



# IEI NEWS

Reports of 39th Indian Engineering Congress

1-15

Maritime Excellence through Digital....

16

Green Hydrogen, Electric Vehicles and Energy.....

17

Reports of Energy Conservation Day 2024

21

Reports of World Habitat Day 2024

22

Reports of World Standards Day 2024

26

Reports of Engineers' Day 2024

28

A CENTURY OF SERVICE TO THE NATION

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*IEI wishes its Members a Happy New Year*

## 39<sup>th</sup> Indian Engineering Congress, Kolkata

### Irresistible India - A Global Engineering Powerhouse

The 39<sup>th</sup> Indian Engineering Congress of The Institution of Engineers (India) was hosted by **West Bengal State Centre** of the Institution on the theme **Irresistible India - A Global Engineering Powerhouse** during December 20-22, 2024, at Novotel Kolkata Hotel and Residences, celebrating India's remarkable progress in becoming a global leader in engineering, technology and infrastructural development.

#### Inaugural Session

The inaugural session of the mega event started with invocation and



ceremonial lighting of the lamp by the distinguished dignitaries on the dais. Smt Antara Acharya, IAS, Secretary, Public Works Department, Government of West Bengal graced the function as the Chief Guest. Shri Aroop Biswas, Hon'ble Minister-in-Charge, Department of Housing, Power, Youth Services and Sports, Government of West Bengal graced the occasion as the Guest of



Honour. Their presence signified the governmental support and recognition for the engineering community's contribution to the national development.

Er Sandip Kumar Deb, Chairman of the Organizing Committee, delivered a heartfelt welcome address, emphasizing the critical role of engineering in shaping the modern world. He welcomed the Chief Guest, Guest of Honour, Awardees, international delegates, dignitaries, paper presenters, Past Presidents, Council Members and participants. Er Deb in his address mentioned that this gathering of brilliant minds and passionate innovations is the celebration of the spirit of engineering, a profession that shapes the



world, transforms dreams to reality and continuously propels humanity towards the brighter future. Prof (Dr) Raju Basak, Chairman, West Bengal State Centre, IEI and Organizing Secretary, 39th IEC briefed the august audience about the theme of Congress. He said that the theme of 39th IEC highlights the critical role of power infrastructure in fostering sustainable economic growth.

Er VB Singh, the then President-Elect IEI and now President, IEI, said that the theme of Congress highlights India's journey towards becoming a global leader in critical sectors, such as clean energy, space technology, digital transformation and advanced infrastructure. It further signifies the remarkable ingenuity of the engineering fraternity in crafting solutions that addresses both local and global challenges, he opined. He went on to mention that Engineering Congress is the testimony, how innovation, collaboration and critical thinking can create boundless opportunities on global platform.

Dr G Ranganath, the then President, IEI in his Presidential Address, underscored the crucial interplay between industry and academia in shaping the future. He said that engineering is the summation of resilience, innovation and excellence that is deeply rooted in our culture and propelled by the vision of sustainable process. He discussed the remarkable journey of Indian engineering fraternity towards implementation of cutting edge technology and development of leadership to address the global challenges.

The address by the then President, IEI was followed by the presentation of Safety & Quality Awards 2024, Water Management Forum - Conservation of Water Award 2024, and Institution Prizes for the best papers published in the IEI Springer journals to recognize the contribution of the authors in advancing the science and the art of engineering.

On the occasion, the digital version of the Technical Proceedings was released. The Souvenir of the 39th Indian Engineering Congress was also released by the dignitaries on the dais.

Chief Guest, Smt Antara Acharya, IAS in her address, discussed the technological challenges to cope with the unpredictable nature of climate, topographical and geomorphological conditions, rise in water levels in

Contd. on page 2

## Irresistible India - A Global Engineering Powerhouse

Contd. from page 1

rivers, dams, and barrages, soil erosions, sudden disasters etc. Smt Acharya stressed the importance of engineering solutions that are not only technically sound but also environmentally and ecologically sustainable. She spoke on the effect of unplanned urbanization, infrastructural issues, preservation of assets, ecological sustainable solutions for the engineering projects, reclamation and reuse of urban waste and plastic waste, minimizing the use of ecosensitive materials, sustainable usage of right materials, optimization of the use of local resources etc.

Guest of Honour, Shri Aroop Biswas in his address mentioned that engineers play the crucial role in nation building with their visions and application of modern technologies towards efficient implementation of projects in a cost effective manner and their expertise and dedication leads to the progress for the growth of the society. The Minister in Charge conveyed the message from Hon'ble Chief Minister of West Bengal regarding her views about the exchange of knowledge and ideas and multidisciplinary decision making during the Congress. He felt that the theme of the Congress reflects the shared vision and commitment of the engineering fraternity to propel the country forward. He further opined that coordinated approach, mutual cooperation, partnership with social perspective are the essentials for the national progress, when, with the engineers with unified effort can make the development of nation unstoppable.

A Technical Exhibition was inaugurated on the occasion by the dignitaries.

The Inaugural Function, which was well attended by Past Presidents, Vice Presidents, Council Members, international delegates, Corporate Members of IEI, delegation from industries, Awardees, Engineering Professionals, Academicians, Research Scholars and representatives from the entire gamut of the engineering fraternity, culminated with the vote of thanks delivered by Maj Gen (Dr) MJS Syali, VSM (Retd), Secretary & Director General of the Institution.

The inaugural session was followed by the Prize and Award Function, that consisted of presentation of Best Centre Awards, Journal Prizes, SAIL Awards, Dr M Visvesvaraya Award, Coal India (J G Kumaramangalam Memorial) Award, H Nandy Award and Best Papers for Abhiyanta Bandhu Award. Total 37 Prizes were awarded in this session.



The Telangana State Centre of the Institution was adjudged the Best State Centre and Coimbatore Local Centre of the Institution was adjudged the Best Local Centre for their all-round performance during the year 2023-24. The Awards comprising of trophies and the certificates were given away to the representatives of the respective Centres on December 20, 2024 during the the 39<sup>th</sup> Indian Engineering Congress held at Kolkata.

### Congress Seminar and Technical Sessions

Followed by the Morning Award Function, the Congress Seminar was inaugurated as the prelude of the Technical Sessions, in the august presence of Dr G Ranganath, the then President, IEI; Prof Ajoy Kumar Ray, Chairman, Technical Committee & Director, JIS Institute of Advanced Studies and



Research; Prof(Dr) Girish Shrikisan Mundada, the then Chairman, Committee for Advancement of Technology and Engineering [CATE] and now Vice President, IEI; Er Sandip Kumar Deb, Chairman, Organizing Committee and Er Anirban Datta, Convener, Technical Committee. There were seven parallel Technical Sessions were held during three days on seven verticals, namely Biomedical Science and Technology, Chemicals and Hydrocarbons, Environment and Sustainability, Information & Communication Technology, Infrastructure and Power & Energy, where 265 Papers were presented on different emerging topics, which include; Medical Image Augmentation Methods for Improving Accuracy And Reducing False Predictions In Dermatological Image Classifications; Prediction Of Post Operative Complications from Pre And Peri Operative Statistics Using Artificial Neural Network; Machine Learning-Driven Scaffold Design: Advancing Tissue Engineering with Stem Cells; An IoT-based Smart Health Monitoring Wheelchair System for Physically Challenged People; Phase Response Synchronization using Fractional Kuramoto and Repressilator Models; Determining the Efficacy of using EEG Signals in Post-Stroke Rehabilitation Engineering Applications through a Pilot Study; Remote Sensing Based Disaster Management; Leveraging AI and Continuous Improvement for Zero Defects and Sustainability in the Automotive; Far Field radiation pattern synthesis of Elliptical Antenna Array for 5G and 6G communication systems; Quantum Speedup of Machine Learning Algorithms; Development of an IoT Based Simplex Wireless Communication Protocol For Smart Lighting Control; Comprehensive Survey on Blockchain-Based Identity and Access Management Systems in Mobile Networks; Current Trends and Technological Features of E-Textile, Smart Garments and Intelligent Apparels: An Overview; A Novel Lightweight Cryptographic Protocol for Smart Home IoT Security Using CoAP; Hand Gesture Recognition for Deaf-Mute: Insights from RGB and RGB-D Driven Deep Networks; Inclinator-Based Health Monitoring and Digital Twin Development for Simply Supported Beam Subjected to Point Load; Manufacturing of Indigenous Tribal Bi-Component Fibres for Technical Textile Sector; A Review on Seismic performance of Smart Structures and Bridges with Shape Memory Alloy Reinforcements; Modeling and Simulation Studies on TIG Welding of Gas Turbine Combustion Liner Sub-Assemblies; 3-E Analysis of the Vapour Absorption Refrigeration system with Micro-Steam Turbine Integration: An Efforts Towards Energy Conservation in the Thermal Power Plants; 3-E Analysis of the Vapour Absorption Refrigeration system with Micro-Steam Turbine Integration: An Efforts Towards Energy Conservation in the Thermal Power Plants and so on. The sessions drew a large number of audience comprising practitioners, academics, researchers, and students.

