

DAY ONE | APRIL 5th 2025

8:00 AM to 9:30 AM

DINING HALL

Registration | Tea

9:30 AM to 11:00 AM

Introduction to Fabricate 2025 | Inauguration

11:00 AM to 11:30 AM

TTJ Audi

Plenary Talk | Dr. Sabu Thomas | TrEST
 Research Park, Trivandrum

Nanostructured scaffolds for tissue engineering.

FABRICATE 2025

SESSION 01 > Advanced microenvironments for tissue engineering

SESSION 02 > Biofabrication techniques for clinical impact

HALL 01

Session Chair | Dr. Sachin Kumar B

HALL 03

Session Chair | Dr. Sonal Asthana

12:00 PM to 12:20 PM

**KEYNOTE
SPEAKER**
Dr. Deepak Kalaskar
 UCL, London

**KEYNOTE
SPEAKER**
Dr. Vijayavenkataraman Sanjairaj
 NYU, Abu Dhabi

Vascularisation : holy grail for biofabricated tissue

3D (Bio)Printing of clinically-relevant soft tissues

12:30 PM to 12:45 PM

**INVITED
SPEAKER**
Dr. Shantanu Pradhan
 IIT, Madras

**INVITED
SPEAKER**
Dr. Anil Kumar PR
 SCTIMST, Trivandrum

 Nano-scale modulation of hydrogel properties for
 controlling cellular behavior

Innovative biofabrication techniques for clinical impact

12:50 PM to 1:05 PM

 Cellulose-based bioactive material and turmeric impregnated
 flexible and biocompatible scaffold for bone tissue engineering
Shital S | CGU, Taiwan
**INVITED
SPEAKER**
Dr. Darren Player
 UCL, London

 Developing an in vitro tissue model of the muscle spindle: towards
 clinical impact for proprioceptive dysfunction

 Effectiveness of algae-infused composite scaffolds : an amalgam of
 ceramic and biopolymers for bone | **Rizwan N | IIT, Kharagpur**
**CONTRIBUTORY
LECTURE**
Dr. N Ayyadurai
 CSIR-CLRI, Chennai

1:15 - 1:25 PM

 3D Bioprinted Composite Hydrogel Scaffolds Incorporating Rare-
 Earth and Transition Metal Oxides | **Dilip K, Sathyabama**

 Genetically growth factor-mimicking unnatural amino acid encoded
 scaffold for tissue engineering

POSTER VIEWING | LUNCH (1:30 PM - 2:15 PM)

DAY ONE | APRIL 5th 2025

FABRICATE
2025

SESSION 03 > Next Generation Nano-Biomaterials

SESSION 04 > Lab to Clinic : Safety, Standards & Scalability

HALL 01

Session Chair | Dr. Deepak Patil

HALL 03

Session Chair | Dr. Deepak Kalaskar

2:20 PM to 2:40 PM

**KEYNOTE
SPEAKER**

Dr. Debrupa Lahiri
IIT, Roorkee

**KEYNOTE
SPEAKER**

Dr. Jayesh Bellare
IIT, Bombay

Exploring functionalities in tissue engineering templates through design and fabrication for neural regeneration

Biodegradable 3D scaffolds for bone tissue engineering: translating from lab to clinic

2:50 PM to 3:05 PM

**INVITED
SPEAKER**

Dr. Dilip Satapathy
IIT, Madras

**KEYNOTE
SPEAKER**

Dr. Sonal Asthana
Aster CMI Hospitals, Bengaluru

Flexible thermoelectrics and protein-based soft actuators: pioneering the wearable and adaptive technologies

Development of absorbable biliary stents - from ideation to animal models

3:15 PM to 3:30 PM

**INVITED
SPEAKER**

Dr. Sachin Kumar B
IIT, Delhi

**INVITED
SPEAKER**

Dr. Vineet Joshi
LVPEI, Hyderabad

Engineering nanomaterials for dual applications: ultra-sensitive sensing and accelerated wound healing

3D bioprinting applications in corneal diseases clinicians perspective

3:40 PM to 3:55 PM

**INVITED
SPEAKER**

Dr. Subham Banerjee
NIPER, Guwahati

**INVITED
SPEAKER**

Dr. Greeshma Thrivikraman
IIT, Madras

FabRx: Fabrication of next-generation medicines

Light responsive hydrogel therapeutics for spinal tissue regeneration

4:05 PM to 4:15 PM

**CONTRIBUTORY
LECTURE**

Dr. Kanchan Yadav
IISc, Bengaluru

**CONTRIBUTORY
LECTURE**

Dr. Manoj Komath
SCTIMST, Trivandrum

Advanced nanomaterials for biosensing and other healthcare applications

Challenges in taking biomaterials-based products from concept to clinic

4:25 PM to 4:35 PM

Nanobiomaterials for peripheral nerve regeneration |
Nasera R | MIRM, Bengaluru

Indigenous scalable manufacturing of low-cost, efficient hollow fiber membranes for hemodialysis | **Pranav K | IISER, Bhopal**

