

About the Internship

The summer internship program at NIT Rourkela is designed to provide a comprehensive hands-on experience in biomedical engineering, focusing on biomedical signal acquisition, processing, and advanced machine learning techniques. Conducted exclusively in offline mode, the program spans 45 days, during which participants will gain in-depth knowledge and practical exposure to various biomedical signals, including Electrocardiography (ECG), Electroencephalography (EEG), Electromyography (EMG), and Visual Evoked Potentials (VEP).

<https://bsiplab.in/>



Artificial Intelligence *for* Biomedical Applications

Organizing Committee

PATRON

Prof. K. Umamaheshwar Rao
Director, NIT-Rourkela

CHAIRMAN

Prof. Devendra Verma
HOD-BM, NIT-Rourkela

CONVENORS

Prof. Bala Chakravarthy N.
Prof. J. Sivaraman
Prof. Kunal Pal



For Registration:

<https://bsiplab.in/sip/user/>



For any queries:

bsip.nitrkl@gmail.com



Mr. Nalla Maheswara Rao : 8885613837
Mr. Soumyajit Gayen : 9748324664
Mr. Deepak Kumar Sahu : 8763359276



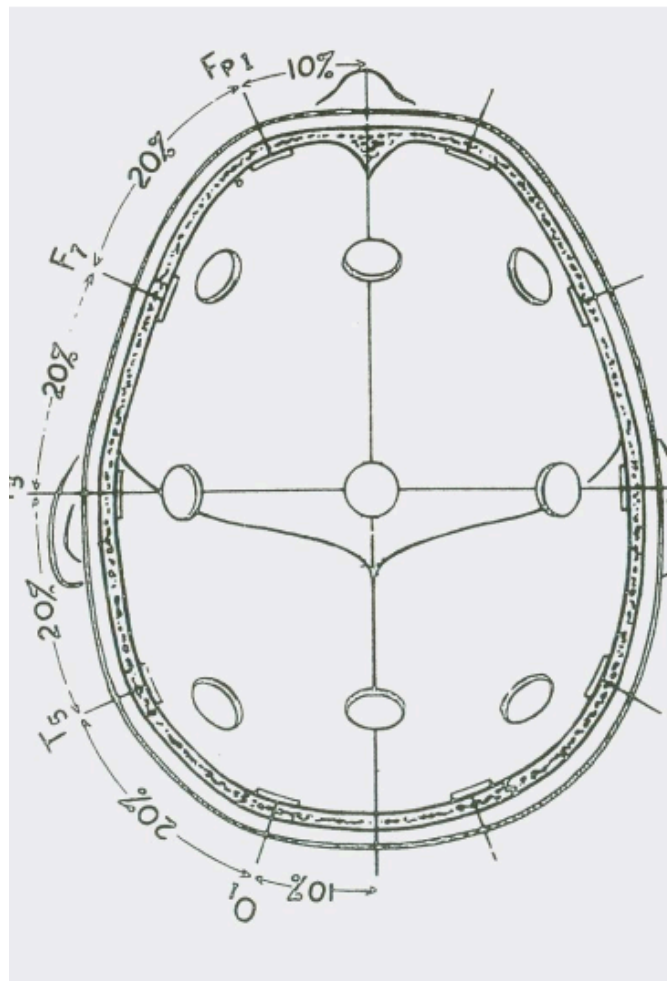
Summer Internship *cum* Training



May 15th – June 30th, 2025

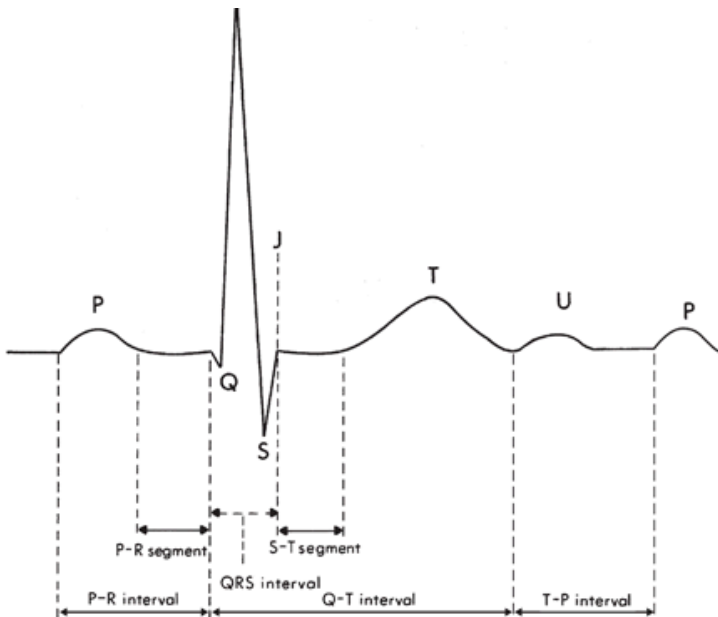
Key Learning Objectives

- ✓ **Biomedical Signal Acquisition**
- ✓ **Data Processing**
- ✓ **ML & Deep Learning**



