**Talk #4:**

**Speaker:** Dr. Karen Moxon

**Title:** Producing Large Sets of Neural Data with an Eye Towards Sharing

**Biography:**

Dr. Karen A. Moxon is a Professor of Biomedical Engineering and Associate Director for Research, Drexel University, School of Biomedical Engineering. She is an engineer by training with over 20 years of experience in computational neuroscience developing models to study how the brain represents sensorimotor information. Her experience ranges from using reductionist Hodgkin-Huxley type models of small numbers of neurons to simple integrate and fire models of large networks of neurons. Using an information theoretic approach she developed novel models of how variability in neuronal responses provides information about the type of stimulus. Due in part to the complexity involved in acquiring data from others for model development, she directs the NeuroRobotics Lab that performs basic science experiments, recording from large populations of neurons to gain insight into information representation. For example, she uses brain-machine interface paradigms to test hypothesis about neural encoding (Manohar et al.,2012).  Applications of her work involve spinal cord injury (Kao et al., J Neurosci 2009), central neuropathic pain (Graziano et al., PLoS One, 2013) and epilepsy (Grasse et al., Exp Neurol. 2013). She is also involved in developing platform technologies to improve neuronal recording, holding two patents, one for the use of ceramic for microelectrodes (Moxon et al., IEEE-TBE, 2004) and the other for development of wirelessly controlled neuromodulation systems for neurological disorders such as epilepsy or Parkinson’s disease (Foffani et al., Brain 2003). Dr. Moxon will address some of the challenges underlying recording and sharing large sets of neural data.

**Picture:**

