



香港中文大學
The Chinese University of Hong Kong

Institute of Theoretical Computer Science and Communications

ITCSC-CSE Joint Seminar

The Border between Possible and Impossible in Data Privacy

By

Prof. Salil Vadhan

Harvard University and National Chiao-Tung University

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11:00 am – 12:00 noon

Room 121, 1/F, Ho Sin Hang Engineering Building, CUHK

Abstract:

A central paradigm in theoretical computer science is to reason about the space of all possible algorithms for any given problem. That is, we seek to identify an algorithm with the "best" possible performance, and then prove that no algorithm can perform better, no matter how cleverly it is designed. In this talk, I will illustrate how this perspective has played a central role in the development of differential privacy, a mathematical framework for enabling the statistical analysis of privacy-sensitive datasets while ensuring that information specific to individual data subjects will not be leaked. In particular, we are using it to delineate the border between what is possible and what is impossible in differential privacy, and the effort has uncovered intriguing connections with several other topics in theoretical computer science and mathematics.

Biography:

Salil Vadhan is the Vicky Joseph Professor of Computer Science and Applied Mathematics in the Harvard John A. Paulson School of Engineering and Applied Sciences, and is currently on sabbatical at National Chiao-Tung University as a Visiting Chair Professor in the Department of Applied Mathematics and the Shing-Tung Yau Center. Vadhan's research areas are computational complexity, cryptography, and data privacy.

***** ALL ARE WELCOME *****

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