

Fundamental Limits on Information Security and Privacy

Webcast Type:

Technical Plenary Session

[2012 IEEE International Conference on Communications](#)

Webcast URL:

http://host.comsoc.org/livebroadcast/icc12/keynote_poor.html

Status:

Free for Everyone

Duration:

30minutes

Presentation Date:

Sun, 06/10/2012

Abstract:

The ubiquity of technologies such as wireless communications and searchable on-line data repositories has created new challenges in protecting the security of information transmission and the privacy of data sources, and a corresponding need for new methodologies to confront these challenges. Considerable effort has been devoted to these issues in recent years, and an important aspect of this activity has been the study of fundamental limits on information security and privacy that can help guide the development of new methods for securing wireless networks and ensuring the privacy of online data sources. This talk will focus on two aspects of this general area: wireless physical layer security, which examines the fundamental ability of the physics of the radio channel to support secure data transmission; and utility-privacy tradeoffs of data sources, which quantifies the safety of confidential information (privacy) contained in such sources while still providing a measurable benefit (utility) to legitimate information consumers. Recent results in each of these areas will be examined, and applications of these ideas in areas such as biometric security systems and smart grid will be touched upon as well.

Speaker Bio:

H. Vincent Poor is with Princeton University, where he is the Michael Henry Strater University Professor of Electrical Engineering and Dean of the School of Engineering and Applied Science. His research interests are in the areas of stochastic analysis, statistical signal processing, and information theory, and their applications in wireless networking and related fields such as social networks and smart grid. Dr. Poor is a member of the US National Academy of Engineering and the US National Academy of Sciences. He is also a Fellow of the IEEE, the American Academy

of Arts & Sciences, and the Royal Academy of Engineering of the UK, and is a former Guggenheim Fellow. He received the IEEE Education Medal in 2005, and the ComSoc's Marconi and Armstrong Awards in 2007 and 2009, respectively. Recent recognition of his work includes the 2010 IET Ambrose Fleming Medal for Achievement in Communications, the 2011 IEEE Eric E. Sumner Award, and the degree D.Sc. honoris causa from the University of Edinburgh, conferred in June 2011.

Authors:

Poor, H. Vincent

Source URL: <http://www.comsoc.org/webcasts/view/fundamental-limits-information-security-and-privacy>