

## **Seminar Talk**

**Komalpreet Kaur (MS), PhD Student  
Department of Electrical and Computer Engineering  
Old Dominion University**

**Friday, January 31, 2014  
3:00 p.m. KH 224**

**Title:** Empirical modeling of Asynchronous Scalp Recorded and Intracranial EEG Potentials

### **Abstract**

Brain Computer Interface (BCI) is a system that allows people with severe neuromuscular disorders to communicate and control devices using their brain signals. Most of the BCIs are based on scalp recorded electroencephalogram (s-EEG). Performance of s-EEG based BCIs has generally stagnated in recent years. Recently intracranial EEG (i-EEG), which is recorded from the cortical surface or the hippocampus, has been successfully used to control the BCI. i-EEG provides superior SNR, spatial resolution and broader bandwidth compared to s-EEG. Better understanding of the underlying neural phenomenon can improve the BCI performance. This talk describes a linear model developed between s-EEG and i-EEG using empirical data collected from human subjects.

### **Bio sketch**

Komalpreet Kaur did her Bachelors and Masters in ECE from India. After that she taught at National Institute of Technology (NIT) and ITM University in India for five years. Teaching there she was also awarded “Best Teacher Award” from ITM University in 2010. Currently, she is pursuing her doctorate under Dr. Dean Kruseinski. Her research interests are Signal Processing, Brain Computer Interface, Wireless Communication and Networking.