

Seminar

NON-INVASIVE EEG+FNIRS AS A PORTABLE IMAGING PLATFORM

Friday, September 9, 2016

SEC 204: 12-1PM

Speaker: Dr. Ahmet Omurtag



Ahmet Omurtag, PhD

Associate Professor

Department of Biomedical Engineering

University of Houston

Abstract: Functional near-infrared spectroscopy (fNIRS) is similar to EEG in cost and portability, and provides a complementary set of information about the functional status of the brain. We will describe the concurrent use of these modalities, EEG+fNIRS, in healthy adult volunteers and its potential applications in disease monitoring. First the development of the FDA approved medical device microEEG and its testing in emergency departments will be described. Then the recent results from Dr. Omurtag's team will be shown about the detection of neural activity driven hemodynamics using EEG+fNIRS. Machine learning techniques show that hybrid functional neuroimaging data during task performance is more accurate than from individual modalities alone.

Bio: Dr. Omurtag is an Associate Professor in Biomedical Engineering at the University of Houston. He holds a Ph.D. in Mechanical Engineering from Columbia University. His post-doctoral training was at the Mount Sinai School of Medicine in computational neuroscience. His research focus is on the diagnostic utility of portable functional neuroimaging devices. He works on applications of simultaneous EEG and functional near-infrared spectroscopy (fNIRS).