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Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

Private Information Retrieval from Coded Data

Professor Salim El Rouayheb

*Assistant Professor, Electrical and Computer Engineering Department,
Illinois Institute of Technology (IIT), USA*

Thursday, 15 September 2016 at 14:00

LT02, Sir Henry Stephenson Building

Abstract

The data deluge has now become the most popular way to describe the massive amount of data that our society produces and “consumes”. Most of this data is stored online in the cloud, enabling seamless access to users anywhere and anytime. Unfortunately, a steep price to pay for this data revolution has been the privacy of the user. A user access or browsing history can reveal sensitive personal information (race, age, political opinion, medical history...) which can be used adversarially against him/ her. This talk focuses on Private Information Retrieval (PIR) as a solution to this problem.

An information theoretic PIR scheme ensures that a user can retrieve records in a database, or files in a distributed storage system, while revealing no information on which record or file is being retrieved. Classical PIR schemes assumes the data being replicated on multiple servers, which incurs a high storage cost. Recently, there has been lots of research interest in codes for minimizing storage cost in distributed storage systems. In this talk, I will discuss the challenges of designing PIR schemes. I will conclude by discussing the new open questions in this area.

Biography

Salim El Rouayheb is an Assistant Professor at the ECE Department at the Illinois Institute of Technology (IIT). He was an associate research scholar at the EE Department at Princeton University (2012-2013) and a postdoc at the EECS department at the University of California, Berkeley (2010-2011). He received his PhD degree in Electrical Engineering from Texas A&M University, College Station, in 2009. During summer 2006, he was an intern at the Mathematics of Communication Research Department at Bell Labs. His research interests lie in coding theory and information theoretic security and privacy, with a focus on applications to distributed data storage systems.

*Light refreshments will be served in the
foyer of the Sir Henry Stephenson Building following the seminar*