

Economics Seminar, Indian Statistical Institute, New Delhi.

SPEAKER: Suchismita Tarafdar, Arizona State University

TITLE: Optimization in Economies with Nonconvexities

TIME: 3:30-5:00 P.M. (NOTE UNUSUAL TIME)

DAY & DATE: Thursday, 25th March 2010 (NOTE UNUSUAL DAY)

PLACE: Seminar Room 2

Abstract:

Nonconvex optimization is becoming the fashion to solve constrained optimization problems in economics. Classical Lagrangian does not necessarily represent a nonconvex optimization problem. In this paper, we give conditions under which the Classical Lagrangian serves as an exact penalization of a nonconvex programming. This has a simple interpretation and is easy to solve. We use this Classical Lagrangian to provide sufficient conditions under which value function is Clarke differentiable with differential bounds. The differential bounds of the value function is further used to provide most general sufficient conditions for the existence of classical (smooth or C^1) and nonclassical (nonsmooth) envelopes. Relative to the existing literature, we present the first unified treatment of envelope theorems for both the classical and nonclassical case. The existence of nonsmooth envelopes has numerous potential examples in lattice programming, nonclassical growth theory and macroeconomics, Negishi methods, nonstationary dynamic lattice programming, and duopoly problems.

<http://www.isid.ac.in/~pu/seminar.html>