### Visionary Talks, Felicitation of Eminent Engineering Personalities and Memorial Lectures

During the three days of the 39<sup>th</sup> IEC, various important sessions like Memorial Lectures; felicitation of Distinguished Engineering Personalities; Visionary Talks, delivered by eminent speakers & doyens of engineering personalities and International Meet were organized.

The Visionary Talks were delivered by Mr Pradip Kumar Das, CMD, Indian Renewable Energy Development Agency Limited; Dr David Fernandez-

Contd. on page 5

## Address by

# Er VB Singh

## President, IEI



Full text of the Presidential Address delivered by Er VB Singh, President, IEI during the 105<sup>th</sup> Annual General Meeting of the Institution held in Kolkata on December 22, 2024

It is my privilege and honour to welcome you all at the 105<sup>th</sup> Annual General Meeting of The Institution of Engineers (India), held concurrently with the 39<sup>th</sup> Indian Engineering Congress being hosted by West Bengal State Centre at Kolkata, the historic and vibrant City of Joy, known for its grand colonial architecture, art galleries and cultural festivals. I am overwhelmed to see the presence of our respected Past Presidents. I am grateful to them for their gracious presence. I am also thankful to Hon'ble Council Members as well as Corporate Members for their presence. I would like to sincerely thank my Council Colleagues for reposing faith, trust and confidence in me and look forward to our collective leadership in various endeavours for the betterment of engineering fraternity in the country. I am grateful for all encouragement, support and mentorship I have received from them over the years.

I am truly humbled and honoured to stand before you this afternoon as President of this esteemed organization for the next session. I accept with humility the responsibility of leading this remarkable Institution, one that has been the cornerstone of India's engineering heritage for over a century. This is not merely a role, it is a profound opportunity to continue the legacy of our predecessors while shaping the future of our profession. Today, as we embark on this journey together, I am committed to a vision that seeks to position IEI at the forefront of technical innovation, professional development and national progress. I pledge to uphold and abide by the Rules, Regulations, Bye-Laws and established protocols of this prestigious Institution.

These guiding principles are essential for maintaining the integrity and stature of IEI and I assure you that all actions taken during my period will strictly adhere to these governing principles. In doing so, we ensure that our Institution continues to uphold the highest standards of ethical conduct, transparency and professionalism.

I feel it right occasion to remember great eminent engineering personalities of our country who significantly contributed to the development of nation with their selfless dedication and commitment such as Bharat Ratna Sir Mokshagundam Visvesvaraya, Sir R N Mookerjee, Padma Vibhushan Dr. A N Khosla, Padma Bhushan Dr. Triguna Sen, Padma Bhushan Dr. K L Rao, Bharat Ratna Dr. A P J Abdul Kalam, Padma Vibhushan Dr. Satish Dhawan, Padma Vibhushan Dr. E Sreedharan and many more illustrious engineering personalities. We feel proud to note that many of them were also at the helm of affairs of this august Institution. We salute their dedication, devotion and leadership.

### Vision and Mission for IEI

The Institution of Engineers (India) has a proud and distinguished history and will be leading the future of Indian Engineering. Yet, as we look to the future, it is imperative that we build upon this foundation, evolving to meet the dynamic demands of our times. My vision for IEI is centered on positioning this great Institution as a leader not just in India but globally—a beacon of engineering excellence and innovation.

### 1. Strengthening IEI as a Hub of Technical Excellence

Our world today is driven by technology and engineers are at the heart of this transformation. At IEI, we must embrace our role as a centre of technical knowledge, where ideas and innovations flourish. We will elevate our technical divisions—Civil, Mechanical, Electrical, Computer and others—by enhancing the quality and reach of our Conferences, Workshops and Seminars.

Our Engineering Staff College of India (ESCI), a jewel in IEI's crown, will be further strengthened, offering world-class training and education that addresses the latest technological advancements. It is crucial that we cultivate an environment where engineers can come to learn, innovate and collaborate on cutting-edge projects that shape the future of industries.

### 2. Collaboration between Industry and Academia

A strong partnership between industry and academia is the backbone of any thriving engineering ecosystem. As President, I will focus on fostering greater collaboration between these two critical sectors. IEI will act as the bridge, connecting the wealth of knowledge from our academic institutions with the practical insights and opportunities in industry. Together, we will create a symbiotic relationship that benefits our members and accelerates innovation in India.

### 3. Promoting Excellence in Engineering Publications

Our technical publications must reflect the highest standards of academic and practical engineering knowledge. By refining our editorial processes and expanding the reach of our journals, we can ensure that IEI becomes the foremost source of reliable, cutting-edge engineering knowledge. I am committed to improve the quality, accessibility and global visibility of our publications, making them essential resources for engineers worldwide.

### Empowering AMIE Students and Members: Building Tomorrow's Engineers Today

At the core of IEI mission is our dedication to the growth and success of our members. This includes not only experienced professionals but also the students and young engineers who represent the future of our profession.

#### 1. Advocacy for AMIE Students

One of the key priorities of my tenure will be to advocate for our AMIE students. These students, who often face significant challenges in gaining recognition, are the backbone of India's engineering future. We must ensure that their qualifications are recognized in government jobs, higher education, institutions and competitive exams. We will work closely with relevant government bodies to ensure that AMIE qualifications are given the weightage and recognition they deserve.

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Contd. from page 3

## 2. Placement and Employment Assistance

In addition to advocating for recognition, we will provide tangible support for AMIE graduates in securing employment. The professional success of our members is a reflection of IEI's commitment to fostering careers. We will establish stronger placement assistance programs and engage with industries to open pathways for AMIE holders to enter and thrive in their chosen fields. Their success is the success of IEI and I will ensure they are equipped to navigate the job market with confidence.

## Driving Financial Sustainability and Expanding Vocational Training

For any institution to thrive, financial sustainability is of paramount importance. At IEI, we must continue to grow not just in terms of membership but also in our financial standing, ensuring that we have the resources to fulfill our mission for years to come.

### 1. Vocational Training as a Pillar of Growth

My vision for financial sustainability begins with expanding IEI's role in vocational training. By partnering with the National Skill Development Corporation (NSDC), we will align ourselves with the Government of India's skill development initiatives under the National Skills Qualifications Framework (NSQF). Through this partnership, IEI will become a central player in developing the nation's workforce, ensuring that our members and trainees are equipped with the skills required in today's evolving job market.

### 2. Leveraging NCVET Recognition

The grant of provisional recognition in the Dual Category (Awarding & Assessing) by the National Council for Vocational Training (NCVET) is a significant achievement for IEI. This recognition will enable us to enhance our financial position while contributing meaningfully to India's national skill development objectives. By offering accredited courses and certifications, IEI will position itself as a key institution in the country's vocational training ecosystem, making a direct impact on employment and industrial growth.

## Harnessing Digital Transformation for Membership Growth

As we march into the digital age, it is essential that IEI keeps pace with technological advancements, ensuring that we remain relevant and accessible to engineers across the globe.

