Stanford University

TomKat Center for Sustainable Energy
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Civil and Environmental Engineering
Department of Electrical Engineering

Stanford SmartGrid Seminar

Privacy in the Smart Grid: An Information Theoretic Framework

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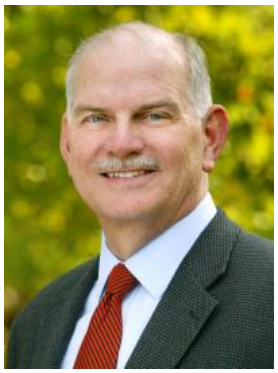

4pm Monday, Jan 27th, Packard 101

Abstract: The proliferation of electronic data generated in smart grid and other applications has made potential leakage of private information through such data an important issue. This talk will first describe a fundamental information theoretic framework for examining, in a general setting, the tradeoff between the privacy of data and its measurable benefits. This framework will then be used to investigate two problems arising in smart grid. The first of these is smart-meter privacy, in which the tradeoff between the privacy of information that can be inferred from meter data and the usefulness of that data is examined. The second is competitive privacy, which models situations in which multiple parties (e.g., power companies) need to exchange information to collaborate on tasks (e.g., management of a shared grid) without revealing company-sensitive data.

Bio: H. Vincent Poor is the Michael Henry Strater University Professor of Electrical Engineering at Princeton, where is also the dean of the School or Engineering and Applied Science. His research interests are in the areas of information theory, statistical signal processing and stochastic analysis, and their applications in smart grid, wireless networks and related fields. His publications in these areas include the recent book *Mechanisms and Games for Dynamic Spectrum Allocation*, published by Cambridge University Press in 2014. Dr. Poor is a Fellow of the IEEE and a member of the National Academy of Engineering and the National Academy of Sciences.