

## Explore Biomedical Engineering

- 45 days virtual lecture series on advanced ML, deep learning, biosensors, instrumentation and medical device.
- Hands on training on real life projects.
- Apply acquired skills for advanced biomedical application.
- Medical device product development.
- Explore burgeoning medical devices field.

## Important Dates

Registration Close on 20th May 2026.

Course duration: 1st June 2026 to 15th July 2026 (45 days).

## Who can apply

Engineering/Science students  
(UG/PG/Phd/Deploma)

### Registration link:

<https://forms.gle/9roLWQCaiNvgog6G8>

### For any queries-

Mail: [sip.obms.nitrkl@gmail.com](mailto:sip.obms.nitrkl@gmail.com)

Phone: 9564540744



Organized by  
OBMS LAB-NIT ROURKELA

# SUMMER INTERNSHIP PROGRAM-2026: A bridge course for Biotechnology and Biomedical Engineers

(HYDRIDE MODE)

## Organizing committee

### PATRON

Prof. k. Umamaheshwar Rao

Director, NIT Rourkela

### CHAIRMAN

Prof. Devendra Verma

HOD-BM, NIT Rourkela

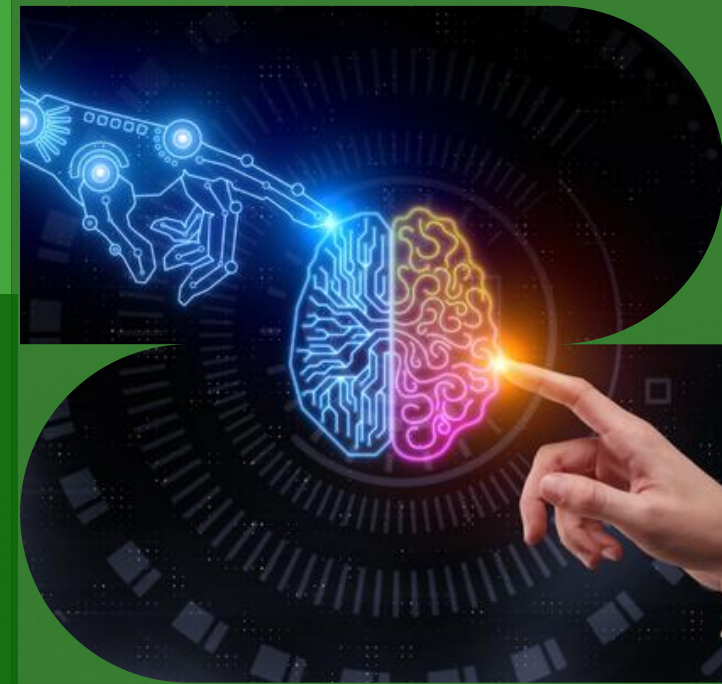
### CONVENORS

Prof. Earu Banoth

Prof. Khalid Mirza Baig

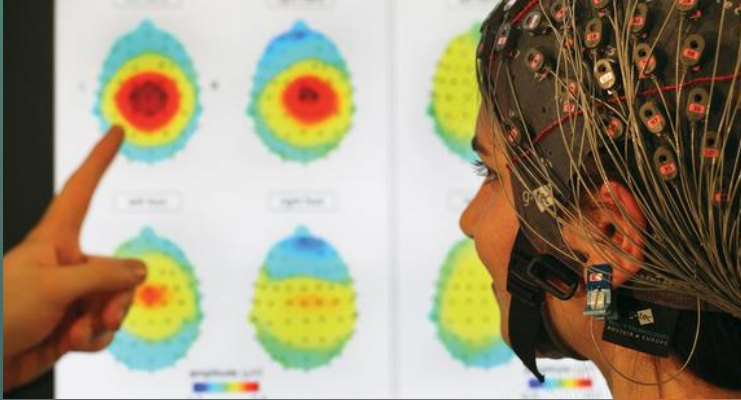
Prof. Prasoon Kumar

Prof. Amrita Singh



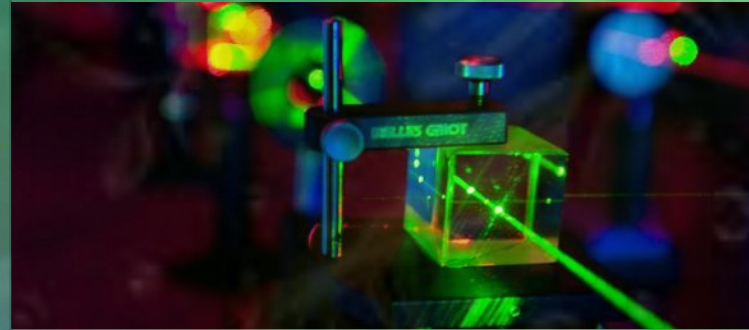
## About the internship

NIT Rourkela's 45-day summer internship offers a high-impact bridge course designed to transition engineering and science students into the evolving field of biomedical engineering. The program features a unique hybrid structure, beginning with 15 days of virtual keynote lectures from international experts followed by 30 days of hands-on project work and a competitive innovation challenge. Participants dive deep into advanced topics such as Generative AI, biofabrication, opto-biomedical instrumentation, and the regulatory lifecycle of medical devices. By working with real-world tools like ECG and BERA systems, interns gain practical experience in signal processing and AI-driven clinical integration. Ultimately, this comprehensive training empowers students to develop cutting-edge, AI-powered medical solutions while mastering both theoretical concepts and industry-standard product development.