### 1. Digital Marketing and Members Engagement

To expand our membership and engagement, we will embrace the power of digital marketing and social media. Through strategic campaigns, IEI will reach out to the vast engineering community, both in India and abroad, engaging with them on platforms where they are most active. This digital outreach will not only boost our membership but will also foster a sense of community, bringing engineers together to share knowledge and collaborate on projects that make a real difference.

### 2. Enhancing Services through Automation and Digitization

The services we offer to our members must evolve with the times. From online learning modules to virtual conferences and technical sessions, we will digitize many of our core services, making them more accessible, efficient and user-friendly. Automation will streamline our internal processes, improving efficiency and reducing operational costs, while also ensuring that our members have seamless access to the resources they need.

## Embracing Innovation and Ethical Engineering

In a world increasingly shaped by technological disruptions, IEI must lead the way in fostering innovation while maintaining the highest ethical standards.

### 1. Encouraging Emerging Technologies

We are on the brink of a new era of engineering, driven by disruptive technologies like Artificial Intelligence, the Internet of Things and Renewable Energy. IEI will actively encourage the adoption and exploration of these technologies through dedicated forums, training and conferences. Our members must be at the cutting edge of advancements, equipped with the knowledge and skills to navigate the challenges and opportunities of the future.

Artificial Intelligence (AI) will enhance automation, decision making and personalization, while quantum computing will solve complex problems far beyond the capabilities of current computers. Blockchain technology will secure data and enable decentralized systems, transforming industries like finance and healthcare.

The Internet of Things (IoT) and edge computing will create smart, interconnected environments, while cybersecurity will become crucial in protecting these systems. Virtual and augmented reality (VR/AR) will revolutionize how we learn and interact with digital environments and robotics and autonomous systems will transform industries like logistics and transportation.

We'll also see breakthroughs in biocomputing for personalized healthcare and focus on sustainable computing to reduce the environmental impact of technology.

### 2. Upholding Ethical Standards

As we push the boundaries of innovation, we must also remain steadfast in our commitment to ethical engineering practices. Engineers have a great responsibility not only to innovate but to ensure that our work serves humanity and the environment. At IEI, we will continue to champion the values of ethical engineering, fostering a culture where integrity, transparency and accountability are paramount.

## A Shared Vision for the Future

We are not just an organization, we are a movement—one that seeks to elevate the standards of engineering, contributes to the nation's sustainable development and leaves an everlasting legacy for future generations.

In our endeavour to reach new heights, let us take inspiration from Lord Ganesha jee whose BIG HEAD inspires us to think big, the BIG EARS prompts us to listen patiently to new ideas and suggestions, the narrow eyes point to deep concentration needed to finish tasks in hand well and quickly, the long nose tells us to poke around inquisitely to learn more and SMALL MOUTH reminds us to speak less and listen more.

I am fully aware that the challenges before us are many, but I am confident that with the whole hearted support of all of you, we can achieve our goals and usher in a new era of development of our Institution. Together, we will build a stronger IEI—one that leads, innovates and serves.

I wish each of you, your family members a very Happy and Prosperous New Year.

## Irresistible India - A Global Engineering Powerhouse

Contd. from page 2

Ordenez, Secretary General, *fib* [Federation Internationale du Beton]; Mr Vinay Ranjan, Director [Personnel & IR), Coal India Limited; Dr Syed Yaver Imam, Chief Executive Officer, Tega McNally Minerals Limited; Mr R K Srivastava, IAS (Retd), Presently Independent External Monitor, CPWD and BBJ Construction Co Limited; Dr Sunil Kumar Sharma, Executive Director (QA), Research Design and Standards Organization and Mr Anil Swarup, Former Secretary, Ministry of School Education & Ministry of Coal, Government of India.

Eminent engineering personalities felicitated during the occasion were, Prof (Dr) Nikhil Ranjan Banerjee, Former Vice Chancellor, IEST Shibpur [Ertswihle BESUS]; Er Debabrata Ghosh, Vice President, Oerlikon Textile India Private Limited, [in absentia]; Mr Sanjiv Kumar Singh, Director, HCL; Mr Abinash Mishra, Chief Marketing Officer, Captain Steel (I) Limited [in absentia]; Dr Venkata Sudheer L, Founder and CEO, VSL Prayag Energy System & Services; Md Asad Alam, CMD, Braithwaite & Co Limited; Mr Ujjwal Tah, Director General, Directorate General of Mines Safety, Dhanbad; Mr Swapendu Kumar Panda, Member Technical, Damodar Valley Corporation; Mr Niladri Roy, Director [Technical], ECL; Mr Achyut Ghatak, Director [Technical], Coal India Limited [in absentia]; Mr Damodar Lal Mittal, Executive Director, Jindal Steel & Power Limited [in absentia]; Mr Sridev Mookerjee, Chairman & Group MD, Blossom International & Offshore Private Limited; Mr Sumit Mukherjee, Director [Distribution], WBSEDCL [in absentia]; Er Rajib Chattaraj, Chief Engineer, National Highway Wing, Public Works (Road) Department, Government of West Bengal; Mr Sabyasachi Roy, Director [HR&A], WBSETCL [in absentia]; and Prof (Dr) Sandip Jha, Chairman, Sandip University [in absentia].

Eight numbers of Memorial Lectures were delivered in the memory of the distinguished engineering personalities, by eminent experts in the field.

The 67<sup>th</sup> Sir M Visvesvaraya Memorial Lecture was delivered by Prof Ajoy Kumar Ray, Director, JIS Institute of Advanced Studies and Research

The 59<sup>th</sup> Nidhu Bhusan Memorial Lecture was delivered by Dr Kalyan Rudra, Chairman, West Bengal Pollution Control Board.

The 50<sup>th</sup> Bhaikaka Memorial Lecture was delivered by Dr Arijit Mukherjee, Principal Scientist, TCS Research.

The 37<sup>th</sup> Dr Ajudhia Nath Khosla Memorial Lecture was delivered by Dr V Ramachandra, President, Indian Concrete Institute.

The 33<sup>rd</sup> Dr Amitabha Bhacharyya Memorial Lecture was delivered by Prof V M S R Murthy, Director, Indian Institute of Engineering, Science and Technology Shibpur.

The 46<sup>th</sup> Sir R N Mookerjee Memorial Lecture was delivered by Mr Gautam Ray, President (Corporate), Power Group of RPSG Group, CESC.

The 14<sup>th</sup> Prof C S Jha Memorial Lecture was delivered by Dr Nawal Kishore Arora, ISDS, Regional Director, RDSDE (WB), DGT, Ministry of Skill Development and Entrepreneurship, Government of India.

The 10<sup>th</sup> Dr K L Rao Memorial Lecture was delivered by Prof Siby John, Director, Gani Khan Choudhury Institute of Engineering and Technology, [GKCIET], Malda, WB.

### The International Meet

The International Meet, held on December 21, 2024, alongside the 39<sup>th</sup> Indian Engineering Congress in Kolkata, served as a platform for fostering global collaboration and addressing critical challenges in engineering, sustainability, and technological advancements. The session commenced with a warm welcome by Dr G Ranganath, President of The Institution of Engineers (India) (IEI), and Er. VB Singh, President-Elect, IEI. Both leaders emphasized the pivotal role of international engagements in advancing the engineering profession globally. Dr. Ranganath also acknowledged the



absence of Engr. Mustafa B Shehu, President of WFEO, who expressed his regrets through a communication citing unavoidable commitments with state and national leaders in Nigeria. Engr. Shehu conveyed his appreciation for IEI's efforts and his disappointment at missing the event.

The event witnessed active participation from prominent international delegates, including leaders from esteemed engineering institutions, along with Past Presidents and Council Members of IEI, whose contributions enriched the discussions. Dr Aung Kyaw Myat, President of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP) & President, Myanmar Engineering Council, accompanied by Mr. Wai Yan Aung, underscored the importance of engaging youth to ensure the vitality and sustainability of the profession. Leaders from the The Institution of Engineers Sri Lanka (IESL), including President Mr. Jayalath Arachchige Granie Rufus and President-Elect Mr. Kosala Gunarathna, shared insights on their initiatives for competency-based professional titles, accreditation standards, and continuing professional development. Er. Subash Chandra Baral, President of the Nepal Engineers Association (NEA), highlighted Nepal's aspirations for hydropower self-sufficiency through regional cooperation, particularly with India. Dr David Fernández-Ordóñez Hernández, Secretary General of the International Federation for Structural Concrete (*fib*), provided insights into the 'Model Code 2020,' a global benchmark for structural concrete design and practices.

