferences and money. The basic framework for mechanism design with money will be set up and examples will be given to show the properties of some of the well known mechanisms in this domain. The transition from Vickery auction to general VCG mechanism will be discussed, along with the pivotal mechanism in the context of public goods.*

11 - 11.30 am: Tea Break

11.30 am - 1 pm: Optimal Auction Design and the Bilateral Trading Problem (Debasis Mishra, Indian Statistical Institute, Delhi).

*This lecture will cover revenue optimal auction design for the single object case (Myerson, 1981). It will also discuss the Bilateral Trading problem and the Myerson-Satterthwaite Impossibility Theorem (Myerson and Satterthwaite, 1983).*

1 – 2 pm: Lunch

2 - 3:30 pm: Dynamic Incentives (Rohit Lamba, Pennsylvania State University, USA).

*This lecture which will introduce dynamic contracting with asymmetric information. It will discuss the dynamic envelope condition and revenue maximization. Reference articles will be Courty and Li [2000], Battaglini [2005], and Pavan, Segal and Toikka [2014].*

3.30 - 4 pm Tea Break

4 - 5 pm: Student Research Presentations

*Mechanism Design for Land Acquisition*

Soumendu Sarkar, TERI University

*Network Structure in Two-Winner Contests*

Anwasha Mukherjee, University of East Anglia

**Monday, August 3, 2015**

9.30 - 11 am: Scoring Auctions (Krishnendu Ghosh-Dastidar, Jawaharlal Nehru University, Delhi)

*This lecture will provide a brief overview of the literature on Scoring Auctions. It will discuss recent results and possible research questions.*

11 - 11.30 am: Tea Break

11:30 am - 1 pm: Efficient Dynamic Mechanism Design (Rohit Lamba, Pennsylvania State University, USA).

*This lecture will address the question of efficient allocation in dynamic environments under the standard constraints: incentives, participation and budget balance. Reference articles will be Bergemann and Valimaki [2010], Athey and Segal [2013] and Lamba [2015].*

1 – 2 pm: Lunch

2 - 3.30 pm: The Wisdom of Crowds: Voting and Informational Aggregation (Parikshit Ghosh, Delhi School of Economics, Delhi)

*This lecture will focus on information aggregation through voting. Strategic and non-strategic versions of the Condorcet Jury Theorem will be discussed.*

3.30 - 4 pm Tea Break

4 - 5 pm: Student Research Presentations

*An Optimal Bidimensional Multi-Armed Bandit Auction for Multi-unit Procurement*  
Satyanath Bhat, Indian Institute of Science

*An Incentive Compatible Multi-Armed-Bandit Crowdsourcing Mechanism with Quality Assurance*  
Shweta Jain, Indian Institute of Science

**Tuesday, August 4, 2015**

9.30 - 11 am: Information Disclosure and Moral Hazard (Rahul Deb, University of Toronto, Canada)

*This lecture will generalize the (two-period) sequential screening model to allow for information disclosure (the principal can choose the nature of information received by the agent) and moral hazard (in addition to her private type, the agent can take an unobserved action). Reference articles will be Eso and Szentes (2007), Li and Shi (2015) (information disclosure) and Krahmer and Strausz (moral hazard).*

11 - 11.30 am: Tea Break

11.30 am - 1 pm: Auctions with Affiliated Values (Sushil Bikhchandani, University of California, Los Angeles, USA).

*This lecture will cover the following topics: (a) single-object auctions: the interdependent values model, (b) Nash equilibrium in first-price, second-price, and English auctions with symmetric bidders, (c) Revenue comparison of auctions, (d) Efficiency in auctions, (e) Mechanism Design with Correlated Information.*

1 - 2 pm: Lunch

2 - 3.30 pm. Multi-Unit Auctions (Sushil Bikhchandani, University of California, Los Angeles, USA).

*This lecture will cover multiple-unit auctions with single-unit demand. It will consider generalization of auction rules and results for single-object auctions to this setting. It will also consider multiple-unit auctions with multiple-unit demand, and discuss efficiency and revenue results in this setting.*

3.30 - 4 pm Tea Break

3.30 - 5 pm: Topics in Dynamic Mechanism Design (Rahul Deb, University of Toronto, Canada)

*This lecture will provide a brief overview of some of the other recent results in the dynamic mechanism design literature. The topics will include (but may not be limited to) interdependent values (Liu 2015), bargaining (Skrzypacz and Toikka 2014, Lamba 2014), insurance (Farinha Luz 2015), limited commitment (Deb and Said 2015) and no transfers (Horner and Guo 2015).*