

SERB Finance  
Short Term Training Program  
(STTP) on  
“Real Time Hands-On in Bio-signal  
Acquisition and Processing Using  
Advanced AI and ML Tools”  
From 25<sup>th</sup> to 29<sup>th</sup> August 2024

**REGISTRATION FORM**

Name: .....  
Designation: .....  
Organization: .....  
Qualification: .....  
Correspondence Address: .....  
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Tel. (O) ..... (R) .....  
(M) .....  
E-Mail: .....

Registration Fee: NA

Date: Place:

Signature of Participant

Signature of Principal/Authority

■ Photocopies of registration form may be used.

**Note:** Kindly scan the filled form duly signed  
by the principal and upload it in the below  
link.  
<https://forms.gle/sKuW4nfHSH2oyfqg7>

**Patron/ Chairman**

**Dr. N V Ramana Rao**

Director

National Institute of Technology  
Raipur, India, 492010

**Convener**

**Dr. Prabhat Diwan**

Dean (Research & Consultancy),  
National Institute of Technology  
Raipur, India, 492010

**Coordinators**

**Dr. Bikesh Kumar Singh**

Associate Professor, HoD.

Dept. Biomedical Engineering

**Dr. J. Satya Eswari**

Assistant Professor

Dept. of Biotechnology

**Address for Correspondence**

Coordinators Name: Dr. Bikesh Kumar Singh

Designation: Associate Professor

Department: Dept. of Biomedical Engineering

Email: bsingh.bme@nitrr.ac.in

Contact No. 7000469560

National Institute of Technology Raipur

**One Week SERB-Financed  
Short Term Training Program  
on**

**Real Time Hands-On in  
Bio-signal Acquisition  
and Processing Using  
Advanced AI and ML  
Tools**

**From 25<sup>th</sup> to 29<sup>th</sup> August 2024**



**Organized by**

**Department of Biomedical Engineering**



**National Institute of Technology  
Raipur-492 010 (Chhattisgarh)**

### 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 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 Bio-signal processing lab to enable the students and the scholars to pursue research in-house.

### Venue:

**Department of Biomedical Engineering  
NIT Raipur (CG) – 492 010, INDIA**

### Objectives:

The Scientific social responsibility policy of the Anusandhan National Research Foundation (ANRF), Government of India is meant to imbibe a culture of social commitment among SERB Grantees. The policy intends to effectively utilize scientific infrastructure and expertise of SERB grantees to benefit other S&T stakeholders especially the less-endowed researchers and the society. SSR initiatives include infrastructure sharing, mentoring young faculty/researchers, fostering research culture among students and the academic community and public outreach and knowledge dissemination. SERB SSR policy ensures that the SSR activities are minimal and are aligned and integrated with the Grantees scientific research activities. It is expected that the combined efforts of all the SERB Grantees would lead to development of rich research culture of integrated scientific and social commitments in the country.

### Theme/Scope of workshop:

Biomedical signals obtained from human body record essential information about the physiological operation of various internal organs and are very helpful in the field of healthcare. The fields of artificial intelligence (AI) and machine learning (ML) have had a significant impact on the diagnosis and interpretation of a wide range of health problems through the processing of bio-signals. This high-end session aims to introduce the analysis of several biomedical signals such as EEG, ECG, and computer-based data acquisition techniques. In this workshop, a detailed analysis of advanced signal pre-processing and filtering methods will be utilized. There's also a session on comprehensive feature extraction and selection techniques. The event is going to focus on the latest developments in AI and machine learning technologies, along with their potential uses in the medical domain.

### Topics to be covered:

- Insights on Biomedical Signals.
- Signal preprocessing and filtering techniques.
- Hands-on session on acquisition of EEG signal.
- Introduction of Machine Learning (ML) and Artificial Intelligence (AI).
- Advanced Feature extraction and selection techniques used for training AI/ML.
- Recent trends in Biomedical signal processing using AI/ML.

### Targeted Participants:

- Faculties of Local Engineering Colleges and Universities.

### Registration Fee Details (in INR):

Participants	Amount (in Rs)
Faculty	Free

Application in the prescribed format must reach the coordinator on or before 15<sup>th</sup> August, 2024. Selected candidate will be informed by email as per the schedule. Certificates will be issued to the participants only after attending the complete course.

**Note: The first two days of the workshop are in offline mode and remaining three days are in online mode. Participants have to compulsory attend all the five days.**