



JB INSTITUTE OF ENGINEERING & TECHNOLOGY

(UGC-Autonomous)

(Accredited by NBA & NAAC, Approved by AICTE & Affiliated to JNTUH,
Hyderabad)

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International Conference on Emerging Trends in Computational Sciences & Engineering **(ICETCSE–2025)**

The International Conference on Emerging Trends in Computational Sciences & Engineering (ICETCSE–2025) was successfully organized by J B Institute of Engineering & Technology (JBIET), Hyderabad, India, in collaboration with The University of the West Indies, St. Augustine Campus, Trinidad & Tobago, during 18–20 December, 2025.

The conference aimed to provide an international platform for academicians, researchers, industry professionals, and students to share innovative research outcomes and discuss emerging trends in computational sciences and engineering.

A total of 237 participants registered for the conference, out of which 201 research papers were presented and 36 participants attended as listeners. The papers were received from various domains including Computer Science and Engineering & Allied Branches, Electrical & Electronics Engineering, Electronics & Communication Engineering, Civil Engineering, Mechanical Engineering, Mathematics, Physics, and Chemistry.

The three-day technical program included an inaugural session, keynote addresses, invited talks, and multiple parallel paper presentation sessions. The inaugural ceremony was followed by a keynote address delivered by Dr. G. P. Rajasekhar, Professor, Department of Mathematics, IIT Kharagpur, Kharagpur and Vice-Chancellor, Andhra University. Eminent speakers from reputed national and international institutions such as IITs, NITs, IISc, University of Windsor (Canada), University of the West Indies (Trinidad & Tobago), Samarkand State University (Uzbekistan), and Sohar University (Oman) delivered invited talks.

All paper presentation sessions were chaired by senior faculty members and subject experts. The presentations were evaluated based on originality, technical contribution, clarity, and relevance. To encourage quality research, three Best Paper Certificates were awarded in each subject domain.

All accepted and presented papers were published in the conference proceedings with ISBN. Selected high-quality papers were recommended for publication in the Mansoura Engineering Journal (Scopus Indexed), subject to the journal's peer-review process and guidelines.

The conference successfully facilitated knowledge sharing, interdisciplinary research collaboration, and professional networking among participants. ICETCSE–2025 significantly contributed to advancing research and innovation in computational sciences and engineering and reinforced JBIET's commitment to academic excellence and global engagement.

ICETCSE-2025-Brochure

Registration Fee

Participant Category	Indian	Abroad
Faculty, Students, Research Scholars & Industry R&D Organizations (With paper)	INR 100	USD 15
Faculty, Students, Research Scholars, Industry R&D Organizations (Without)	INR 250	USD 5

Account Details
EDUCATIONAL SOCIETY
 Coram Bank, Mehsana Branch,
 Account No: 3003070006016
 IFSC Code: COBK0003003
 BRIFC Code: CHRBH55555

Registration link
<https://forms.gle/NTG0STraR5QwpW7>

Paper Submission

- The organizers invite original and unpublished research articles from academia, industry experts, and research scholars, including students, for presentation in the broad thematic areas of the conference.
- All abstracts accepted for presentation will be published in the **Conference Proceedings (with ISBN)**.
- Selected papers will be published in the special issue of the **Mansoura Engineering Journal (Scopus Indexed / No Publication Charges)**.
- Note: Publication of selected papers will strictly follow the journal's guidelines and peer-review processes.

