中央研究院 資訊科學研究所
**Institute of Information Science, Academia Sinica**

# Distinguished Lecture Series

# Differential Privacy:
# Theoretical and Practical Challenges

**Tuesday, November 10th, 2015 10:00am**
**Auditorium 106 at New IIS Building**

# Professor Salil Vadhan

**Harvard University, on sabbatical**
**at National Chiao-Tung University**

## Abstract

Differential Privacy is framework for enabling the analysis of privacy-sensitive datasets while ensuring that individual-specific information is not revealed. The concept was developed in a body of work in theoretical computer science starting about a decade ago. It is now flourishing as an area of research, with deep connections to many other topics in theory. At the same time, its potential for addressing pressing privacy problems in a variety of domains has attracted the interest of scholars from many other areas, including statistics, databases, medical informatics, law, social science, computer security and programming languages.

In this talk, I will provide a general introduction to differential privacy, give a taste of what research in this area has achieved, and discuss some of the theoretical and practical challenges that remain. I will also describe the work we have been doing to address these challenges in a large, multidisciplinary research project at Harvard, called "Privacy Tools for Sharing Research Data," whose goal is to offer privacy-protective approaches to the collection, analysis, and sharing of personal data for research in social science and other fields.

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