

Workshop on EEG/ERP Analysis

Centre of Behavioural and Cognitive Sciences

University of Allahabad

The Centre of Behavioural and Cognitive Sciences (CBCS), University of Allahabad is organizing a Two-day Workshop on EEG/ERP Analysis on October 20-21, 2022. Electroencephalography/Event-related potentials (EEG/ERP) is a noninvasive measurement of electrical activity produced by the brain as recorded from the electrodes placed on the scalp and ERP measures the time course of a cognitive process.

The goal of this 2-day workshop is to provide hands-on training with the acquisition of EEG/ERP data, data pre-processing and analysis. Overall, the emphasis of this workshop will be on how to use EEG/ERP as a tool to address research questions in Cognitive Science. In addition, how to measure functional connectivity and compute oscillatory power; and how machine learning and other computational methods can be helpful to understand EEG data will also be discussed.

This workshop is mainly targeted at advanced Masters, PhD and postdoctoral level scholars from Cognitive science/Neuroscience/Psychology, who plan to use EEG/ERP methodology in their current and/or future research. Twenty-five scholars from various institutions like IIT Kanpur, IIT Gandhinagar, IIT Delhi, IIT Roorkee, IIT Bombay, BHU, and CBCS, UoA are participating in the workshop.

Dr. Marieke van Vugt, Assistant Professor at the Bernoulli Institute of Mathematics, Computer Science, and Artificial Intelligence, University of Groningen, the Netherlands, is the resource person for the workshop. Her extensive experience and expertise in EEG Data Acquisition and Analysis, Computational Modeling, Relevance of Interbrain Synchrony for Social Cognition using EEG and Research work on Mind Wandering will certainly aid in training and capacity building for EEG/ERP research in India.

The workshop started on October 20, 2022 with an introductory talk on EEG by Dr. Marieke van Vugt at 10:00 am followed by sessions on designing EEG/ERP experiments by Prof. Bhoomika R. Kar and Dr. Marieke van Vugt, demonstration of EEG recording with a high-density EEG system by Dr. JayPrakash Singh in the lab at the Centre. The hands-on sessions on preprocessing and analysis with a data set were conducted in the lab with 8 systems equipped with the required software, at the National Neuroimaging Facility, CBCS, UoA.

The second day of the workshop will focus on Event related Potentials, Introduction to Brain oscillations and analysis, Using Machine learning for analysis on EEG Data. We believe that workshops on advanced techniques like EEG/ERP will help in capacity building and upgrade analytical skills for research.



Dr. Marieke van Vugt, University of Groningen, Netherlands, Resource person for the workshop on EEG/ERP analysis, CBCS, UoA



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