Conference Website Link
<https://www.jbieta.in/ICETCSE2025>

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JB INSTITUTE OF ENGINEERING & TECHNOLOGY

International Conference on EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING ICETCSE - 2025

Organized by Departments of

- Computer Science & Engineering
- Electrical & Electronics Engineering
- Electronics & Communication Engineering
- Civil Engineering
- Mechanical Engineering
- Mathematics
- Physics
- Chemistry

JBIET Institute of Engineering & Technology, Hyderabad, India

In Collaboration with

The University of the West Indies, St. Augustine campus, Trinidad & Tobago, WI

16 - 20, December 2025

Mode: Online

Important Dates

Paper Submission Deadline : Nov 27, 2025
 Paper Notification : Nov 27, 2025
 Last date for Registration : Dec 01, 2025

About the Institution

J.B. Institute of Engineering and Technology (JBET) established in 1994, one of Telangana's premier engineering institutions, is renowned for its commitment to quality education, innovation, and student success. JBET is a UCC autonomous institution, and the UCC has extended its autonomous status for the next 10 years, i.e., up to 2036. JBET offers a vibrant academic environment and has been accredited by NAAC with an "A" grade and HBA under the Tier-1 category. The institution offers B.Tech, M.Tech, and MBA programs.

With strong industry ties, JBET has signed MOUs with leading organizations, including ITR Praxaris, T-RMS, Cyber Security Center of Excellence from the Government of Telangana, and the Engineering Staff College of India to offer specialized entrepreneurship and skill development courses. Additionally, JBET collaborates with Cambridge University Press to enhance English Language Skills among students.

JBET emphasizes hands-on learning, interdisciplinary collaboration, and entrepreneurship, supported by a dedicated and experienced faculty. Students receive industry-ready training through frequent curriculum updates and real-world exposure in the Institute Innovation Hub.

The Institute also promotes participation in sports and co-curricular activities, with students achieving national-level recognition. With its student-centric approach and a focus on academic excellence, JBET continues to be a top choice for aspiring engineers.

About Conference

ICETCSE-2025 aims to provide a common platform for students, academicians, researchers, developers, and practitioners to share their research initiatives, present outcomes, and exchange experiences. The conference seeks not only to foster learning about emerging trends and recent developments but also to facilitate meaningful collaborations and networking among participants. All accepted papers will undergo a rigorous peer review process and will be published in the conference proceedings with ISBN numbers.

Theme of the Conference

"New Approaches in Computational Science and Engineering"

Objectives

- To bring together academicians, researchers, industry experts, and students from diverse disciplines to share their latest research outcomes, innovations, and technological developments.
- To promote interdisciplinary collaboration in computational sciences, core engineering, and scientific domains.
- To explore and discuss emerging trends, methodologies, and applications that address real-world challenges in science and engineering.
- To foster networking, knowledge exchange, and research partnerships among participants for advancing scientific and technological progress.

Topics

Topics of Interest for Submission include, but are not limited to:

Computer Science and Engineering and AI/ML

- High-Performance and Cloud Computing
- Computational Intelligence and Soft Computing
- Scientific Computing and Parallel Algorithms
- Computational Data Science and Big Data Analytics
- Computational Cybersecurity and Network Simulation
- Machine Learning and AI Applications
- Artificial Neural Networks & Deep Learning
- Blockchain Technology
- Quantum Computing

Electrical and Electronics Engineering

- AI and Machine Learning for Power System Stability and Control
- Smart Grid Operation and Renewable Energy Integration
- Advanced Control Systems and Automation
- Electromagnetics, Devices and Circuits
- Utility Management & Energy Optimization
- Smart Charging Infrastructure
- Smart FACTS Controllers
- Computational Intelligence in Electrical Machines and Drives

Electronics and Communication Engineering

- VLSI Design & Embedded Systems
- Next-Generation Communication & Networking
- Signal and Image Processing
- Robotics, Control & Automation
- Sensing Materials and Devices
- Interdisciplinary Applications

Civil Engineering

- Sustainable Structural Design Methods using Computational Techniques
- Sustainable Geotechnical Solutions for Soil Stabilization
- Water Resource Engineering and Environmental Fluid Mechanics
- Transportation System Simulation and Traffic Modelling
- Sustainable Construction Materials and Technology
- Building Information Modelling (BIM) and Smart Infrastructure Analytics

