INVITED SPEAKER SEMINAR
AT THE CONCORDIA INSTITUTE FOR INFORMATION SYSTEMS ENGINEERING

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Room EV 1.162

"EEG Signal Analysis and Processing: Overview of Existing and Exciting Applications"

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ABSTRACT
The past decade has witnessed many significant advances in the use of physiological signals, and in EEG signals in particular, for human machine interfaces (HMI). This presentation offers a high level overview of various aspects of the EEG signal processing and analysis framework needed in support of emerging consumer-style and health care / well-being applications. The presentation introduces some theoretical concepts of how signal processing methods and tools can be sued to support novel applications with the system view emphasis on signal pre-processing and feature extraction. Emphasis is given on how these concepts can be applied in practical problems. Affective computing, in particular emotion recognition, is considered as a case study. Open research issues and future trends will be briefly discussed.

BIOGRAPHY

Konstantinos N. (Kostas) Plataniotis is a Professor and the Bell Canada Chair in Multimedia with the ECE Department at the University of Toronto. He is the founder and inaugural Director-Research for the Identity, Privacy and Security Institute (IPSI) at the University of Toronto and he has served as the Director for the Knowledge Media Design Institute (KMDI) at the University of Toronto from January 2010 to July 2012. His research interests are: knowledge and digital media design, multimedia systems, biometrics, image & signal processing, communications systems and pattern recognition. Among his publications in these fields are the recent books *WLAN positioning systems* (2012) and *Multi-linear subspace learning: Reduction of multidimensional data* (2013).

Dr. Plataniotis is a registered professional engineer in Ontario, Fellow of the IEEE and Fellow of the Engineering Institute of Canada. He has served as the Editor-in-Chief of the IEEE Signal Processing Letters, and as Technical Co-Chair of the IEEE 2013 International Conference in Acoustics, Speech and Signal Processing. He is the IEEE Signal Processing Society Vice President for Membership (2014 -2016), the General Chair for the 2018 International Conference on Image Processing (ICIP-18), and the General Chair of the 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2021).

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