SEMINAR NOTICE

Preston M. Green Department of Electrical and Systems Engineering

Detection of Parkinson Disease Rest Tremor

MS Dissertation Defense

By

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Abstract: Parkinson Disease (PD) is a debilitating and progressive movement disorder that affects over one million people in the United States alone. One of the most characteristic symptoms of PD is resting tremor, which involves unintentional and rhythmic muscle oscillations of an afflicted extremity while the muscles of said extremity are relaxed. Several methods currently exist to quantitatively measure this tremor including accelerometry, electromyography, the spirogram, and three-dimensional cameras. This study involves measuring the rest tremor of 30 human subjects, consisting of 10 Parkinson's subjects, 10 Essential Tremor subjects, and 10 healthy control subjects using two devices. The first is an FDA approved accelerometry system to measure human tremor known as the Tremorometer and the second is a new consumer three-dimensional camera known as the Leap Motion Controller. Two trials of thirty seconds were performed with each device, under the same conditions. The study compares tremor characteristics calculated from both devices to compare the Leap Motion Controller to the Tremorometer System. The tremor characteristics obtained from the Leap Motion Controller are also used in an attempt to classify the subjects used in the study as either Parkinson or non-Parkinson subjects.

DATE:	Monday, August 25, 2014
TIME:	2:00 p.m.
PLACE:	Green Hall, Room 0120

Dissertation Advisor:
Dr. Arye Nehorai

This seminar is in partial fulfillment
of the Master's Degree

Washington University in St. Louis
SCHOOL OF ENGINEERING & APPLIED SCIENCE