## ***Opto-Biomedical instrumentation***

- Fundamentals of Light-Tissue Interaction
- Advanced Imaging Techniques, such as, OCT, DOT, STED etc.
- Optical Sensors and Biosensors
- Therapeutic Applications (Light as Treatment)
- Hands on training on the assembly of optical devices



## ***Bio fabrication and organ-on-chip devices***

- Fundamentals of biomaterials and tissue engineering
- Bio fabrication: Building the Tissue using Additive Manufacturing (Bioprinting, 3D-printing)
- Organ-on-a-Chip (OoC) Design
- Hands on training on the Bio fabrication and Microfluidic devices



## **Outcomes**

***Comprehensive understanding of the theoretical concepts on medical signal and image processing.***

***Hands-on experiment on medical devices including ECG, EMG, VEP, and BERA.***

***Theoretical aspects of AI-based techniques.***

***Implementation of AI techniques using popular software tools and programming languages.***

***Clinical integration of AI in medical signal and image processing.***



## **Key Learning Objectives**

- ★ *Advanced machine learning and deep learning techniques for Biomedical Applications*
- ★ *Product development in area of medical devices*
- ★ *Master Signal Acquisition & Processing*
- ★ *Foster Innovation via Competition*

# Registration Details

To apply for the internship, please fill the online application form using the QR code provided below or by clicking the link on or **before May 20, 2026, 11:59 pm.**

Selected candidate will receive a confirmational email.



**Registration link:**

<https://forms.gle/9roLWQCaiNvgog6G8>

## Registration Fees

The students who wish to participate in this internship program has to pay an amount of **5900/-** (include GST) towards the account given below or by scanning the QR.

Account Name:	CONTINUING EDUCATION NIT ROURKELA
Account no:	10138951784
Bank Name:	State bank of India (002109)
Branch:	NIT Rourkela Campas
IFSC Code:	SBI0002109

Merchant Name : CONTINUING EDUCATION NIT

UPI ID : 01389517841@sbi



## Important guidelines

Please fill the application form carefully. Before filling the form, first you have to pay the registration fee and note the transaction id and keep a copy of receipt.

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

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

**Identity card** of the Institute where you are currently studying, and **Aadhar card** for accommodation. Also, bring the **2 passport size** photographs for id card

Accommodation and logistics can be provided upon request, subject to availability. As per the rules of NIT-RKL you have to pay extra **7500/-** for one-month accommodation.

# NATIONAL INSTITUTE OF TECHNOLOGY- ROURKELA



## About NIT Rourkela

The National Institute of Technology Rourkela (NIT Rourkela), formerly known as the Regional Engineering College until its renaming on 26th June 2002, located in the steel city of Rourkela, Odisha, India, NIT Rourkela holds prestigious rankings, including 19th in the NIRF Rankings 2024 for Indian Engineering Universities, 317th in the QS Asia University Rankings 2025, 167th in the QS World University Sustainable Rankings 2025 (Asia region), and within the 601–800 band in the Times Higher Education World University Rankings (Engineering) for 2024–25. The institute's mission is to become an internationally acclaimed center of learning, serving as a beacon of knowledge and expertise for society while establishing itself as a preferred destination for undergraduate and postgraduate studies.

## About the Department

The Department of Biotechnology and Medical Engineering, established in 2007 at NIT Rourkela, serves as a multidisciplinary hub for cutting edge research and education at the interface of biological systems, engineering, and healthcare innovation. Over the years, the department has built a thriving ecosystem of translational research and technology development, With over 1,600 peer-reviewed publications, more than 100 sponsored projects funded by leading agencies such as DBT, DST, SERB, and ICMR, and five patents filed or granted. The faculty members have diverse research interests and they conduct both basic and applied research in diverse areas such as Cell & Molecular Engineering, Biomaterials & Tissue Engineering, Bioprocess Engineering, Environmental & Plant Biotechnology, Biomechanics & Biotransport Engineering, and Medical Electronics & Instrumentation.



## Direction to reach

Rourkela is located in the Howrah-Mumbai main Train route. Train connections are also available from Bhubaneswar and Ranchi. Night AC/Non-AC bus services are available from all major cities of Odisha (Bhubaneswar/Berhampur/Baleswar, etc.). The Institute is located around 8 km away from the Railway Station and 2 km away from Sector-3 Bus Stop. Usual rate of auto fare at present is approx. Rs.150/- to Rs. 200/- and Rs. 100/- respectively. App based taxi services are also available in Rourkela.