Following the international delegates, Mr Ashok Kumar Basa, Past President, IEI & Executive Vice President, WFEO, & Chair of the Strategic Plan Committee, WFEO, highlighted the focus of WFEO's Strategic Plan Committee on ethical considerations in artificial intelligence. He emphasized the growing importance of the Asia-Pacific region in WFEO activities and highlighted IEI's leadership in publishing the pioneering work "Ethics in Artificial Intelligence" under the aegis of WFEO-CIC with Mr S S Rahore, Past President, IEI, as the Chair (Session 2019-23). This edited volume, published by Springer Nature, represents a significant work in addressing ethical considerations in AI. Mr Navinchandra B Vasoya, Past President, IEI and National Member, Executive Council, WFEO, stressed the significance of rejuvenating the Federation of Engineering Institutions of South and Central Asia (FEISCA) to bolster regional collaboration and engineering excellence.

The session concluded with an exchange of mementos and a Vote of Thanks by Maj Gen (Dr) MJS Syali, VSM (Retd), Secretary & Director General, IEI followed by a group photograph. The deliberations reinforced the shared commitment of global engineering leaders to ethical practices, sustainability, and regional cooperation.

### The IEI Alumni Meet

The IEI Alumni Meet was organized during the 39<sup>th</sup> Indian Engineering Congress on 20 December 2024. Shri Girija Shankar IAS (Rtd), Former Principal Secretary & Chief Commissioner, State Taxes, Government of Andhra Pradesh graced the function as the Chief Guest. The Alumni Meet was attended by a large number of Council Members, Corporate Members of IEI. The event observed the gracious presence of many eminent professionals, educationists, successful entrepreneurs and distinguished personalities.

Contd. on page 6

## Irresistible India - A Global Engineering Powerhouse

Contd. from page 5

The session started with lighting of the ceremonial lamp and invocation. Er R R Tanwar Council Member, IEI & President, IEI- Alumni Association [IEI-AA] welcomed the Chief Guest, Shri Girija Shankar, IAS (Rtd.); The then President, IEI, Dr G Ranganath; The then President- Elect and now President, IEI, Er VB Singh; Distinguished Alumni Awardees; Council Members, Guest & Participants and lauded the efforts of organizers and the large number of Alumni who were present on the occasion.

President IEI-AA in his address said that IEI Alumni Meet have generated great enthusiasm amongst the Alumni community which is evident from overwhelming attendance during the Alumni Meet. He urged all the Alumni to participate in the IEI-AA activities whole heartedly and in progressive manner.

It was a great moment when Chief Guest, Shri Girija Shankar IAS (Rtd.) presented the Distinguished Alumni Award to the nominated Alumni with Scroll of Honor as follows.



Er B Brahma Reddy, FIE, Former Council Member, IEI & Advisor to SLV Board, Hyderabad; Er. Sujit Kumar Banerji, IOFS (Rtd.) FIE, Former Council Member, IEI & Executive Director, International Management Academy; Dr S Thirougnaname, FIE, Chairman, Puducherry State Centre & Council Member IEI and Er Jagan Thakur, AMIE. HAS, Additional Director, Urban Development Department, HP.

President IEI-AA, Er R R Tanwar in his talk assured that he with his office bearers would work tirelessly towards fulfilling vision of IEI-AA. He further focused on membership drive to generate great enthusiasm in the Alumni community and association and opined for their enhanced participation in IEI and IEI-AA activities.

Er Devendra Gill, Council Member, IEI & Immediate Past President, IEI-AA and Dr Enti Ranga Reddy, Council Member, IEI & Past President, IEI-AA also graced the occasion and shared their valuable views with the august gathering.

Maj Gen (Dr) MJS Syali, VSM (Retd), Secretary and Director General, IEI addressed the audience & briefed about various issues of AMIE recognition in the High Court of Delhi.

### Annual General Meeting and Installation of New President

The 105<sup>th</sup> Annual General Meeting of the Institution was held on December 22, 2024, which was attended by a large number of Corporate Members of the Institution. The Annual Report of IEI for the year 2023-2024 and Audited Accounts of IEI for the year ending 31 March 2024 were presented during the Annual General Meeting. Thereafter, the ceremonial function of installation of New President of IEI took place, where Er VB Singh took over the charge from Dr G Ranganath as the President of The Institution of Engineers (India) for the session 2024-25 and delivered the Presidential Address.

### Valedictory Function

During the Valedictory Function, Er Sandip Kumar Deb, Chairman, Organizing Committee delivered the welcome address. Prof (Dr) Raju Basak, Chairman,



West Bengal State Centre addressed the august audience and expressed his gratitude to all participants and speakers. Er VB Singh, President, IEI [Session 2024-25] was introduced by Dr G Ranganath, Immediate Past President, IEI. In his address, Er VB Singh mentioned that the Engineering Congress has been a celebration of innovation, collaboration, and the unyielding spirit of the engineering community; As we reflect on the discussions and insights shared over the past three days, let us carry forward the momentum and continue working towards a future that embraces disruptive and interdisciplinary technologies for the betterment of society.

On the occasion, the **Best IEI Students' Chapters Awards** were presented in different categories as follows.

- ❖ AISSMS College of Engineering, Pune, Maharashtra, Department of Electronics & Telecommunication Engineering was adjudged the **Best Engineering College Students Chapter** for the year 2023-24.
- ❖ Mepco Schlenk Engineering College, Sivakasi, Tamilnadu, Department of Computer Science and Engineering was adjudged the **Second Best Engineering College Students Chapter** for the year 2023-24.
- ❖ SRM Institute of Science & Technology, Kattankulathur, Tamil Nadu, Department of Computing Technologies was adjudged the **Third Best Engineering College Students Chapter** for the year 2023-24.
- Thaigarajar Polytechnic College, Salem, Tamilnadu was adjudged the **Best Polytechnic College Students Chapter** for the year 2023-24.
- PAC Ramasamy Raja Polytechnic College, Rajapalayam, Tamilnadu was adjudged the **Second Best Polytechnic College Students Chapter** for the year 2023-24.
- Periyar Centenary Polytechnic College, Vallam, Tamil Nadu was adjudged the **Third Best Polytechnic College Students Chapter** for the year 2023-24.

The **Certificate of Appreciations** for Students' Chapters in Engineering Colleges and in Polytechnics were presented as follows.

Certificate of Appreciation for Students' Chapter in **Engineering College at North Zone** for the highest enrollment of Students during 2023-24 was conferred on Department of Computer Science & Engineering, Institute of Technology & Management, Gorakhpur, Uttar Pradesh.

Certificate of Appreciation for Students' Chapter in **Polytechnic at North Zone** for the highest enrollment of Students during 2023-24 was conferred on Rajshree Institute of Management & Technology, Bareilly, Uttar Pradesh.

Certificate of Appreciation for Students' Chapter in **Engineering College at East Zone** for the highest enrollment of Students during 2023-24 was conferred on Department of Civil Engineering, The Assam Royal Global University, Guwahati, Assam.

Contd. on page 10

# Memorial Lectures

The following Memorial Lectures, instituted by the Institution in memory of stalwarts in the engineering profession, are a salient feature of the Indian Engineering Congress organized annually by The Institution of Engineers (India). During the Thirty-ninth Indian Engineering Congress, these lectures were delivered by leading experts from diverse fields. Following are some excerpts of the lectures.

