The Chinese University of Hong Kong
Shun Hing Institute of Advanced Engineering
Distinguished Lecture Series 2012

Scaling up MIMO: Opportunities and Challenges with Very Large Arrays

by

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Date: 26 July 2012 (Thursday)
Time: 3:00 p.m. – 4:30 p.m.
Venue: Lecture Theatre, 9/F, William M.W. Mong Engineering Building, CUHK

Abstract

Very large MIMO (VLM) refers to using antenna arrays with an order of magnitude more elements than in systems being built today, say a hundred antennas or more. VLM is a new research field both in communication theory, propagation, and electronics. The ultimate vision of VLM is that the antenna array would consist of small active antenna units. In cellular systems, VLM offers the prospect of increasing rates and reliability by an order of magnitude and saving an order of magnitude in transmit power. In this talk, I will discuss some of the basic opportunities and challenges associated with the introduction of VLM arrays in cellular communication.

Biography of the Speaker

Erik G. Larsson is Professor and Head of the Division for Communication Systems in the Department of Electrical Engineering (ISY) at Linkoping University (LiU) in Linkoping, Sweden. He joined LiU in September 2007. He has previously held positions at the Royal Institute of Technology (KTH) in Stockholm, University of Florida, George Washington University (USA), and Ericsson Research (Stockholm). He received his Ph.D. from Uppsala University in 2002. His main professional interests are within the areas of wireless communications and signal processing. He has published some 80 journal papers on these topics, he is co-author of the textbook Space-Time Block Coding for Wireless Communications (Cambridge Univ. Press, 2003) and he holds 10 patents on wireless technology. He is Associate Editor for the IEEE Transactions on Communications and he has previously been Associate Editor for several other IEEE journals. He is a member of the IEEE Signal Processing Society SAM and SPCOM technical committees. He is active in conference organization, most recently as the Technical Chair of the Asilomar Conference on Signals, Systems and Computers 2012 and Technical Program co-chair of the International Symposium on Turbo Codes and Iterative Information Processing 2012.

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** Light refreshment will be served at 2:30pm before the lecture **