

Session Topics (Tentative)

- Introduction to Biomedical Signals.
- Acquisition of biomedical signals (ECG, EEG, EMG, PPG, etc.).
- Signal preprocessing and noise removal.
- Feature extraction and selection.
- Overview of Machine Learning (ML).
- Hands-on artificial Intelligence (AI) programming tools.
- Case studies based on application of AI and ML in healthcare.

Speaker Details

Confirmed Speakers

- Dr. Bikesh K. Singh, NIT Raipur
- Dr. Ram Bilas Pachori, IIT Indore
- Dr. Anurag Singh, IIIT Naya Raipur
- Dr. Sai Krishna Tikka, AIIMS Hyderabad
- Dr. N. K. Bodhey, AIIMS Raipur
- Dr. Anil K. Sao, IIT Bhilai
- Dr. Nitin Khanna, IIT Bhilai

Note: Some more speakers from other eminent institutions are expected to join the workshop.

Chief Patron
Dr. (Mrs.) A. B. Soni
Director

National Institute of Technology
Raipur, India, 492010

Patron

Dr. Prabhat Diwan
Dean (Research & Consultancy),
National Institute of Technology
Raipur, India, 492010

Event Coordinator

Dr. Bikesh Kumar Singh
Associate Professor and Head
Deptt. of Biomedical Engineering
National Institute of Technology
Raipur, India, 492010
Phone No.: 7000469560

Who can attend?

Students pursuing PG
or Ph.D. courses in the relevant area are
eligible to apply

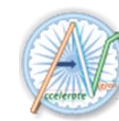


Venue

Department of Biomedical Engineering
National Institute of Technology
Raipur, India, 492010

How to apply?

Register using the link given below:
<https://forms.gle/LggYt6Kn87m3Vrt58>



SERB Sponsored High-End Workshop
On

Advanced Hands-On Training on Biomedical Signal Acquisition and Analysis

(under the **KARYASHALA** scheme)

23-29th May, 2023

Organized by

Department of Biomedical Engineering
National Institute of Technology Raipur
G.E. Road, Raipur
Chhattisgarh-492010

Last date of application: 08.05.2023

Correspondence/Query

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About the KARYASHALA

The KARYASHALA scheme by SERB, Government of India is meant for skill development training on topics required for scientific research work. It is an effort to improve the research productivity of promising PG and Ph.D. students from universities and colleges through high-end workshops on specific themes. This program aims to provide opportunities to acquire specialized research skills.

About the Institute



National Institute of Technology (NIT) Raipur, formerly known as Government Engineering College (GEC) Raipur, is established in 1956. The institute has established its unique identity for the development of high-quality human and knowledge resources. It was declared as 'National Institute of Technology' by the Government of India on 1st December 2005 and then an 'Institute of National Importance' in May 2007 vide the National Institute of Technology Act 2007. With over six decades of glorious history as a premier technical education institution in India, NIT Raipur now offers 12 UG and 11 PG programs. In addition to the UG and PG programs, NIT Raipur also offers Ph.D. in 18 disciplines of science and technology.

About the Department

The Biomedical department started in the year 2003 and it offers undergraduate course in Biomedical Engineering and Ph.D program. The department has well-equipped laboratories including the Biomedical Instrumentation lab, Microbiology and Biochemistry lab, Tissue Engineering lab, Biomedical Equipment lab, Computational biology, and Biosignal processing lab to enable the students and the scholars to pursue research in-house.

About the Workshop

Biomedical signals recorded from the human body provide vital information about the physiological functioning of different internal organs and prove to be highly beneficial in the healthcare domain. The Artificial Intelligence (AI) and Machine Learning (ML) approaches have been very influential in diagnosing and interpreting various health issues via bio-signal processing. The purpose of this high-end workshop is to introduce the computer-based data acquisition technique and analysis of various biomedical signals such as ECG, EEG, EMG, PPG, etc. Various pre-processing and noise removal techniques will be explained. An understanding of feature extraction and feature selection methods is also provided. The focus of the workshop will be on the recent advances in artificial intelligence and machine learning tools, as well as their applications in the field of healthcare. Overall, the workshop will help the participants in gaining knowledge about biomedical signals, their acquisition, and the applicability of AI and ML techniques for computer-aided diagnosis and prognosis of various medical issues.

Registration Guidelines

- Registration Fee: INR 2500/- (Refundable after successful completion of the course)
- Students selected for this workshop are eligible for **travel allowance (TA) reimbursement (3rd AC)** for their journey to and from NIT Raipur through the shortest route as per SERB and GoI norms.
- Accommodation will be provided at NIT Raipur Hostel.
- The maximum number of participants is limited to 25 and candidates will be selected on a merit basis.
- Only selected candidates will be informed by e-mail. Therefore, candidates must provide valid e-mail IDs in the application form.
- While filling out the application form, the candidate must upload their student ID card, NOC letter duly signed by the competent authority, and the latest CV.
- A certificate of participation would be issued to all participants.

❖ **"Online Payment Details" will be mailed to the selected candidates.**

Date _____

To Whom It May Concern,

This letter is to certify that [Student's Full Name], a student of [School/Institution Name], has sought permission to attend a workshop titled [Workshop Name], which is scheduled to take place on [Workshop Dates] at [Workshop Venue].

We hereby confirm that we have no objection to the student attending the workshop and encourage their participation in such educational events that can further enhance their knowledge and skills.

Signature of the applicant

Date and place:

Recommended and forwarded

Signature of the Head of the Department / Head of the Institution with seal

Acknowledgment

The workshop coordinator is thankful to SERB, Department of Science and Technology, Government of India for providing financial support to this training program through a project grant (File No. AV/KAR/2022/0931) under SERB KARYASHALA scheme.