

**One Week Self Financed
Online Short Term Training Program
on**

**“Advanced Computational Approaches in
Medical Signal Processing and Biomechanics”
17-21 September 2024**

REGISTRATION FORM

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

Amount

.....
NEFT/DD/Transaction No.....
Date of
payment.....
Name of the Bank.....
Date: Place:

Signature

Participants must send scanned copy of the filled
registration form along with proof of payment through
email to the coordinators.

Payment should be made to the following. Account
No.: 38027633250

Name: Director, NIT Raipur IFSC:
SBIN0002852

*Registration Fee should be paid in the form of
Cash/DD/NEFT in favour of Director, NIT Raipur.*

Last Date for registration: 31-08-2024

Chief Patron

Dr. N V Ramana Rao

Director

National Institute of Technology
Raipur, India, 492010

Patron

Dr. Prabhat Diwan

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

Chairman (CEC)

Dr. Subhojit Ghosh
Professor (EE)

Coordinators

Dr. Bikesh Kumar Singh

Associate Professor, HoD.
Dept. Biomedical Engineering

Dr. Nishant Kumar Singh

Assistant Professor
Dept. Biomedical Engineering

Dr. Shivangi Giri

Assistant Professor
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National Institute of Technology Raipur

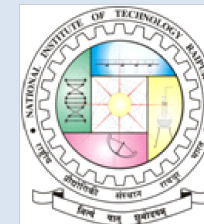
**One Week Self-Financed
Online Short Term Training
Program
on**

**Advanced Computational
Approaches in Medical
Signal Processing and
Biomechanics**

17-21 September 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 Biomedical Engineering
NIT Raipur (CG) – 492 010, INDIA**

Objectives:

This short-term training program aims to train participants with a broad understanding of advanced computational techniques in medical signal processing and biomechanics, focusing on real-time bio-signal acquisition and artificial intelligence and machine learning driven analysis. The program will explore the latest methods employed in machine learning for signal analysis, biomechanical data processing, and biological system modelling and computational analysis. Emphasis will be on real-time applications like automated signal classification and data interpretation to improve diagnostics and therapeutic outcomes. Hands-on sessions and expert-led lectures will highlight the integration of computational methods with practical applications, encouraging interdisciplinary collaboration and innovation.

Targeted at professionals, researchers, and students in biomedical engineering, computer science, and related fields, the program prepares attendees to apply advanced computational techniques effectively, driving progress in medical field and healthcare solutions.

Theme/Scope of workshop:

This workshop will explore advanced computational techniques in acquiring and processing medical signals such as EEG, ECG, and EMG. It will also cover computational approaches in biomechanics, including the development and analysis of human musculoskeletal models. The program emphasizes practical applications in real-time bio-signal acquisition and AI-driven analysis, using state-of-the-art machine learning for signal and biomechanical data processing. Participants will engage with advanced automated signal classification and data interpretation, demonstrating their impact on diagnostics and therapeutic interventions. Through hands-on training, the integration of computational methods with real-world challenges will be showcased, enhancing the participants ability to apply these techniques effectively.

Topics to be covered:

- Introduction on Biomedical Signals.
- Innovative Approaches in Signal Preprocessing and Filtering Techniques.
- Hands-on session on acquisition of EEG & EMG signal.
- Introduction of Machine Learning (ML) and Artificial Intelligence (AI).
- Case studies and Real-World applications.
- Future Trends in Signal Processing
- Solid Modelling and FEA
- Computational Models of Human Movement Using Open-SIM
- Medical image processing

Targeted Participants:

- Undergraduate, Postgraduate and Ph.D. students, young faculty members/researchers from academia and industry..

Registration Fee Details (in INR):

Seats are limited and selection will be done on first-come-first-serve basis. Participants must fill the registration form with payment details. Fee is non-refundable. Selected participants will be notified through email as per the schedule.

Registration Fees (INR)

NITRR students: 700

External students/NITRR faculty/staff: 900

Industry/Faculty: 1500

Additional 18% GST will be applicable in each category of registration fees

Important Dates

Last Date of Registration: 31-08-2024