### The 67<sup>th</sup> Sir M Visvesvaraya Memorial Lecture

#### Prof Ajoy Kumar Ray

Director, JIS Institute of Advanced Studies and Research

Prof Ray started his address mentioning the contribution of Sir M Visvesvaraya in water system management, construction of dams and focused on his innovative mind. The speaker focused on the combined approach of biological science with traditional engineering concept for generation of ideas and solution for mankind and stressed on colearning of medical and engineering professionals to explore innovative ideas in different direction. He discussed on application of green materials, nanomaterials, 3D Bioprinting, retrofitting with embedded biomaterials to increase the lifespan of the projects. He emphasized on investigations, observations, explorations, innovation and development of new ideas, incorporating and inculcating the lense of innovative minds. Prof Ray felt that Biomedical Science, Engineering and Technology is an integral part of engineering and advocated for more integration and applications in biological systems and interdisciplinary studies in diverse domains.



### The 46<sup>th</sup> Sir Rajendra Nath Mookerjee Memorial Lecture

#### Mr Gautam Ray

President (Corporate), Power Group of RPSG Group, CESC

#### Pledge Towards Sustainability

Mr Ray started his presentation with the focus on uncertainty during the pandemic situation and stressed on a sustainable solution. He spoke on the coexisting conflicts in the ecosystem in present as well as in future. He differentiated between equity and equality and felt that available resources be distributed in even manner to the extent of what is required to satisfy the level of equality. He explained the internal conflict between environment and development and felt that the sustainability issue be sort off taking all these points under consideration. He explained common but differentiated responsibility [CBDR] in the context of the following.

States are responsible for addressing global environmental degradation yet not equally responsible.

Nations with higher CO<sub>2</sub> emission need to bear more responsibility than developing countries. Geopolitical tensions are resulting in disproportionate investment, even at the cost of equity and sustainability.

Stockholm Declaration on the Human Environment Conference in 1972 stated CBDR as the applicability of standards which are valid for the advanced countries and 1992 Rio Declaration reiterated that states with larger contributions to global environment degradation, will have more responsibilities.

Further the speaker discussed the significant environment and sustainability aspects discussed in 21st Conference of Parties (COP) in Paris, Milestone COP 26, held in Glasgow, UK, in November, 2021, and subsequent COPs held in Egypt, Dubai and recently in Baku. The speaker discussed ten major pillars for sustainable development, namely; Circular Economy; Manufacturing with Reduced Energy Consumption; Urban Design with Green Space, Green Building with Efficient Energy Consumption; Renewable Energy Integration; Technology Innovation, Process Design, Digitalization and Decarbonisation; Green Computing; Clean Environment; Social Security and Organic Agriculture. He discussed transformation of Electricity Grid; transformation in power industry; India's Energy challenge and sustainability; Role of digitalization in reshaping the electricity etc.

The speaker in his concluding remarks, said that transition is the priority area and to manage it, capacity building among all the stakeholders is the need of the hour, which requires proper education system, training, reskilling and up skilling.



### The 33<sup>rd</sup> Dr Amitabha Bhattacharyya Memorial Lecture

#### Prof V M S R Murthy

Director, IEST, Shibpur

#### Engineering and Social Challenges in Mining and Infrastructure Sectors and the Way Forward

The Speaker in his lecture, addressed two sectors, that are not only vital to India's economic progress but are also laden with immense engineering and social challenges, namely mining and infrastructure. This lecture aims to discuss these challenges in detail, explore the engineering innovations that are shaping

the future, and propose ways forward for a sustainable and inclusive future. In his lecture, Prof Murthy mentioned the growth statistics of the Mining sector including its contribution to GDP, India's exports of minerals and metals, mineral reserve, etc. In his lecture, Dr Murthy mentioned that infrastructure is fundamental to a country's progress. From roads and railways to communication networks and urban utilities, infrastructure shapes the quality of life for every citizen. India, with its rapidly growing population and urbanization, faces significant pressure to build and maintain sustainable, efficient, and inclusive infrastructure. The nation's infrastructure must cater to both rural and urban needs, ensuring equitable access to resources and opportunities for all. The speaker explained engineering and social challenges in infrastructural development and said that both the mining and infrastructure sectors can benefit from the adoption of digital technologies. The integration of big data, artificial intelligence, and machine learning can enhance decision-making, optimize resource management, and increase the operational efficiency. In mining, autonomous vehicles and remote monitoring systems can improve safety and reduce environmental damage. In infrastructure, smart cities driven by IoT solutions and data analytics can enhance urban living by reducing traffic congestion, improving waste management, and optimizing energy consumption.



### The 50<sup>th</sup> Bhaikaka Memorial Lecture

#### Dr Arijit Mukherjee

*Principal Scientist, Embedded Devices and Intelligent Systems, TCS Research*

#### Future of Computing

The speaker in his lecture introduced the old and new computing concepts. He explained the revolution of computing paradigm and introduction and functioning of different smart devices. He explained the large spectrum of computing heterogeneity and changing face of computing, biocomputing, molecular computing, simulation of neuromorphic hardware, application of software in vehicles, navigating heterogeneity in connected systems in three phase, run, build and design. He further discussed the challenges of energy consumption in computing and the cost of energy. He explained the functioning of neuromorphic processors and focused on exploring neuromorphic and IMC hardware for energy efficiency at the edge and cloud by introducing new algorithms, architecture, learning paradigms etc. He also spoke on the properties of unbiased transparent dataset, intelligence and concluded his lecture mentioning the huge potential of AI in future.



### The 59<sup>th</sup> Nidhu Bhushan Memorial Lecture

#### Dr Kalyan Rudra

*Chairman, West Bengal Pollution Control Board*

Dr Rudra in his lecture outlined a climate change action plan. He discussed the changing pattern of temperature variation, change in rainfall pattern, increase of average maximum and minimum temperature, fluctuation or delay in monsoon and its' effect in agricultural cultivation. He discussed the effect of rapid melting ice in glaciers, subsequent rise in sea level, risk of deltas due to encroaching of sea etc. Dr Rudra in his address, explained ecological engineering, agro-climatic zones in West Bengal, Landslide Susceptibility Map, landslides in hilly areas in North Bengal, role of reservoirs, built for flood control, and opined that the prime factor of flood control is to provide outlet of the flood water. He discussed about increase in water level during high tide, when agricultural land comes under water. He added that due to saline encrustation, stagnant water increases the salinity of soil, which is not viable to agriculture. The speaker focused on coastal erosion due to change in sea level and recommended exploring nature based solutions to control the flood water. It includes building of bio-shield to resist storm surge, sediment trapping, excavation of old silted channels, enhancing fresh water inflow into Sundarban region, connecting upper and lower delta, provide support for cyclone resistant housing, facilitate salt tolerant crop cultivation etc.



### The 37<sup>th</sup> Dr Ajudhia Nath Khosla Memorial Lecture

#### Dr V Ramachandra

*President, Indian Concrete Institute*

Dr Ramachandra in his lecture, focused on the application of general purpose and special purpose concrete and the architectural challenges. He discussed the application of green concrete and focused on the advanced manufacturing process of cement with less CO<sub>2</sub> emission. He shared his expertise about measurement of concrete strength, setting time, curing time and achieving them in optimum time. Dr Ramachandra demonstrated plant and assembly

line for precast concrete, fabrication of building superstructure and foundation blocks in the factory followed by erection and commissioning at site. He explained the latest technologies for construction of housing, application of sensors to monitor the strength of concrete, pumping concrete to high altitude etc. He explained temperature control in concrete and crack control measure, function of high strength concrete, self compacting concrete, self curing concrete, different patterns imbibed in concrete and recommended low water cement ratio to obtain the optimum strength of concrete.

Dr Ramachandra also spoke on the applications of precast concrete on roads in the shortest possible time. He explained the application and properties of anti-wash concrete, decorative concretes, with added colours, finishing and polishing of concrete for interiors, special purpose road concrete that glow in darkness etc. The speaker concluded his lecture with stress on proper use of concrete at proper place.



