ADVANCED COURSE ON BIO-MEDICAL SIGNAL PROCESSING

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This course covers biomedical signal processing, image analysis with several advanced EEG signal processing for brain computer interface, prosthetics and MRI processing, f-MRI processing and advanced machine learning algorithm (statistics, neural network, online support vector machines, deep learning) for medical analytics.

The course will include specific case studies on neuro-developmental disorder, neuro-degenerative diseases, and cognition problem, which are currently the major research focus area for building sophisticated solutions for medical image analysis. The course also provides current trends in machine learning paradigm in medical informatics.

This advanced-level course will provide strong foundation of theory in advanced signal/image processing algorithms and experience in large analytics system for medical informatics.

Objectives:

The primary objective of this course is to introduce and familiarize participants with:

- Mathematical and computational models in biomedical signal and image processing.
- Current state of the art in EEG, MRI and fMRI processing.
- Current state-of-the art in machine learning for medical informatics.
- Practical application in neuro-generative disorder, neuro-degenerative disease, brain-computer-interface.

Date	2.1.2018 – 13.1. 2018 Number of participants for the course will be limited to fifty. **Registration is on first come, first serve basis and space is limited!**
Who Can Attend?	▪ Students of Computer Science and Engineering, Information Science and Engineering, Instrumentation Technology, Electronics and Communication Engineering, research scholars working or interested in the area Bio Medical Signal Processing. ▪ Faculty Members of Computer Science and Engineering, Information Science and Engineering, Instrumentation Technology, Electronics and Communication Engineering from academic institutions. ▪ Employee of Industry/Consulting Firms/ Research Organizations interested in Bio Medical Signal Processing.
Pre-requisite	▪ Knowledge in Image Processing, Signal processing
Fees	The participation fees for taking the course is as follows: ▪ Participants from abroad : US $100 ▪ Participants within India : INR 2000 The above fee includes training program, Wi-Fi connectivity, and computer use for tutorials, assignments etc.
General Instruction	Participants are encouraged to bring their own laptop. Also participants need to make their own arrangements for food and accommodation.

The Faculty

International Faculty

Dr. Suresh Sundaram of Nanyang is Associate Professor and Deputy Director of Management Committee for Robotic Research Centre (RRC) in Nanyang Technological University. He is Office bearer (Treasurer) of IEEE Computational Intelligence Society Chapter of Singapore and member of IEEE Neural Network Technical Committee, IEEE Intelligent Control Technical Committee, IEEE Task Force on CISDA, and IEEE Task Force for complex-valued Neural Network. He is external project reviewer of CONICYT – National Commission for Scientific and Technological Research, Chile and King Fahd University of Petroleum and Minerals, Saudi Arabia. His research interests are Cognitive Computing, Machine Learning, Medical Informatics, Unmanned Aerial Vehicle Design and Flight Control, Parallel and Distributed System.

Host Faculty

Dr. Anil Kumar K.M received his Ph.D in 2012 from University of Mysore. He has teaching experience of 15 years. At present he is working as Associate Professor in the department of Computer Science and Engineering at Sri Jayachamarajendra College of Engineering, Mysuru. He has received three grants for research works from AICTE, India, VTU, Karanataka and IBM, India. He has published more than 25 research articles in various reputed conferences and peer reviewed journals. His research interests are in the areas of Data Mining, Web mining, Big Data etc.

Course Co-ordinator

Dr. Anil Kumar K.M
Associate Professor,
Department of Computer Science & Engineering,
Sri Jayachamarajendra College of Engineering,
JSS Technical Institutions Campus,
Mysuru- 570 006,
Karnataka, India.

Tel: +91 0821 254 8286 (O)
           +91 9945633380   (M)
 E-mail: anilkm@sjce.ac.in
           anilkm07@gmail.com
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