

IIITDM Kancheepuram





EEG-based Brain-Computer Interfaces: Fundamentals to Hands-on Applications

DECEMBER 8-13, 2025



About MMTTC:

The Malaviya Mission Teacher Training Center (MMTTC) at IIITDM Kancheepuram is funded by the Ministry of Education (MoE) under the Malaviya Mission Teacher Training Programme. The mission aims to transform higher education by integrating Indian values and ethos into teaching, research, publications, patents, and institutional development. Established as one among the 116 centers in the country, the MMTTC at IIITDM Kancheepuram focuses on design and manufacturing education. It develops e-learning materials, low-cost

About the programme:

The STP on "EEG-based Brain-Computer Interfaces: Fundamentals to Hands-on Applications" is designed to introduce participants to the field of Brain-Computer Interfaces (BCIs) with a focus on EEG signal acquisition, processing, and applications. The programme aims to bridge theory and practice by providing a comprehensive understanding of how EEG signals can be harnessed for human–machine interaction, assistive technologies, and research in neuroscience.

Through interactive lectures, demonstrations, and guided hands-on sessions, participants will learn the fundamentals of brain activity, EEG signal processing techniques, and the development of real-time BCI applications. The programme will also highlight recent advancements, challenges, and opportunities in the field, enabling participants to gain both conceptual clarity and practical skills.

Topics covered:

- Introduction to Brain-Computer Interfaces
- Basics of EEG: Brain activity and signal acquisition
- EEG hardware and data acquisition systems
- Pre-processing techniques
- Time-domain, frequency-domain, and time-frequency analysis of EEG signals
- Feature extraction and classification methods for BCI
- Hands-on sessions with EEG data
- Development of simple BCI applications
- Recent research trends and applications in BCI
- Challenges, ethical considerations, and future directions in BCI

Registration:



- 1.Register and login as a participant in mmc.ugc.ac.in
- 2. In the dashboard click on "Apply for Guru Dakshta (FIP), Refresher Course & Short Term Programme"
- 3.Select Apply for "Short Term Programme" and from the dropdown select the Programme Name and Center Name as "Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram (08/12/2025-13/12/2025)"
- 4. Choose the title from the dropdown menu and enter the remaining personal information including year of joining, total years of experience etc.
- 5.Upload the NOC on Institute/College/University letterhead as per the format provided in https://docs.google.com/document/d/114rQ3R8yMLWdHNk8K8cGJqYUjD7KLVeL/edit
- 6. Click on Submit to complete the registration process.

Resource Persons:

The course content will be delivered by resource persons from leading and prestigious academic institutions, research labs and industry.

Eligibility:

Faculty members working in universities and colleges that are included under Section 2(f) of the UGC Act are eligible to attend STP.

This programme shall be taken into consideration for fulfillment of the requirements as laid down in Career Advancement Scheme as per UGC Regulations.

Coordinators:

Dr. Kannadasan K. Assistant Professor, Department of Computer Science & Engineering IIITDM Kancheepuram, Chennai. Email: kannadasankk@iiitdm.ac.in Contact: +91 9597200112

Dr. Rajesh Kolluri. Assistant Professor, Department of Computer Science & Engineering IIITDM Kancheepuram, Chennai. Email: rajeshkolluri@iiitdm.ac.in Contact: +91 7008713046 Dr. B. Krishnapriya Assistant Professor, Department of Computer Science & Engineering IIITDM Kancheepuram, Chennai. Email: krishnapriya@iiitdm.ac.in Contact: +91 8056980786