Mechanical Engineering

- Computational & Simulation Technologies
- Advanced Materials in Engineering
- AI & Smart Technologies in Manufacturing
- Quantum Computing in Mechanical Engineering
- Emerging Technologies in Electrical Vehicle Batteries
- Advanced Technologies in Semiconductor Manufacturing & Packaging

Mathematics:

- Computational Fluid Dynamics (CFD) and Numerical Simulation
- Mathematical and Scientific Machine Learning
- Numerical Analysis and Scientific Computing
- Computational Optimization and Operations Research
- Dynamical Systems and Computational Modelling of Complex Systems
- Computational Number Theory and Cryptography
- Computational Probability, Statistics, and Stochastic Modelling

Physics:

- Computational Condensed Matter and Material Physics
- Quantum Computing and Quantum Simulations
- Computational Astrophysics and Space Physics
- Computational Plasma Physics and Fusion Modelling
- High-Performance Computing in Theoretical and Particle Physics
- Mathematical & Computational Physics
- Computational Nanoscience and Nanotechnology

Chemistry:

- Computational and Theoretical Chemistry
- Molecular Dynamics and Quantum Chemistry Simulations
- Computational Drug Design and Cheminformatics
- Computational Materials and Nanochemistry
- Spectroscopy Data Analysis and Computational Modelling of Chemical Reactions
- Green Chemistry and Sustainable Chemical Processes
- Nanochemistry and Molecular Nanostructures

Venue

J.B. Institute of Engineering & Technology
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Contact Details

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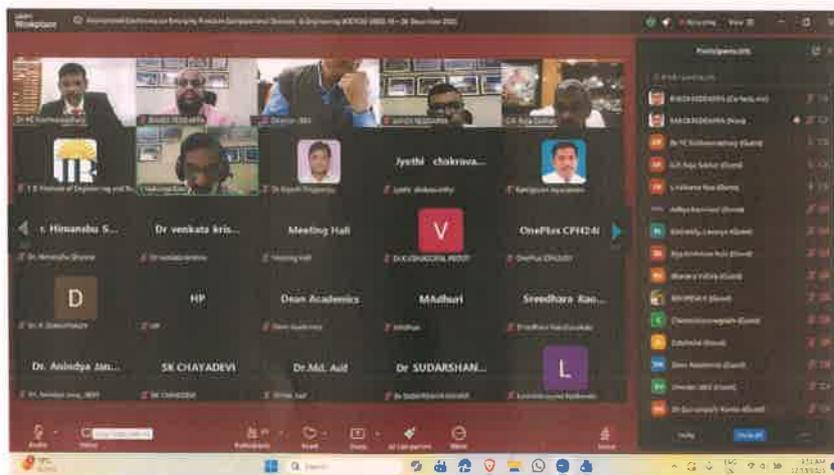
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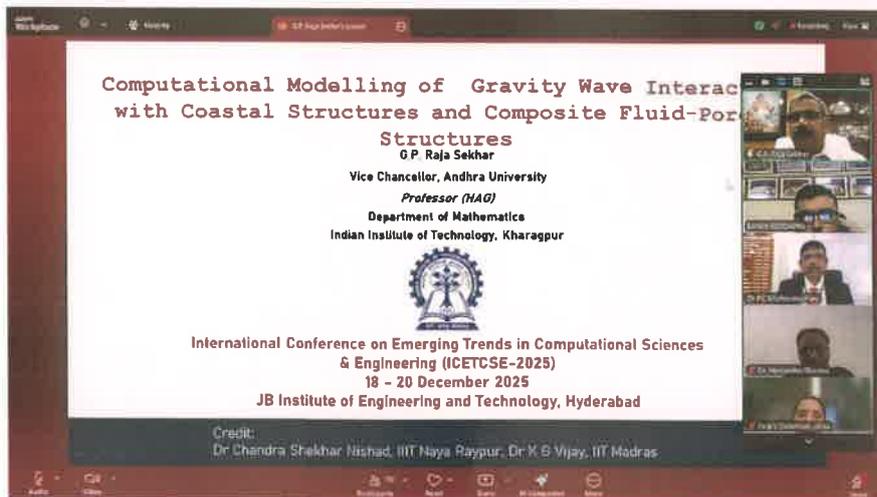
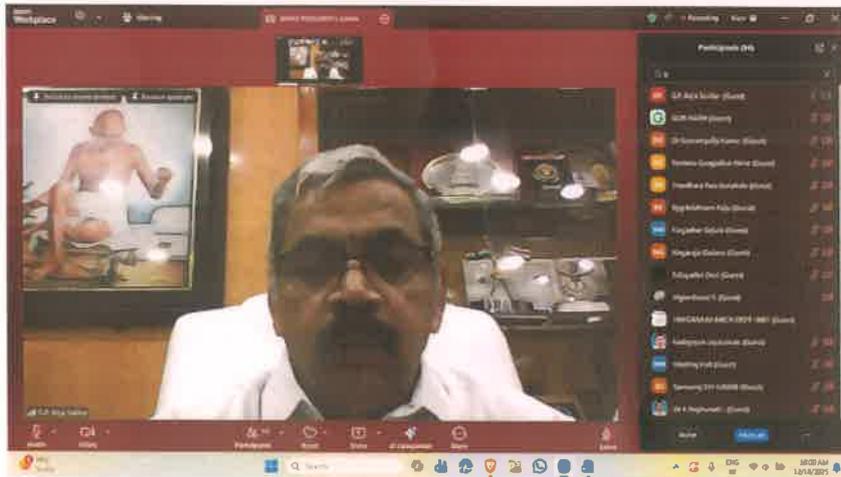
ICETCSE-2025-Photographs