### The 14<sup>th</sup> Prof C S Jha Memorial Lecture

#### Dr Nawal Kishore Arora

*ISDS, Regional Director, RDSDE (WB), DGT, Ministry of Skill Development and Entrepreneurship, Government of India*

#### The Future of Work: Skilling and Entrepreneurship

Dr Arora started his lecture focusing on up skilling of manpower as a significant aspect for future growth. He explained the power of continuous learning and discussed formal, informal and self directed learning process. He explained different features of entrepreneurship, how to build a winning mindset, methodology of leveraging resources for upskilling by means of online courses, mastering specific skills, guidance and advice from the mentors etc. He further deliberated on building professional network by attending industrial events, workshops, joining online communities and forums and connecting with potential collaborators and investors. The erudite speaker discussed at a length, how to generate an innovative idea and develop it further, how to build a successful business, the benefits of entrepreneurship etc.



### The 10<sup>th</sup> Dr K L Rao Memorial Lecture

#### Prof Siby John

*Director, Ghani Khan Choudhury Institute of Engineering and Technology, (GKCIET), Malda, WB*

#### Viksit Bharat@2047: Infrastructure, Environment and Sustainability

Prof John started his presentation with a tribute to the Father of Irrigation, Padma Bhushan Shri Kanuri Lakshmana Rao and remembered his remarkable contribution in infrastructural development of the country in general and power and construction in particular. Prof John explained India's vision for 2047, Viksit Bharat @2047, which represents the roadmap for the country to emerge as a developed nation by the time it celebrates its 100th year of independence. Central to this vision is the transformation of infrastructure, which is a vital component for sustaining economic growth, improving living standards, and supporting a growing population. The Engineers will be responsible for infrastructural development and also for creating a sustainable, technologically advanced future for the next generation, he added.

The speaker further explained the key elements of Viksit Bharat 2047's vision for Infrastructure as;

**Smart and Sustainable Cities:** The plan envisions cities equipped with smart technologies—integrating IoT, AI and smart grid and enhancing the efficiency of energy consumption, transportation, and urban planning.

**Affordable and Quality Housing:** To accommodate the rapidly urbanizing population, initiatives like Pradhan Mantri Awas Yojana focus on building millions of homes, ensuring access to affordable housing.

**Next-Generation Transport Systems:** Investments in metro expansions, electric vehicles (EVs), and high-speed rail networks will alleviate traffic congestion and pollution in urban spaces.

**Sustainable and Green Infrastructure:** Prioritizing green buildings, renewable energy sources, water conservation, and waste management is essential for environmentally friendly urban growth.

He discussed sustainability and energy consumption in infrastructure, construction materials and their energy ratings, energy efficient buildings etc. The speaker concluded his presentation with focus on decarbonization, more investment in renewable energy and technological innovation to reduce carbon emission. He further opined that advancements in clean energy technologies and electric mobility, supported by digital solutions like AI and IoT, will drive efficiency and sustainability across the sectors; By integrating technology with environmental stewardship, India is poised to lead the way towards a greener and more prosperous future.



## Felicitation of Eminent Engineering Personalities



**Prof (Dr) Nikhil Ranjan Banerjee**  
Former VC, IEST, Shibpur (erstwhile BESUS)



**Er. Rajib Chattaraj**  
Chief Engineer, National Highway Wing, Public Works (Road) Department, Govt. of West Bengal



**Mr Sanjiv Kumar Singh**  
Director, HCL



**Dr Venkata Sudheer L**  
Founder & CEO, VSL Prayag Energy System & Services



**Md Asad Alam**  
CMD, Braithwaite & Co Ltd



**Mr Ujjwal Tah**  
Director General, Directorate General of Mines Safety, Dhanbad



**Mr Swapnendu Kumar Panda**  
Member Technical, Damodar Valley Corporation



**Mr Niladri Roy**  
Director (Technical), ECL



**Mr Sridev Mookerjee**  
Chairman & Group MD, Blossom

## Irresistible India - A Global Engineering Powerhouse

Contd. from page 6

Certificate of Appreciation for Students' Chapter in **Polytechnic at East Zone** for the highest enrollment of students during 2023-24 was conferred on New Government Polytechnic, Patna, Bihar.

Certificate of Appreciation for Students' Chapter in **Engineering College at West Zone** for the highest enrollment of students during 2023-24 was conferred on Department of Computer Engineering, K J College of Engineering & Management Research, Pune, Maharashtra.

Certificate of Appreciation for Students' Chapter in **Polytechnic at West Zone** for the highest enrollment of students during 2023-24 was conferred on Government Polytechnic Amravati, Amravati, Maharashtra.

Certificate of Appreciation for Students' Chapter in **Engineering College at South Zone** for the highest enrollment of students during 2023-24 was conferred on Department of Computing Technology, SRM Institute of Science & Technology, Kattankulathur, Tamilnadu.

Certificate of Appreciation for Students' Chapter in **Polytechnic at South**

**Zone** for the highest enrollment of students during 2023-24 was conferred on Thiagarajar Polytechnic College, Salem, Tamilnadu

On the occasion, the Annual Technical Volumes pertaining to the Engineering Divisions; the Abhiyanta Bandhu, the IEI publication in national languages and the Student Journal, Volume 3, Issue 1, 2024 were released. Er Anirban Datta, Honorary Secretary, West Bengal State Centre, IEI, proposed the vote of thanks.

### Conclusion

The 39<sup>th</sup> Indian Engineering Congress was a grand celebration of India's growing prominence in the global engineering landscape. Through its technical sessions, visionary talks, memorial lectures, and international engagements, the Congress underscored the engineering profession's pivotal role in solving global challenges. By focusing on sustainable infrastructure, technological advancements, and ethical considerations, the Congress reaffirmed India's position as a global engineering powerhouse, committed to shaping a brighter and more sustainable future for the world.

# Visionary Talk



**Mr Pradip Kumar Das**

*CMD, Indian Renewable Energy Development Agency Ltd.*



**Mr Anil Swarup**

*Former Secretary, Ministry of School Education & Ministry of Coal, Govt. of India*



**Dr David Fernandez-Ordonez**

*Secretary General, fib*



**Mr Vinay Ranjan**

*Director (Personnel & IR), Coal India Limited*



**Mr Syed Yaver Imam**

*Chief Executive Officer, Tega McNally Minerals Ltd.*



**Mr R K Srivasava**

*IAS (Retd), Presently Independent External Monitor, CPWD and BBJ Construction Co. Ltd.*



**Dr Sunil Kumar Sharma**

*Executive Director (QA), Research Design and Standards Organisation*

## Safety and Quality Awards

Safety Award and Quality Award were instituted by the Safety and Quality Forum (SQF) of the Institution with a view to encourage professionals from manufacturing and service sectors to strive for excellence. For the year 2024, **Mr Vikas Gupta**, Former ED (HR) GAIL India Limited received the Safety Award and **Dr Sanjay Pant**, Dy Director General Bureau of Indian Standards received the Quality Award.

The Steel Authority of India Ltd (SAIL) had instituted two Awards, namely, SAIL AWARD and DR M VISVESVARAYA AWARD to be given away every year during the Indian Engineering Congress to author/s of the articles adjudged best on selected topics.

### SAIL Awards



**Priyam Mitra**

For the year 2024, **Priyam Mitra and M Rajananda Kumar** for their paper titled 'Decarbonising Indian Steel Industry - Opportunities and Challenges'.



**M Rajananda Kumar**

### Dr M Visvesvaraya Award



**Ms Smita Toppo**

For the year 2024, **Ms Smita Toppo** for her paper titled 'Use of Technology and processes in systematic contractual safety management in Steel Industry'

## IEI's Best Centre Award



Telangana State Centre



Coimbatore Local Centre

## Best IEI Students' Chapters Awards

### Best Engineering College Students' Chapters



**AISSMS College of Engineering, Pune, Maharashtra**  
*(Department of Electronics and Telecommunication Engineering)*

### Best Polytechnic College Students' Chapters



**Thiagarajar Polytechnic College, Salem, Tamil Nadu**



**Mepco Schlenk Engineering College, Sivakasi, Tamil Nadu**  
*(Department of Computer Science and Engineering)*



**Periyar Centenary Polytechnic College, Vallam, Tamil Nadu**



**SRM Institute of Science & Technology, Kattankulathur, Tamil Nadu**  
*(Department of Computing Technologies)*

### Know-Your-Member (KYM)

Is your mobile number & e-mail are updated with us ? If not, then please forward your Know-Your-Member (KYM) form immediately for participating in IEI Election process.

