

## **Economics Seminar, Indian Statistical Institute, New Delhi.**

**SPEAKER:** Ratul Lahkar, IFMR Chennai.

**TITLE:** **Evolutionary Game Theory and Applications.**

**TIME:** 03:30 PM - 05:00 PM

**DAY & DATE:** Thursday , 06th June, 2013

**PLACE:** Seminar Room 1

### **Abstract:**

In this talk, I give an introduction to evolutionary game theory and discuss certain applications from my research. In evolutionary game theory, we conceive society as an initial distribution of population members across different strategies in a game. Individual players then revise strategies according to certain behavioural rules. This process changes the social state which we characterize using ODE systems called evolutionary dynamics. We discuss evolution in certain well known classes of games---potential games, negative definite games and positive definite games. We consider the tragedy of the commons as an example of potential games and illustrate convergence to Nash equilibria in such games under well known evolutionary dynamics. Such dynamics also converge in negative definite games. However, in positive definite games, evolutionary dynamics may generate cyclical behaviour in society. We illustrate such behaviour using the problem of price dispersion.

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