About the workshop

Medical signal and image processing refers to the study of analyzing and understanding the information contained in medical signals and images. The use of artificial intelligence (AI) has transformed the field of medical signal and image processing in recent years, enabling more precise diagnosis and treatment. Participants in the workshop "Medical Signal and Image Processing: Clinical Integration of Artificial Intelligence" will gain practical experience with a variety of medical devices, such as an electrocardiogram (ECG), electromyography (EMG), visual evoked potential (VEP), brainstem evoked response auditory (BERA), and spirometer. The course will initially provide a theoretical introduction to medical signal and image processing methods. Then, the participants will get practical experience handling clinical equipment by learning to collect, preprocess, and analyze data and images. The extraction of features from the medical signals and the images will also be covered. The next topic of discussion at the workshop will be the use of AI-based methods in the analysis of medical signals and images.

Key learning objectives

- 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

Potential attendees

UG (4th year) ,PG students, and PhD scholars

Resource Persons

Academicians

Prof. Sumit Chakravarty, KSU (USA)
Prof. Sławomir Wilczyński, MUS (Poland)
Prof. Sirsendu S Ray, NEHU
Prof. Varun P Gopi, NIT Trichy
Dr. Abhishek Gupta, CSIR-CSIO
Prof. Uvanesh K., MNIT Allahabad
Prof. Bala Chakravarthy N, NIT Rourkela
Prof. Sivaraman J, NIT Rourkela

Industry Experts

Dr. B. Champaty, RIGBETEL LABS
Dr. Sreerup Banerjee, Steroviz Pixels
Dr. Suraj K. Nayak, Clavictor Academy
Mr. Partha Dey, RMS India
Mr. S. Chowdhury, and Mr. S. Chakraborty, LabIndia Analytical

Contact details

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Biotechnology & Medical Engineering, National Institute of Technology Rourkela, Odisha 769008, India.
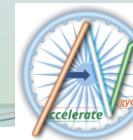
Karyashala
A one-week high-end workshop on

Medical Signal and Image Processing: Clinical Integration of Artificial Intelligence
(MSIP-2024)
June 24-30, 2024

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

Department of
Biotechnology and Medical Engineering
National Institute of Technology Rourkela

The Institute

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

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

*No **_Registration fee_** for this workshop.

Registration fee covers:
Conference Kit, Food (Breakfast, Lunch, Dinner) during the workshop days and accommodation on sharing basis in the institute Hostel.

Registration details

To apply for the workshop, please complete the online application form using the provided QR code or by clicking the link **https://bit.ly/48Dvm6T** on or before **May 30, 2024**. Selected candidates will receive email notifications on June 10, 2024. The selected students must email a scanned copy of the Approval Letter from the Head of the Department/Organization for attending the workshop to **msip.nitrkl@gmail.com** by **June 15, 2024**. If the selected candidates fail to produce the approval letter from their Department/Organization within the mentioned date, the seat will be offered to other candidates. The decision of the selection committee is final and applies to all applicants.
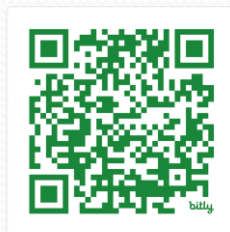
Scan to register

Organizing Committee
Patron:
Prof. K. Umamaheshwar Rao, Director, NIT Rourkela

Organizing Committee:
Prof. Kunal Pal, Head of the Department, (Convenor & Chairman); Prof. Bala Chakravarthy N (Convenor); Prof. Sivaraman J (Convenor); Prof. K. Pramanik; Prof. S. Paul; Prof. A. Thirugnanam; Prof. A. Biswas; Prof. B. P. Nayak ; Prof. N. Sarkar; Prof. D. Verma; Prof. N. Patra; Prof. P. Balasubramanian; Prof. A. Sarkar; Prof.   K. Dutta; Prof. Anamika Singh; Prof. Amrita Singh; Prof. Lohit K. Gujjala.

How to Reach NIT

Rourkela is well connected by train routes with all parts of the country. It is situated on the Howrah-Mumbai line as well as on Ranchi-Bhubaneswar line. NIT campus is situated 7 km away from the Rourkela railway station. Autos/taxis are available round the clock both at Rourkela railway station and NIT Campus. Local transport facility is also available from nearby state and private bus terminus.

Sponsorship

This workshop is sponsored by Science and Engineering Research Board (SERB), is a statutory body under the Department of Science and Technology, Government of India, under the Karyashala Scheme.