You are requested to forward your KYM along with the self-attested copy of photo ID proof to the address given below:-

**Deputy Director (Membership)**

The Institution of Engineers (India)

8 Gokhale Road, Kolkata 700020

Email: [datamemb@ieindia.org](mailto:datamemb@ieindia.org)

The form is available on IEI Website or scan the code:

<https://shorturl.at/8Q5tF>



# 39<sup>th</sup> Indian Engineering Congress, Kolkata



**Release of Annual Technical Volumes**



**Release of Souvenir, 39<sup>th</sup> IEC**



**Digital Release of Technical Volume, 39<sup>th</sup> IEC**



**Release of Abhiyanta Bandhu**

## Abhiyanta Bandhu is the IEI Publication in National Languages

### First Best Paper Award

For Abhiyanta Bandhu 2023 (Bengali Language),  
**Dr Nirmal Kumar Das** for his paper titled  
*Under Water Metro in Kolkata*

### Second Best Paper Award

For Abhiyanta Bandhu 2023 (Urdu Language),  
**Dr Arif Khan** for his paper titled  
*Railway Bridge [Chenab]*

### Third Best Paper Award

For Abhiyanta Bandhu 2023 (Kannada Language),  
**Mrs Uma Nagaraj** for his paper titled  
*Hanging Pillar : Lepakshi Temple*

## WMF Award

Conservation of Water Award 2024 WMF Award for Best Contribution towards Conservation of Water in Institutional Category 2024 to **Dholakia Foundation**



## The H Nandy Memorial Award

The Institution of Engineers (India) instituted the Award in the name of Late H Nandy, renowned Council Member, a doyen and eminent engineer in the field of Metallurgical and Materials Engineering and to be given away to a student who tops the list of Section B Examination of the Institution in the branch of Metallurgical & Materials Engineering. Considering both Summer and Winter examinations for the year 2022, **Mr S Ranjan** was selected for the award.

# Recipients of I.E.I Prizes & Awards

One of the important events of the Congress was the presentation of prizes and awards to the authors whose papers were published in the Journals of The Institution of Engineers (India), co-published by Springer Nature during the year 2023 and were adjudged the best in respective fields. Details of prizes and awards, the titles of the winning papers along with the authors' names are listed hereunder.

## Dr Jai Krishna Prize

**R. Jarapala** and A Menon for their Paper titled 'Seismic performance of reinforced concrete buildings on Hill Slopes: A Review', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 3 & Pages: 721 - 745.**



'Development of Crash Prediction Model using Artificial Neural Network (ANN): A Case Study of Hyderabad, India', **Journal of The Institution of Engineers (India): Series A, Volume 104, Issue 1, Pages 63–80.**



## K F Antia Memorial Prize

Arpita Chatterjee, Soumyadeep Sen, Subhodeep Paul, Pallab Roy, Goutam Sutradhar and **Manojit Ghosh** for their Paper titled 'Application of SiC and Graphite reinforced Aluminium metal matrix composite in braking systems and its validation through finite element analysis', **Journal of The Institution of Engineers (India): Series D, Volume 104, Issue 1, Pages 449–464.**



## Pandit Madan Mohan Malaviya Memorial Prize

**Preethi Sharma Kathribail** and T Vijayakumar for their Paper titled 'Comprehensive Study of MOSFET Degradation in Power Converters and Prognostic Failure Detection Using Physical Model', **Journal of The Institution of Engineers (India): Series-B, Volume 104, Issue 1, Pages 305–317.**



## Corps of Electrical and Mechanical Engineers Prize

**Ashwin Kumar Devaraj** and Raviraja Adhikari for their Paper titled 'Vibration Analysis of the Base Structure supporting a Centrifuge-Motor Assembly in a Petroleum Oil Refinery', **Journal of The Institution of Engineers (India): Series-C, Volume 104, Issue 2, pages 393–401.**

## Hem Prabha —S N Gupta Prize

**J R Pal** for his Paper titled 'Estimation of probable maximum flood by flood frequency analysis at Tiuri Barrage Site on River Tons', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 4 & Pages 983 - 995.**



## The Institution Prize (Donated by Col G N Bajpai)

**Mitul M Modi** and Rakesh A Patel for their Paper titled 'Intelligent Approach to interpret Incipient faults of Power Transformer from DGA Database', **Journal of The Institution of Engineers (India): Series-B, Volume 104, Issue 4, Pages 869–876.**

## Computer Engineering Division Prize

**Sujit Mandal**, Manas Saha and B N Chatterji for their Paper titled 'Masked Face Detection and Selected Employee Access to Workplaces: A Step towards Coronavirus Prevention', **Journal of The Institution of Engineers (India): Series-B, Volume 104, Issue 6, Pages 1353–1368.**



## E P Nicolaidis Prize

**T A Kinjawadekar**, S. Patil and G. Nayak for their Paper titled 'A critical review on Glass Fiber- Reinforced Polymer Bars Reinforcement in Flexural Members', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 2, Page 501–516.**

## Suchit Kumar Ghosh Memorial Prize

**R Malik**, B Setia and A Banik for their Paper titled 'Mechanism of Scouring around group of bridge piers in Tandem Arrangement', **Journal of The Institution of Engineers (India): Series A, Volume 104, Issue 3 & Pages 633 - 642.**



## Sir Arthur Cotton Memorial Prize

**S Mandal**, K Krishnas and D Chakraborty for their Paper titled 'Bearing capacity of well foundation using finite element lower bound limit analysis', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 1, Pages 19–28.**

## Metallurgical and Materials Engineering Division Prize

**R Keshavamurthy**, Prabhakar Kuppahalli, P Sriram and K Sridhar for their Paper titled 'Effect of Silicon addition on Erosion-Corrosion Characteristics of High Tensile Brasses', **Journal of The Institution of Engineers (India): Series D, Volume 104, Issue 1, Pages 155–169.**



## Sir Rajendra Nath Mookerjee Memorial Prize

**Chandra Bose**, Subham Pal and Salil Haldar for their Paper titled 'Bending Analysis of Composite Plate with Cut-Out Carrying Uniformly Distributed Load', **Journal of The Institution of Engineers (India): Series-C, Volume 104, Issue 1, Pages 55–67.**

## Agriculture Engineering Division Prize

**Anshu Kumari** and Hifjur Raheman for their Paper titled 'Effect of Throttle Position and Gear Selection on Specific Energy Requirement and Power Utilization Efficiency of a Tractor Drawn Rotavator in Sandy Clay Loam Soil', **Journal of The Institution of Engineers (India): Series A, Volume 104, Issue 4, Pages: 819 - 829.**



## Pandit Madan Mohan Malaviya Memorial Prize

**Preethi Sharma Kathribail** and T Vijayakumar for their Paper titled 'Comprehensive Study of MOSFET Degradation in Power Converters and Prognostic Failure Detection Using Physical Model', **Journal of The Institution of Engineers (India): Series-B, Volume 104, Issue 1, Pages 305–317.**

## Shrimati Saroma Sanyal Memorial Prize

**N Bahadur**, N Bhargava, S K Sarkar and V Dhawan for their Paper titled

## Institution Prizes (One)

S Koramati, A Mukherjee, **B B Majumdar** and A Kar for their Paper titled

'Breakthrough in treatment of Sewage using direct photo catalysis, by-passing biological treatment with removal of micro pollutants to enable high-end water re- use', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 3, Page 541-550.**

#### **Nawab Zain Yar Jung Bahadur Memorial Prize**

**S S Chauhan** and M K Trivedi for their Paper titled 'Assessment of surface water quality index of Gwalior-Chambal Region Using Fuzzy based Approach', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 1 & Page 1-17.**

#### **Dr Rajendra Prasad Memorial Prize**

**Abhay Kumar Soni**, Chandrani Prasad Verma and Surendra Nath Singh for their Paper titled 'Assessment of water condition in underground mine workings of Belgaon Coal Mine India', **Journal of The Institution of Engineers (India): Series-D, Volume 104, Issue 2, Pages 479-487.**

