

## **Seminar Talk**

**Brendan Allison, PhD**  
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**Old Dominion University and**  
**Visiting Scholar**  
**Cognitive Science Dept.**  
**UC San Diego**

**Friday, January 24, 2014**  
**3:00 p.m. KH 224**

**Talk title:** Brain-computer interfaces for disabled users

**Talk abstract:**

Brain-computer interfaces (BCIs) can provide communication without movement. Users perform mental activities that can be detected through the EEG or other methods, allowing people to send messages or commands via thought alone, even if physical disabilities make other means of communication difficult or impossible. In the last few years, several research teams have validated BCIs with various patient groups, and shown how to extend BCI technology to help persons with stroke, autism, and other conditions. This talk will introduce BCI systems and give an overview of different BCI approaches. This will include several recent projects that are extending BCI technology to new user groups. The talk is meant for persons without a background in BCI research or specializations such as neuroscience, engineering, medicine, etc. The talk will include a live demonstration of a working BCI. A volunteer from the audience may don an electrode cap and spell with brainwaves.

**Biosketch:**

Dr. Allison has been active in EEG research for about 20 years, most of which involved brain-computer interface (BCI) systems. He earned his PhD in Cognitive Science in 2003 at UC San Diego, where he focused on BCIs based on visual attention (primarily P300) and imagined movement. He has since worked with several top researchers and institutes, including Prof. Wolpaw at the New York State Dept of Health, Prof. Polich at The Scripps Research Institute, and Profs. Pfurtscheller and Neuper at Graz University of Technology. He is presently a visiting Research Assistant Professor with the ASPEN lab at ODU. His main research interests involve BCIs, including hybrid BCIs, BCIs for new patient groups, improved BCI interfaces, and developing standardized BCI terminology and guidelines.