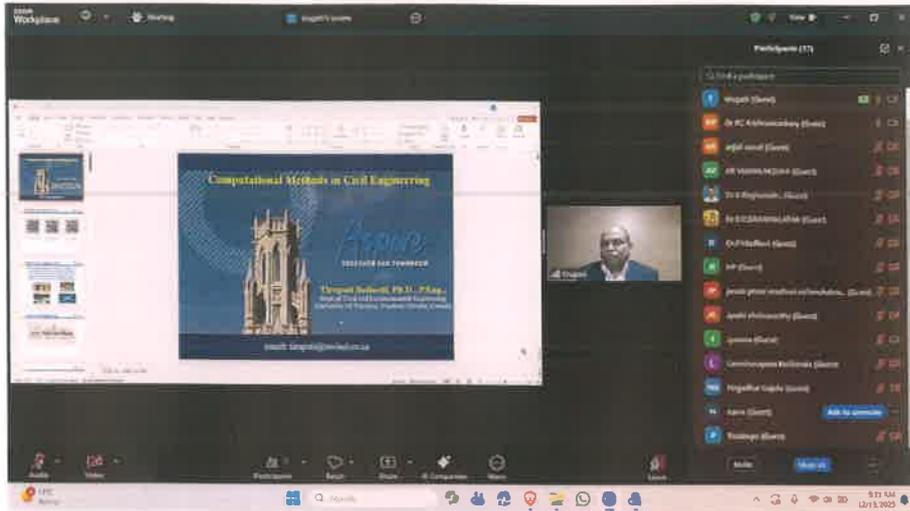
• Inaugural Session



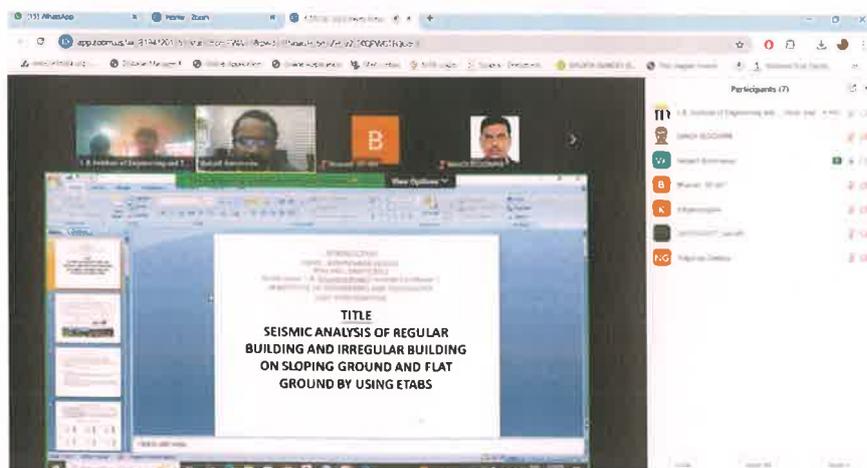


• Keynote & Invited Talks





• Paper Presentation Sessions



Custom AI chip architectures

- **GPUs:** Modern GPUs feature dedicated AI cores, such as tensor cores and matrix cores, to boost AI performance.
- **Custom AI Accelerators:** Custom ASICs being designed to push the limits of AI speed while improving carbon-efficiency.
- **NPUs and Edge AI Chips:** Neural Processing Units (NPUs) and other edge AI chips are optimized for efficient inference in low-power environments, such as smartphones, IoT devices, and autonomous vehicles.
- **FPGAs:** Accelerate an algorithm or portion of an AI algorithm in hardware rather than software, resulting in power savings.
 - Have lower non-recurring engineering (NRE) costs than full-custom ASICs
