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## ECE DEPARTMENT SEMINAR SERIES

### Dr. Jerry Gibson

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**Thursday, March 13, 2014**

**2:00 pm**

**ECE 530**

### **Wireless Video: The Applications, the Challenges, and the Way Forward**

#### **Abstract:**

We examine the projected exponential growth in wireless video through 2017. It is suggested that streaming video is not the only application of interest, and that due to changes in network usage and in technologies, perhaps the growth in wireless video is not as daunting as it appears at first blush. Advances in digital cellular standards are highlighted, but it is cautioned that when the Base Station (NodeB or eNodeB) is involved, expectations for cooperation should be lowered. Three rules for improving wireless video performance and efficiency are illustrated with specific technical examples, and the next new challenge in wireless video is defined. The three principal take-aways from the talk are that it is necessary to understand the full technology chain to provide a solution, more than one solution should be provided, and the solutions should not be too disruptive to gain traction.

#### **Bio:**

**Jerry D. Gibson** is Professor of Electrical and Computer Engineering at the University of California, Santa Barbara. He has been an Associate Editor of the *IEEE Transactions on Communications* and the *IEEE Transactions on Information Theory*. He was an IEEE Communications Society Distinguished Lecturer for 2007-2008. He is an IEEE Fellow, and he has received The Fredrick Emmons Terman Award (1990), the 1993 IEEE Signal Processing Society Senior Paper Award, the 2009 IEEE Technical Committee on Wireless Communications Recognition Award, and the 2010 Best Paper Award from the *IEEE Transactions on Multimedia*. He is the author, coauthor, and editor of several books, the most recent of which are *The Mobile Communications Handbook* (Editor, 3rd ed., 2012), *Rate Distortion Bounds for Voice and Video* (Coauthor with Jing Hu, NOW Publishers, 2014), and *Information Theory and Rate Distortion Theory for Communications and Compression* (Morgan-Claypool, 2014).