POSTER VIEWING | NETWORKING | TEA (4:35 PM to 5:00 PM)

Sponsors |



DAY ONE | APRIL 5th 2025

FABRICATE
2025

SESSION 05 > Organ on a Chip & Complex 3D Constructs

SESSION 06 > Precision Bioengineering for Tissue Regeneration

HALL 01

Session Chair | Dr. Janani Radhakrishnan

HALL 03

Session Chair | Dr. Dr. Vijayavenkataraman

5:00 PM to 5:20 PM

**INVITED
SPEAKER**

Dr. Tuhin Santra
IIT, Madras



**KEYNOTE
SPEAKER**

Dr. Sujata Mohanty
AIIMS, New Delhi



Micro/nano devices for cellular analysis
and biomedical applications

Printing the future: 3D bioprinting at the intersection of science and
innovation

5:25 PM to 5:40 PM

**INVITED
SPEAKER**

Dr. Prajakta Dandekar
ICT, Mumbai



**CONTRIBUTORY
LECTURE**

Dr. K Gopal Shankar
NIT, Calicut



Extrusion-based 3D bioprinting of GelMA-based
bioink for soft tissue regeneration

Leveraging decellularized plant materials for developing new-
generation 3D scaffolds for tissue engineering applications

5:50 PM to 6:05 PM

**INVITED
SPEAKER**

Dr. Andreas Blaeser
TU Darmstadt, Germany



**CONTRIBUTORY
LECTURE**

Dr. Manasa Nune
MIRM, Bengaluru



3D-bioprinting meets microfluidics – a versatile approach for the
automated bioproduction of vascularized organ-on-a-chip systems

Extracellular matrix-based biomaterials and bioinks for tissue
engineering applications

6:15 PM to 6:25 PM

Investigating hepatic osteodystrophy: dual-organ perfusion system as a
model for liver-bone pathophysiology
Purva G | IIT, Kanpur

Comparative evaluation of PLA scaffold designs for mandibular bone defects:
an invitro study
Pranav S | ACDS, Secunderabad

END OF DAY ONE

|| GALA DINNER ||

DAY TWO | APRIL 6th 2025

FABRICATE
2025

SESSION 01 > Biosensors & Bioelectronics

SESSION 02 > Alternatives to Animal Experiments

HALL 01

Session Chair | Dr. Kanchan Yadav

HALL 03

Session Chair | Dr. Aditi Jain

10 AM to 10:20 AM

**KEYNOTE
SPEAKER**

Dr. Zong-Hong Lin
NTU, Taiwan



Self-powered devices based on triboelectrification

**KEYNOTE
SPEAKER**

Dr. Biman Mandal
IIT, Guwahati



Bioengineered in vitro human organ models for high throughput screening and drug discovery

POSTER VIEWING | NETWORKING | TEA (10:30 AM - 10:50 AM)

10:50 AM to 11:05 AM

**KEYNOTE
SPEAKER**

Dr. V. V. Raghavendra Sai
IIT, Madras



Optical sensors for health, water, food and pharma

**INVITED
SPEAKER**

Dr. Amit Kumar Jaiswal
VIT, Vellore



Development of in vitro tissue engineered model for giant cell tumour of long bones

11:15 AM to 11:30 AM

**INVITED
SPEAKER**

Dr. Snigdha Roy Barman
IIT, Madras



Self-powered triboelectric nanosensors: enabling chemical detection in robotic platforms

**INVITED
SPEAKER**

Dr. Gowri Balachander
IIT, Varanasi



From organoids to organ-on-a-chip. transforming biology in 3D for meaningful pursuits

11:40 AM to 11:55 AM

**CONTRIBUTORY
LECTURE**

Dr. Arunkumar Chandrasekhar
VIT, Vellore



Fabricating a sustainable future: recycling materials for triboelectric nanogenerators and self-powered sensors

Adoption of alternatives to animal experiments in India | our friends and foes
Dr. Kasturi M | CPHMS, AIC-CCMB, Hyderabad

Tradition with innovation: mimicking human skin with artificially reconstructed 3D skin models for biomedical applications | **Nidhi Lakhani | CIRC, Bengaluru**

DAY TWO | APRIL 6th 2025

FABRICATE 2025

SESSION 03 > Navigating Academic Publishing and Career Building

SESSION 04 > Nanotechnology & Drug Delivery

HALL 01

Session Chair | Dr. Shivendu Ranjan

HALL 03

Session Chair | Dr. Subham Banerjee

12 PM to 12:20 PM

**INVITED
SPEAKER**

Dr. Aditi Jain
American Society for Microbiology

**KEYNOTE
SPEAKER**

Dr. Chih-Ching Huang
NTOU, Taiwan

Microbes & manuscripts: trends shaping scientific publishing

Carbon-based nanomaterials: a new frontier in combating pathogens in aquaculture and water systems

