JOINT SEMINAR

Optimization of Neural Stimulation for Treatment of Parkinson’s Disease and Epilepsy

THÉODEN I. NETOFF, PhD
Associate Professor
Department of Bioengineering
University of Minnesota

HOST: Dr. Sridevi V. Sarma, Associate Professor of BME
Associate Director, Institute for Computational Medicine

ABSTRACT: Deep brain stimulation has been shown to be an effective therapy for treatment of Parkinson’s disease and Epilepsy. However, there remains a large degree of variability in responsiveness to the therapy. Neural stimulators have many parameters that may be tuned to improve performance, but it is difficult for a clinician to tune them manually given the large parameter space and nonlinear response to parameter changes. Next generation devices can allow for stimulation based on state of the patient, adding more parameters to the therapy and making optimization further exasperating the difficulty of tuning. In this talk I will present approaches my lab has been developing to optimize therapies to maximize performance of deep brain stimulation. We are developing tools that can facilitate mapping patient response to stimulation settings to help guide a clinician’s selection of stimulation parameters for testing, as well as learning algorithms that tune parameters of responsive neural stimulators online.

Monday, April 2, 2018 @ 4:00PM
Clark Hall 110 (VTC to Talbot Library, Traylor)