



Neuroengineering Seminar

Non-contact Biopotential Sensing



Akinori Ueno

Tokyo Denki University

http://www.ees.dendai.ac.jp/labo/ueno/ueno_en.html

Monday, May 20, 2013

4:00-5:00pm

Fung Auditorium, Powell-Focht Bioengineering Building
University of California San Diego

Abstract: Non-contact biopotential sensing offers non-invasive means to physiological monitoring of neural, cardiac and other human electrical activity where galvanic contact to the skin is not warranted due to medical or environmental conditions. I will present the principle of the sensing method and demonstrate some of its applications in devices and systems aiming at infant cardiopulmonary monitoring, sleep apnea screening, in-vehicle heart rate monitoring, wearable electrocardiogram (ECG) sensing, and underwater electromyogram (EMG) measurement. I will also discuss the current limitations and challenges to be addressed in future research.

Biography: Akinori Ueno received the B.S. degree in electrical engineering and Ph.D. degree in biomedical engineering from Keio University, Yokohama, Japan, in 1994 and 1999, respectively. In 1999, he joined the School of Science and Engineering, Tokyo Denki University, Saitama, Japan, where he is currently a Professor at the School of Engineering. During 2013-2014 he is on a sabbatical in the Department of Bioengineering at UC San Diego. His research interests include biomedical instrumentation and intelligent human-machine interfaces. Dr. Ueno is the recipient of several research awards from the Society of Instrument and Control Engineers, the Japan Society of Medical Electronics and Biological Engineering, and the Society of Life Support Engineering.

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