



THE CHINESE UNIVERSITY OF HONG KONG  
Institute of Network Coding  
and  
Department of Information Engineering  
*Seminar*



## Multiple Descriptions, Gaussian Source Broadcast and Source-channel Separation

by

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**Date : 8 October 2012 (Monday)**  
**Time : 11:00 am - 12:00 pm**  
**Venue : Room 833 , Ho Sin Hang Engineering Building**  
**The Chinese University of Hong Kong**

### Abstract

In a series of recent works, we provided approximation and/or optimality results on several seemingly rather different long-standing open problems in information theory, namely multiple description source coding, joint source-channel coding of Gaussian source on broadcast channels, and source-channel separation in communication networks. In this talk, we put these results in a unified context of common source broadcast. The relation of these results will be discussed, and this powerful unification leads to several new results straightforwardly. Some closely-related results and open questions will also be discussed if time permits.

Based on joint work with Jun Chen, Suhas Diggavi, Soheil Mohajer and Shlomo Shamai

### Biography

Dr. Chao Tian received the B.E. degree in Electronic Engineering from Tsinghua University, Beijing, China, in 2000 and the M.S. and Ph. D. degrees in Electrical and Computer Engineering from Cornell University, Ithaca, NY in 2003 and 2005, respectively. He was a postdoctoral researcher at Ecole Polytechnique Federale de Lausanne (EPFL) from 2005 to 2007. He joined AT&T Labs-Research, Florham Park, New Jersey in 2007, where he is now a Senior Member of Technical Staff. He teaches regularly at Columbia University as an adjunct faculty member. Dr. Tian received the Liu-Memorial Award at Cornell University in 2004 for excellence in graduate study and research. He is currently an associated editor for the IEEE Signal Processing Letters.

**\*\*ALL ARE WELCOME\*\***

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