Signal Acquisition

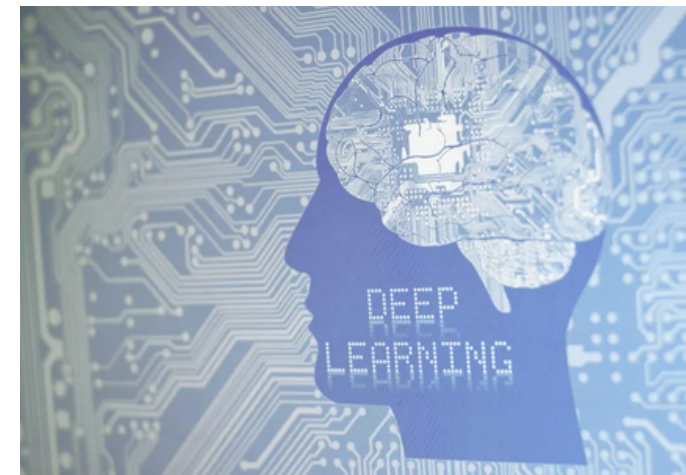
- Fundamentals of **ECG, EEG, EMG, and VEP** signal acquisition
- Understanding biomedical sensors and instrumentation
- Noise reduction and signal preprocessing techniques
- Hands-on experience with **biomedical signal acquisition** devices



••• Data Processing

SIGNAL FILTERING AND
DENOISING TECHNIQUES

SIGNAL SEGMENTATION
AND CLASSIFICATION



ML & Deep Learning •••

TENSORFLOW & PYTORCH

BIOMEDICAL SIGNAL
CLASSIFICATION



THE INSTITUTE

THE PLACE YOU WILL
BE WORKING IN !



About the Institute...

National Institute of Technology Rourkela is an Institute of National Importance for technical education established by the Government of India in 1961. NIT Rourkela is a prestigious institute with a reputation for excellence in research and education at undergraduate, postgraduate and doctoral levels.

How to Reach...



Rourkela is well connected by bus transportation to cities like Ranchi, Raipur, Sambalpur, Bhubaneswar etc.

Rourkela railway station is situated 7 kms away from the NIT campus. Autos/taxis are available round the clock there. Local transport facilities are also available from the nearby private bus terminus. The **Howrah-Mumbai line** and **Ranchi-Bhubaneswar line** pass through this city.



Direct flights from **Rourkela to Bhubaneswar** and **Kolkata**, and direct flights from Jharsuguda (130 km from Rourkela) to Delhi, Bengaluru, Hyderabad, Mumbai, Bhubaneswar and Lucknow are available.

The Department...

The Department of Biotechnology and Medical Engineering was established in 2007. The department is presently offering B. Tech., M. Tech. and Ph. D. degree in Biotechnology and Medical Engineering. The faculty members have diverse research interests, and they conduct both basic and applied research in diverse areas like Cell & Molecular Engineering, Tissue Engineering & Biomaterials, Bioprocess Engineering, Environmental & Plant Biotechnology, Biomechanics & Biotransport Engineering, Medical Electronics & Instrumentation etc. The department is having a number of state of art laboratory well equipped for basic and applied research.

REGISTRATION FEES

The students who wish to participate in this internship program has to pay an amount of **7030/-** (Inclusive GST) towards the account given below.

BANK ACCOUNT DETAILS FOR REGISTRATION

Account Name

CONTINUING
EDUCATION NIT
ROURKELA

Account No.

10138951784

Bank Name

State Bank of
India(002109)

Branch

NIT Rourkela
Campus

IFSC Code

SBIN0002109

REGISTRATION DETAILS

To apply for the internship, please complete the online application form using the provided **QR code** or by clicking the link on or before **April 25th, 2025**.

Selected candidates will receive email notifications on **April 30th, 2025**.



<https://bsiplab.in/sip/user/>

The selected students must carry an **email copy of the Approval letter** while entering the NIT Rourkela.

The decision of the selection committee is final and applies to all applicants.

Points of Note...

All students are advised to bring their laptop considering the restricted academic hours availability of the Labs

Accommodation and logistics can be provided upon request, subject to availability.

(Accommodation in NIT campus is not compulsory, only the physical presence is required for the internship program).

Subject to the availability of rooms on a sharing basis, the charges for the hostel are ₹259/day (including the ₹112 for accommodation and ₹147 for mess) and **₹7770** (259x30)/month.
(Approximate figures)

Only a bed will be provided in the hostel. Bedding accessories (Mattresses, blankets, pillows, etc.) need to be arranged by yourself.
(A nearest vendor may arrange it for Rs.600 /Month, 9861194603)

After selection, you will need to submit a Demand Draft in the name of

"Chief Warden, NIT Rourkela"

You must submit the DD of **₹11,655** for the accommodation and mess fee for 45 days. It will be a non-refundable amount. Without DD, admission to hostel will not be allowed.