INTERNATIONAL CONFERENCE ON ADVANCED BIOMATERIALS FOR TISSUE ENGINEERING AND MEDICAL DEVICES (ICABTEMD 2025)

Date: 28–30 November 2025

Organised by the
Center of Excellence in Tissue Engineering
Department of Biotechnology and Medical Engineering
National Institute of Technology Rourkela,
Odisha, India

About The Institute

The National Institute of Technology Rourkela (NIT Rourkela), formerly known as the Regional Engineering College until its renaming on 26th June 2002, is a premier publicly funded institution dedicated to excellence in Engineering, Science, and Technology. Located in the steel city of Rourkela, Odisha, India, it is one of the 31 National Institutes of Technology in the country and has been recognized as an Institute of National Importance under the National Institutes of Technology Act, 2007. 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, 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 Center

The Center of Excellence in Tissue Engineering (CoE) was established in 2013 under the Ministry of Human Resource Development, now known as the Ministry of Education, Government of India. Located within the Department of Biotechnology and Medical Engineering at NIT Rourkela, the center addresses the multidisciplinary challenges of tissue engineering, including biomaterials, scaffold fabrication, biomechanics, stem cell technology, and cryopreservation. The center focuses on developing and fabricating scaffolds for bone, cartilage, skin, and corneal tissue engineering, alongside creating engineered constructs and tissue grafts. Additional research areas include utilizing biomaterials from biowaste and surface modification for implant enhancements, fostering innovation in this complex and evolving field.

About The Department

The Department of Biotechnology and Medical Engineering, established in 2007, offers a multidisciplinary platform for research and education in Biotechnology and Medical Engineering. It aims to advance the fundamental understanding of biological systems and develop innovative, biology-based technologies to address a wide range of societal needs. These include advancements in diagnosing and treating human diseases, designing novel biomaterials and biomedical devices, and addressing environmental challenges. The department's faculty members engage in both fundamental and applied research across diverse fields such as Cell and Molecular Engineering, Tissue Engineering and Biomaterials, Bioprocess Engineering, Environmental and Plant Biotechnology, Biomechanics and Bio-transport Engineering, and Medical Electronics and Instrumentation.

About The Conference

The International Conference on Advanced Biomaterials for Tissue Engineering and Medical Devices (ICABTEMD 2025) aims to address critical health issues arising from tissue and organ failure due to injury or damage. These challenges significantly impact health and quality of life, making tissue engineering a promising technique for providing integrated solutions. This field, along with regenerative medicine, has garnered substantial interest from both academic and corporate sectors due to its potential to revolutionize healthcare by enabling effective treatments for tissue and organ damage.

Biomaterials play a pivotal role in tissue repair by offering structural support and promoting regeneration. Advanced biomaterials mimic the natural extracellular matrix, supporting cell adhesion and proliferation, which are vital for successful tissue regeneration. These materials also enhance the functionality of medical devices by imparting essential qualities such as durability and strength, as seen in applications like artificial hip joints, where metal alloys and ceramics are used. Biomaterials thus contribute significantly to personalized therapeutic approaches in regenerative medicine. Building on the success of previous conferences under the Center of Excellence in Tissue Engineering (CoE), NIT Rourkela will host ICABTEMD 2025. This conference will serve as a platform for delegates, students, faculty, engineers, doctors, entrepreneurs, and industry professionals from multidisciplinary backgrounds to share the latest advancements in the field. ICABTEMD 2025 aims to contribute meaningfully to the existing knowledge domain and inspire the next generation of bioengineers to develop innovative and translatable ideas that meet national and international needs in biomaterials for tissue engineering and medical device manufacturing.

Topics

The conference will focus on the following topics:

- Advanced Biomaterial and Nanomaterials
- Dental Application
- Orthopaedic application
- Wound healing and skin tissue repair
- Cardiovascular applications
- Ophthalmic application
- Neural applications
- Cancer treatment
- Medical Device
- Diagnostic and Imaging Technologies
- Cosmetics and Personal skin Care
- Advanced techniques for manufacturing tissue Scaffold
- Electrospinning
- 3D printing
- Bioprinting
- Combined methods
- Antimicrobial/antioxidant/anti-inflammatory strategy for developing Biomaterials and engineered tissue Products
- Surface Engineering and Coatings
- Advanced Coatings and Surface Treatments for Biomaterial
- Computational approach for biomaterial design
- AI / ML Application
- Translational Strategy for innovative R & D and application of Biomaterials/engineered tissue Products/Medical Device
- Safety, Ethics, and Regulation
- IPR and start-up
- Drug Delivery Systems

KEYNOTE ADDRESS/ INVITED LECTURES

A series of Keynote speech and Invited lectures will be delivered by eminent Scientists from USA, UK, Japan, Romania, Singapore, and India.

TECHNICAL EXHIBITION

Technical exhibitions shall be organized during the conference to highlight the advances made in process technologies, products, instruments, equipments etc. from companies related to this field.

STUDENT SESSION

An exclusive discussion session for interaction among students from around the globe to share ideas and current research hot topics.

PARTICIPANTS

Engineers, Medical Professionals, Scientists, Research scholars & students from Academic institutions, Research Organizations and Industries across the globe.

CALL FOR ABSTRACTS/ FULL PAPERS

Abstract of research/ technical papers followed by the full paper are invited based on the themes of the conference. After scrutiny by the reviewers, the selected papers will be published in the conference proceeding. Selected papers will be arranged for oral or poster presentation. Abstracts and Full papers must be submitted in soft copies. The acceptance of the paper will be communicated to the participants by email. Selected papers will be published in Scopus indexed journal.

GUIDELINES FOR SUBMISSION

The abstract of the paper must be about 250 words in MS WORD format. The title should be in Capital and Bold followed by the names of the author(s), their address(es) and Corresponding Author email id. Name of the presenting author must be underlined. Different affiliation of authors are indicated by numbered superscripts. The content of the abstract shall include background, objectives, methods, results & conclusion. When using word processing facilities, use only Times New Roman 12 font in ENGLISH. The spacing should be maintained at 1.5 points. The guidelines for full paper will be available on the website. The abstract & full paper should be submitted by e-mail to

ACCOMODATION

The accommodation of the Delegates and Participants will be arranged in the Institute Guest House based on the availability and on the basis of payment. Details of the accommodation in nearby hotels is available on the website.

IMPORTANT DATES

Abstract Submission Deadline	**August 22, 2025**
Acceptance of Abstract	September 8, 2025
Full Paper Submission Deadline	November 3, 2025

REGISTRATION FEES

Participants	**Registration fees**			
	Indian		Foreign	
	Offline	Online	Offline	Online
Student	INR 4000	INR 2000	USD 150	USD 100
Academic institutions	INR 5000	INR 3000	USD 250	USD 150
Industry delegates	INR 7000	INR 5000	USD 350	USD 250
Research organizations	INR 6000	INR 4000	USD 300	USD 200
Accompanying person	INR 1000		USD 150	

***Registration Fees is inclusive of Conference Kit, Abstract Book, Proceedings and Food.**

MODE OF PAYMENT

All payments can be made in the form of Demand Draft (DD): drawn in favor of ICABTEMD 2025, NIT Rourkela, payable at SBI, NIT Campus Branch, Rourkela. Bank Transfer: The transfer details are available on the website.

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