



Electrical Engineering Colloquium
Dallas Chapter of IEEE Signal Processing Society Presents

Limited Feedback Design for MIMO Wireless Systems

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Multiple antenna systems have been shown to provide improved capacity and quality compared to traditional single antenna systems. To achieve the benefits of multiple antennas, the signal must be adapted to the current channel conditions. Unfortunately, the forward channel will not be known to the transmitter without some sort of feedback in frequency division duplexing systems. In this talk, we overview how a finite rate feedback path from the receiver to the transmitter can be used to adapt to the transmitted signal. A portion of the talk will be devoted to feedback design when feedback overhead is taken into account. It will be shown that there is always a limit to the amount of feedback that can be used without degrading performance.

Bio – David J. Love received the B.S.(with highest honors), M.S.E., and Ph.D. degrees in electrical engineering in 2000, 2002, and 2004, respectively, from The University of Texas at Austin. During the summers of 2000 and 2002, he was affiliated with the Texas Instruments DSPS R&D Center in Dallas, Texas. Since August 2004, he has been with the School of Electrical and Computer Engineering at Purdue University as an Assistant Professor. Dr. Love is a member of the IEEE, Tau Beta Pi, and Eta Kappa Nu. In 2003, he was the recipient of the IEEE Vehicular Technology Society Daniel Noble Fellowship.

For more information on the Dallas Chapter and directions to UTD, please refer to <http://www.utdallas.edu/~kehtar/ieee-sp/ieee-sp-index.htm>