**Invited Talk**
**Department of Computer Science and Engineering**
**IIT Kanpur**

# Modeling and Analysis of Interdependent Power-Communication Infrastructures

**by**
**Joydeep Banerjee**
**PhD Candidate, Arizona State University**
**http://www.linkedin.com/in/joydeep-banerjee-a12b4552**
**Lab Website: http://netsci.asu.edu/netsci/**

**Venue: KD 101**
**Date: January 5, 2017**
**Time: 10:30 am - 12 noon**

## Abstract

Critical infrastructure of countries such as power grids and the communication networks are highly interdependent on each other for their proper functioning. In recent times the research community has shown significant interest in modeling such interdependent networks and studying the impact of failures on these networks. Although a number of models have been proposed, many of them are simplistic in nature and fail to capture the complex interdependencies that exist between the entities of these networks. To overcome these limitations, the Implicative Interdependency Model that utilizes Boolean logic to capture the complex interdependencies is proposed. The talk would encompass details of this model, analysis of critical problems (like vulnerability, protection analysis and robustness) in the interdependent infrastructure using this model and validation of the model with respect to real power network.

## Speaker's Bio

Joydeep Banerjee is a PhD Candidate at Arizona State University, USA. He is doing his Doctorate in Computer Science with broader research focus on Combinatorial Optimization, Combinatorial Algorithms and Approximation Algorithms. He completed his Bachelor of Engineering in Electronics & Telecommunication Engineering from Jadavpur University, India. During his PhD he did internships at Xerox Research and Facebook Inc. (Instagram). During his graduate studies he has published 10 research papers in peered reviewed conferences and journals and filed for 2 patents (with Xerox Research, USA).