

College of Engineering

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DEPARTMENTAL SEMINAR

Friday 3 August 2012

2:00-3:00 p.m.

Lecture Theatre A309, Electrical and Computer Engineering Building

The MIMO Multiuser Wireless Bandwidth of this Room

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Dr Brent Petersen

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Abstract:

Space-time communication systems have better performance in the presence of a rich multipath environment, in which the diversity produced by the multipath allows both space and time to be used to maximize the performance. The size of a room will influence the performance. For a given room size, in order to efficiently use the available wireless spectrum, there will be a minimum required wireless bandwidth threshold to minimize the harmful effects of spatial correlation on a multiple-input multiple-output (MIMO) multiuser communication system. Allocating spectrum above this threshold is inefficient over space and time. Maximizing the performance also requires that the access points be separated on the order of a symbol wavelength.

About the speaker:

Brent Petersen received the Ph.D. at Carleton University in Ottawa, Canada, in 1992. He held a post-doctoral fellowship at the IBM Zurich Research Laboratory from 1992 to 93.

From 1994 to 97 he was at the University of Calgary and TRILabs. Finally, in 1997, he joined the Department of Electrical and Computer Engineering, at the University of New Brunswick. In 2006, he co-authored the paper, titled "Symbol-wavelength MMSE gain in a multi-antenna UWB system", which received the Communications Networks and Services Conference (CNSR) 2006 Best Paper Award.

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REFRESHMENTS WILL BE PROVIDED**

ECE POSTGRADUATE STUDENTS ARE EXPECTED TO ATTEND