12:30 to 12:45 PM

**SPONSORED
SESSION**

Mahesh Kumar
HiMedia Laboratories

**INVITED
SPEAKER**

Dr. Janani Radhakrishnan
NIAB, Hyderabad

From Monolayers to Complex Tissues: The Role of Cero 3D Bioreactor in Culturing Spheroids and Organoids

Core-shell multi-functional fibrous mat with silk spidroin for immunomodulation-driven tissue engineering

12:50 PM to 1:50 PM

***PRIOR REGISTRATIONS MANDATORY**

Luncheon Panel Discussion: Exploring Academic Careers
(Includes Food Packets)

Debrupa Lahiri IITR | Sanjib Senapati IITM
Gowri Balachander IITBHU | Deepak Patil NITC

Session Chair | **Dr. Snigdha Roy Barman**

Facile synthesis of carbonized nanovesicles from non-ionic surfactants for Polymyxin B encapsulation
Ren-Siang Wu | Chang Gung University, Taiwan

POSTER VIEWING | NETWORKING | LUNCH (1:00 PM - 2:00 PM)

2PM to 2:15 PM

**SPONSORED
SESSION**

Mr. Chaitanya Doshi
KORE AMMR

**INVITED
SPEAKER**

Dr. Vignesh Muthuvijayan
IIT, Madras

Precision arduino-driven peristaltic pump: an open-source solution for biomedical fluid delivery

Engineering injectable silk fibroin-agarose hydrogels for localized sustained pirfenidone delivery

2:25 PM to 2:35 PM

**SPONSORED
SESSION**

Dr. Gopikrishna
SubUnit Studio

**INVITED
SPEAKER**

Dr. Swathi Sudhakar
IIT, Madras

Creating impactful science graphics

Unveiling cellular nanotherapeutic dynamics: molecular insights and mechanisms

DAY TWO | APRIL 6th 2025

SESSION 03 > Nanotechnology & Drug Delivery

SESSION 04 > Nanotechnology & Drug Delivery

2:50 PM to 3:20 PM

TTJ Audi

**Plenary Talk | Dr. Bikramjit Basu | Director-
CSIR-CGCRI, Professor-IISc, Bengaluru**

Layer-by-layer printing of bio(material) inks with better shape fidelity and biocompatibility: current status and translational challenges

**FABRICATE
2025**

HALL 01

 Session Chair | Pooja Venkatesh & Piyush
Padmanabhan

HALL 03

Session Chair | Dr. Swathi Sudhakar

3:35 PM to 3:50 PM

 Design and fabrication of a 2D cell-squeezing mechanoporation device
Pulasta C | IIT, Madras
**INVITED
SPEAKER**
Dr. Deepak Patil
NIT, Trichy

 Self-powered robotic sensor for wireless heavy metal ion detection
Meenakshi R | NTU, Taiwan

Fabrication of mechanobactericidal nanostructured metallic and polymeric surfaces

4:00 PM to 4:15 PM

 AMBA-Automated minimal invasive biotronic biopsy appliance for cancers and internal organ diseases
Dr. Malladi S | Gurusimha Life Sciences Private Limited
**INVITED
SPEAKER**
Dr. Shivendu Ranjan
IIT, Kharagpur

Advanced multiparametric bioimaging probe applications of uniquely synthesised carbon dots

|| TEA BREAK (4:15 PM - 4:30 PM) ||

4:30 PM to 5:20 PM

 Smart microfluidic-based flexible sensor for continuous sweat monitoring
Jaba RC | NTU, Taiwan

 Effect of natural shellac on the adhesion strength of hydroxyapatite - chitosan composite coating | **Ritwik A | TIST, Kochi**

 4D printing of sericin: transition from textile waste to medical wealth
Sachin L | IISc, Bengaluru

 Waste-to-value bio fabrication: transforming carbon-based waste into wearable sensors for human body | **Karthick N, VIT, Vellore**

 Development of superhydrophilic polycaprolactone/ κ carrageenan antimicrobial nanofiber | **Vandana K | NIT, Andhra Pradesh**

 Natural polysaccharide - based triboelectric nanogenerator : a sustainable and biodegradable approach to self powered sensor and E-SKIN | **Nimmi S | VIT, Vellore**

 Innovative bio-ink for effective removal of heavy metal as a sustainable solution
Yamini S | VIT, Vellore

 Bioinspired periodontium-on-a-chip drug testing tool for therapeutics in periodontitis
Abinaya R | IIT, Madras

 Development and characterization of injectable dECM-based hydrogels crosslinked with dialdehyde star | **Deepak T | IIT, Madras**

 Gold-disulfiram self-assembled nanomaterials: repurposed drug as antibacterial agents | **Han-Wei Chu | Chang Gung University, Taiwan**
Closing ceremony: Award announcements - Poster, Oral presentation, Best Early Careers Researcher, Vote of Thanks & Certificate Distribution