IEEE Signal Processing Society

EMB
IEEE Engineering in Medicine & Biology Society

ENGINEERS AUSTRALIA
College of Information, Telecommunications and Electronics Engineering

IEEE & ITEE Evening Lecture with Prof Tülay Adali, University of Maryland Baltimore County, USA

Data-Driven Analysis and Fusion of Medical Imaging Data

ABSTRACT: Data-driven methods such as independent component analysis (ICA) have proven quite effective for the analysis of functional magnetic resonance (fMRI) data and for discovering associations between fMRI and other medical imaging data types such as electroencephalography (EEG) and structural MRI data. Without imposing strong modeling assumptions, these methods efficiently take advantage of the multivariate nature of fMRI data and are particularly attractive for use in cognitive paradigms where detailed a priori models of brain activity are not available.

This talk reviews major data-driven methods that have been successfully applied to fMRI analysis and fusion, and presents examples of their successful application for studying brain function in both healthy individuals and those suffering from mental disorders such as schizophrenia.

SPEAKER: Tülay Adali received the Ph.D. degree in electrical engineering from North Carolina State University, Raleigh, in 1992 and joined the faculty at the University of Maryland Baltimore County (UMBC), Baltimore, the same year where she currently is a Professor in the Department of Computer Science and Electrical Engineering.

Prof. Adali assisted in the organization of a number of international conferences and workshops including ICASSP, NNSP, and MLSP. Prof. Adali is currently chair of the IEEE SP Society's MLSP Technical Committee and has served and is currently serving on various boards of the IEEE SP society and on the editorial boards of a number of journals such as the IEEE Transactions on Signal Processing, Elsevier Signal Processing Journal, IEEE Transactions on Biomedical Engineering, and the IEEE Journal of Selected Areas in Signal Processing.

Prof. Adali is a Fellow of the IEEE and the AIMBE, and the recipient of a 2010 IEEE Signal Processing Society Best Paper Award and an NSF CAREER Award. She is a Distinguished Lecturer of the IEEE Signal Processing Society for 2012 and 2013. Her research interests are in the areas of statistical signal processing, machine learning for signal processing, and biomedical data analysis.

Note: Engineers Australia members are eligible to claim CPD for attending this event.

EVENING LECTURE

Venue: John Connell Auditorium , Engineers Australia Building, 21 Bedford Street, North Melbourne

Time: 6:00pm refreshments for 6:30pm start

Date: Tuesday, 22 January 2013

Register at www.ieeevic.org
There is no admittance fee for IEEE or Engineers Australia members or students.

Contact Information:
Robert Slaviero, IEEE Signal Processing Society-Victorian Chapter Chair, Ph: 9881 9900, r.slaviero@ieee.org

ENGINEERS AUSTRALIA

IEEE Victorian Section