## ACCS 11 - PRE-CONFERENCE WORKSHOP

## UNDERSTANDING THE RHYTHMS INSIDE OUT FOR A WHOLE PERSON RESEARCH: Workshop on the basics of Electroencephalography, Electrogastrography and Electrocardiography

Organizers: Dr. Pragathi Priyadharsini Balasubramani & Dr. Narayanan Srinivasan, IIT Kanpur

Date: December 12, 2024

Time: 9.30-1pm and 2.30-6.30pm

Please note: Interested participants must (a) register online at the ACCS website and

(b) send their CV and a statement of interest to pbalasub@iitk.ac.in

## **Topics to be covered:**

- Basics of Physiology signals Recording, Signal Characteristics
  - o EEG
  - o EGG
  - o ECG
- Time series analysis
  - o Event related Potentials
- Spectral analysis
  - O Event related Spectral Perturbations
- Spatial filtering
  - o Generalized Eigen Value Decomposition
- Connectivity
  - o Phase Amplitude Coupling
- Modelling of the coupling between physiology signals
  - O Hopf oscillators
  - O Power coupling in oscillators with different frequencies
  - O Travelling waves