



TEQIP - III Sponsored International Conference on Instrumentation and Control Engineering

(ICECON-2019) 19th - 21st December 2019

PRE-CONFERENCE WORKSHOP ON BIOSIGNAL PROCESSING

19th December 2019



ABOUT THE WORKSHOP

With the advancement in advanced signal processing methods, the high time-resolution signal Electroencephalogram (EEG) has gained much importance in various applications of brain-machine interface. However, a good mathematical understanding of advanced signal processing is required to apply suitable methods of signal processing for a given application. The proposed workshop on EEG signal processing will take you step by step to get a good grasp of various methods. The workshop will include a live demo of EEG signal acquisition streaming from Neuromechanics Research Laboratory at IIT Delhi. The hands-on sessions using MATLAB software will be conducted to show the execution of signal processing methods for collected EEG data

COURSE CONTENTS

The key topics of the course are:

- * Introduction to anatomy and physiology of brain
- * Introduction to genesis and acquisition of Electroencephalogram (EEG)
- * Time-domain analysis of EEG Signals – Event Related Potential (ERP)
- * Time-Frequency analysis of EEG signals using various methods
- * Artifacts Removal in EEG and dimensionality reduction
- * Matlab based demo of EEG signal processing

WHO MAY BENEFIT FROM THE COURSE?

Faculty & Students from any branch of Engineering or Science, Researchers, and Industrial Practitioners can attend and benefit from this course. Familiarity with college level mathematics is desirable.

ABOUT THE SPEAKER



Dr. Deepak Joshi is a faculty (Assistant Professor) at Centre for Biomedical Engineering, IIT Delhi and a joint faculty at All India Institute of Medical Sciences (AIIMS) New Delhi. He received his Ph.D. in biomedical engineering from Indian Institute of Technology (IIT) Delhi and a postdoctoral from University of Oregon, USA in Human Physiology. He also worked at National University of Singapore, Singapore and Newcastle University, UK before joining IIT Delhi. He has a technology transfer and a US patent to his credit. He is a passionate teacher and has received Teaching Excellence Award at IIT Delhi.

He was also awarded the membership of American Association of Advancement in Sciences in the year 2014. Dr. Joshi's current research work combines experimental and computational techniques to understand the neural correlates during walking and balancing for the diagnosis of neuromuscular disorders and for the development of assistive devices for stroke survivors, amputees, elderly population, and Parkinson's patients.

The Live demo will be conducted by PhD students and Research team from IIT Delhi.

VENUE

NIT, Trichy.

INSTRUCTIONS

All participants must bring their laptops with MS-Windows 10; these are required for all the hands-on sessions.

		Registration Fee	
		Before 05.12.19	After 05.12.19
Pre Conference Workshop	Faculty / Industry / R&D Organization	Rs. 3000	Rs. 4000
	Research Scholar / Student	Rs. 2000	Rs. 3000

Contact : **Dr. R. Periyasamy**, Asst. Professor, ICE, NIT, Trichy. Mobile : 91798 26937, Email : periyasamy@nitt.edu

Organized by
Department of Instrumentation and Control Engineering

National Institute of Technology

Tiruchirappalli - 620015, Tamil Nadu, India.