

IEM SPECIAL SEMINAR

TUESDAY
MARCH 31st, 2015

Spatial and Temporal Prediction of Seizures in Human Focal Epilepsy



Institute for
Engineering in Medicine

UNIVERSITY OF MINNESOTA

Driven to DiscoverSM

DR. GREGORY A. WORRELL

Vice Chair, Neurology Research

Professor of Neurology, Biomedical Engineering & Physiology
Mayo Clinic



FREE event, no registration required.

Lunch will be provided.

For additional information on Dr.
Gregory A. Worrell's presentation
please contact: scot0353@umn.edu

12:00PM - 1:00PM

Nils Hasselmo Hall

Room 4-101

The Institute for Engineering in Medicine (IEM) is pleased to announce a special seminar by Dr. Gregory A. Worrell, "Spatial and Temporal Prediction of Seizures in Human Focal Epilepsy". This seminar will address the role of electrophysiological biomarkers in spatial and temporal forecasting of focal seizures.

Epilepsy affects over 50 million people worldwide, and has a global disease burden similar to that of lung cancer. Epilepsy surgery is the most effective treatment for drug-resistant focal epilepsy (DRE), but defining a surgically-resectable focus yielding long-term seizure freedom remains challenging. Biomarkers to identify the epileptogenic zone and networks (EZ), the tissue that must be resected or disconnected for seizure freedom, are needed to improve surgical outcomes. In the future, epilepsy may be more effectively treated, both the seizures and their psychological impact, by providing patients with real-time seizure forecasting.

Dr. Worrell's laboratory, Mayo Systems Electrophysiology Laboratory (MSEL), is developing tools for integrating large-scale electrophysiology, stimulation mapping, and data mining for discovery of epileptogenic brain biomarkers. Current applications under investigation are mapping epileptic brain, forecasting the transition from normal brain activity to seizures and epilepsy (ictogenesis & epileptogenesis), and most recently, the investigation of epilepsy-related cognitive co-morbidities and sleep.

Dr. Worrell earned a B.S. in Physics from Wright State University, an M.D. from the University of Texas Medical Branch, and his Ph.D. in Physics from Case Western Reserve University. He performed a Postdoctoral Fellowship in Epilepsy at the Mayo Graduate School of Medicine.

