



Neural Prosthesis Seminar

December 12, 2008

8:30 AM to 9:30 AM

Biomedical Research Building - BRB 105
Case Western Reserve University

“Model-Based Optimization of Clinical Deep Brain Stimulation”



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Abstract:

Deep brain stimulation (DBS) is an effective clinical treatment for several medically refractory neurological disorders. The clinical outcomes of DBS are a testament to the efficacy of the current device technology, surgical implantation techniques, and clinical programming strategies. However, DBS also requires highly trained and experienced clinical oversight to achieve maximal therapeutic benefit in each patient. In turn, a necessary step forward for wider scale use of this medical technology is the development of assistive technologies that help to optimize clinical implementation of DBS. Therefore, our laboratory has worked to develop anatomically and electrically accurate computer models of DBS that can be customized to individual patients. These patient-specific models are used to predict the optimal DBS electrode implantation location as well as stimulation parameter settings that should maximize therapeutic benefit. Preliminary clinical evaluation of our modeling technology suggests a significant improvement in clinical outcomes with decreased clinical resources.

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This seminar is sponsored by the FES and the APT Centers - For more information, please contact Cathy Walker at 216-231-3257

The Cleveland FES Center is a consortium in Functional Electrical Stimulation technology including the Louis Stokes Cleveland VAMC, Case Western Reserve University, and the MetroHealth Medical Center

