**AMIR MEGHDADI**, University of Manitoba, Department of Electrical and Computer Engineering

*Temporal and Spatial Imaging of Brain Epileptic Activities by Dynamical Characterization of EEG Signal*

EEG signals may be used for detecting abnormal brain activities including epileptic seizures. Nonlinear time series analysis methods employ a dynamical system approach in order to better characterize the EEG signal. These methods assume a deterministic though very complex nature for the time series of EEG signal.

EEG signal during and possibly just before seizure activity is shown to be more deterministic. Detecting such determinism however is a challenging task because the signals are usually affected by noise. A new method for detecting determinism is proposed here which is robust to measurement noise and provides a tool for characterization of epileptic brain signals and locating the areas which are responsible for seizure generation in the brain.