 - However, because they come in fixed increments of logic elements (LEs), logic cells (LCs) or look-up tables (LUTs), some of those resources (gates) may go unused resulting in higher power and non-optimized costs than full custom designs.

Spectral moments

$$M_0 = \int D(\nu) k \nu$$

$$M_1 = M_0^{-1} \int \nu \cdot D(\nu) k \nu = \nu_0$$

$$M_2 = M_0^{-2} \int (\nu - \nu_0)^2 \cdot D(\nu) k \nu$$

$D(\nu) \propto |q_i^2|$ - Optical density
 M_0 - center of gravity of the band
 M_1 - integral intensity of the band
 M_2 - halfwidth of the band

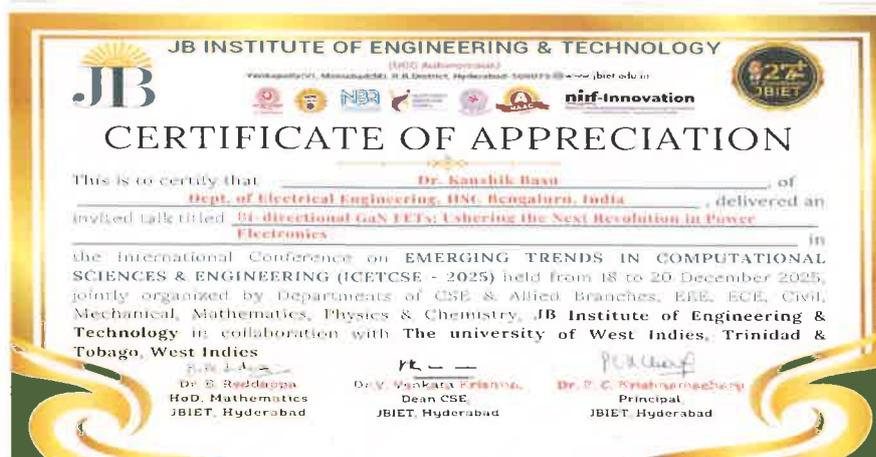
$$\nu_{1/2} = 2\sqrt{M_2}$$
 - Effective halfwidth

• **Valedictory Function**



ICETCSE-2025-Certificates

• Keynote/Invited Talks



• Session Chair



• Paper Presentation





• Best Paper Award



• Participation



[Signature]
 HoD-S&H, JBIET

[Signature]
 Principal, JBIET
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