The University of New South Wales
Faculty of Engineering
School of Electrical Engineering & Telecommunications

Invited Talk

From Cellular Networks to Index Coding:
An Interference Alignment Perspective

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Date: 8 October 2012, Monday
Time: 2:30 p.m. – 3:30 p.m.
Venue: G3, Electrical Engineering Building

Abstract

While the idea of interference alignment for wireless networks has been shown to have tremendous potential in idealized settings where channel knowledge is perfect, recently there is increased focus on the robustness of interference alignment schemes to channel uncertainty, and in particular, the setting where no precise knowledge of the channel coefficients is available. This research avenue, known as blind interference alignment, has produced a number of remarkable results that will be summarized in this talk. The talk will also highlight an intriguing relationship between cellular frequency planning based on blind interference alignment and the index coding problem.

Speaker Biography

Syed Ali Jafar received the B. Tech. degree in Electrical Engineering from the Indian Institute of Technology (IIT), Delhi, India in 1997, the M.S. degree in Electrical Engineering from California Institute of Technology (Caltech) , Pasadena USA in 1999, and the Ph.D. degree in Electrical Engineering from Stanford University, Stanford, CA USA in 2003. His industry experience includes positions at Lucent Bell Labs, Qualcomm Inc. and Hughes Software Systems. He is currently an Associate Professor in the Department of Electrical Engineering and Computer Science at the University of California Irvine, Irvine, CA USA. His research interests include multiuser information theory and wireless communications.

Dr. Jafar received the NSF CAREER award in 2006, the ONR Young Investigator Award in 2008, the IEEE Information Theory Society paper award in 2009 and the Engineering School Fariborz Maseeh Outstanding Research Award in 2010. Dr. Jafar received the UC Irvine EECS Professor of the Year award four times, in 2006, 2009, 2011 and 2012, from the Engineering Students Council for excellence in teaching and the Teaching Excellence Award in 2012 from the School of Engineering. Dr. Jafar was the inaugural instructor for the First Canadian School of Information Theory in 2011, a plenary speaker for various conferences and workshops including SPCOM 2010, CTW 2010 and SPAWC 2012, and an Erskine Fellow at the University of Canterbury New Zealand. He served as Associate Editor for IEEE Transactions on Communications 2004-2009, for IEEE Communications Letters 2008-2009 and is currently serving as Associate Editor for IEEE Transactions on Information Theory.

* * * * *   **ALL ARE WELCOME**   * * * * *   **For ENQUIRIES:** Dr. Wei Zhang (Ph: 9385 4033)