#### **Sir Ganga Ram Memorial Prize**

**Nady S. Abbas**, Mohammed Z. A. Wahhab, Eman A. Ashour, Taha I. Farrag and Lamiaa A. Mohammed for their Paper titled 'The effect of a corrosion inhibitor on aqueous Di EthanolAmine solution piping behavior in carbon steel', **Journal of The Institution of Engineers (India): Series-E, Volume 104, Issue 2, Pages 285-296.**

#### **N K Iyengar Memorial Prize**

**Md. Amirul Islam**, Tahmid Hasan Rupam, Shahadat Hosan and Bidyut Baran Saha for their Paper titled 'Thermodynamic and environmental assessment of low-GWP alternative refrigerants for domestic cooling', **Journal of The Institution of Engineers (India): Series-C, Volume 104, Issue 2, Pages 377-383.**

#### **Dr Triguna Charan Sen Prize**

**Saurabh Rawan**, Sangyong Zhang, Atul Dhavale, Manjunath C. Burji and Umesh Kore for their Paper titled 'Optimization of Enzyme-Assisted Ultrasonic Irradiation Silk Degumming Process', **Journal of The Institution of Engineers (India): Series-E, Volume 104, Issue 2, Pages 237-250.**

#### **Production Engineering Division Prize**

**S Murali**, M Balasubramanian and R S Kumar for their Paper titled 'An Empirical Study on Information Flow Analysis through Supply Chain Value Stream Mapping in an Automotive Industry', **Journal of The Institution of Engineers (India): Series-C, Volume 104, Issue 4, Pages 695-703.**

#### **Architectural Engineering Division Prize**

**Harsimran Kaur** and Sanjay Bhandari for their Paper titled 'Conservation strategies for the traditional water systems: a case of Almora city, Uttarakhand', **Journal of The Institution of Engineers (India): Series-A, Volume 104, Issue 4, Pages 807-817.**

#### **Prof R C Singh Prize**

P K Thakur, V Kumar and V Deoli for their Paper titled 'Assessment of Spring Water Quality using water quality indices and Multivariate Statistical Techniques in Pithoragarh Uttarakhand', **Journal of The Institution of Engineers (India): Series A, Volume 104, Issue 2, Pages 301-316.**

#### **Rekha Nandi and Bhupesh Nandi Prize**

**R S Priyan**, S Ulavi and S M S Nagendra for their Paper titled 'Source apportionment of ambient fine particle size distribution using positive matrix factorization and conditional bivariate probability function in a coastal urban area', **Journal of The Institution of Engineers (India): Series A, Volume 104, Issue 3, Pages 685-696.**

#### **Tata Rao Prize**

**Arshad Mohammad Modabbir**, Imtiaz Ashraf and Md Mustafa Kamal for their Paper titled 'Economic and Environmental Impact of Energy Efficient Design of Smart Lighting System', **Journal of The Institution of Engineers (India): Series B, Volume 104, Issue 3, Pages 679-692.**

#### **Marine Engineering Division Prize**

**M K Srinath**, J Nagendra, M Ravikumar, K D Bopanna, S Sujith Swamy and C Rakesh for their Paper titled 'Salt Water Corrosion Behaviour of Composite Coated Al-6061 Developed Through HVOP', **Journal of The Institution of Engineers (India): Series C, Volume 104, Issue 3, Pages 587-592.**

#### **Aerospace Engineering Division Prize**

M P Bakhai and A H Rifat for their Paper titled 'Design and Analysis of Generic UAV Composite Winglet Structure', **Journal of The Institution of Engineers (India): Series C, Volume 104, Issue 4, Pages 967-977.**

#### **Institution Prizes (Two)**

**Manoj Kumar** and Atikur Rahman for their Paper titled 'Facile Synthesis, Characterization, and Photocatalytic study of La<sub>2</sub>O<sub>3</sub>/SnO<sub>2</sub> Nanocomposites', **Journal of The Institution of Engineers (India): Series E, Volume 104, Issue 1, Pages 95-108.**

#### **Corps of Engineers Prize**

**Harshal Verma**, Rajesh Rai, Bhanwar Singh Choudhary and Bappaditya Manna for their Paper titled 'Numerical simulation of excavation in opencast mine and its effect on ground vibration', **Journal of The Institution of Engineers (India): Series D, Volume 104, Issue 1, Pages 319-327.**

#### **Sir Thomas Ward Memorial Prize**

**Deivaraja Ramasamy** for his Paper titled 'An Approach for Steering Wheel Angle Evaluation without using a True Power-on Steering Angle Sensor in Electric Power Steering Systems', **Journal of The Institution of Engineers (India): Series-B, Volume 104, Issue 3, pages 563-568.**

The Coal India Ltd (CIL) had instituted an Award to perpetuate the memory of Late J G Kumaramangalam, its first Chairman, to be awarded every year during the Indian Engineering Congress to author/s of the articles adjudged best on a selected topic.

### **Coal India (J G Kumaramangalam Memorial) Award**

For the year 2024, **Santosh Kumar**, for his paper entitled 'Energy Transition: Challenges & Opportunities for the Coal Sector'.



**Santosh Kumar**

## Maritime Excellence through Digital Integration

**Uttarakhand State Centre**, IEI organized the 36<sup>th</sup> National Convention of Marine Engineers at Dehradun during 25-26 September 2024 under the aegis of Marine Engineering Division Board [MRDB], IEI at Dehradun. A National Conference was also organized concurrently with the Convention on the theme **Maritime Excellence through Digital Integration**. The inaugural function started with lighting of the lamp on the dais by the dignitaries in presence of the august gathering.

Shri Ganesh Joshi, Hon'ble Minister of Agriculture & Farmers Welfare, Soldier Welfare and Rural Development, Government of Uttarakhand, graced the occasion as the Chief Guest. He deliberated on various issues of women empowerment, the essence of integrity of engineers for development of nation, rational technological development and contribution of engineers in nation building. Dr Duggirala Rajasekhara Chairman MRDB, IEI; Cdr (Dr) Bhaskar M Bhandarkar, Council Member & Past Chairman MRDB, IEI; Er Narendra Singh, Past President IEI; Dr Brijendra K Saxena, Founder Principal, Tolani Maritime Institute, Pune ; Prof (Dr) O P Sha, Emeritus Professor, Department of Ocean Engineering and Naval Architecture, IIT Kharagpur; and Er H V Ramesh, Vice President, Indian Register of Shipping, Mumbai were the Guests of Honour.

Dr Duggirala Rajasekhara, Chairman, Marine Engineering Division Board, IEI



presided over the inaugural session. In his address, Dr Duggirala discussed about the traditional Maritime system by explaining the details of World Maritime Day & SOLAS-1947, challenges faced by the marine engineers, the right enthusiasm of the young generation serving the marine fraternity, the need for appropriate communication for mental health of the mariners etc. Dr Rajasekhara also discussed about the importance of extraordinary digitization pertaining to cyber-attacks and emission control for ships, he also highlighted the importance for effective Marine cargo transportation system.

Earlier, Er Narendra Kumar Yadav, Chairman, Uttarakhand State Centre, IEI delivered the welcome address. Er Amit Singh, Consultant, AToS Remote Solutions & Convener of the Thirty-sixth National Convention of Marine Engineers deliberated on the theme of the Convention and highlighted the importance of maritime cyber security, port digitization, Sustainability and Environmental Impact, Blockchain for Transparency and Security, Internet of Things (IoT) and Sensor Networks and remote sensing of vessels. The vote of thanks was delivered by Er Satish Kumar Chauhan, Honorary Secretary, Uttarakhand State Centre, IEI.

A souvenir was released on the dais in august present of the dignitaries.

On this occasion Dr Brijendra K Saxena, Founder Principal, Tolani Maritime Institute, Pune; Dr O P Sha, (Emeritus) Professor, Department of Ocean Engineering and Naval Architecture, IIT Kharagpur and Er H V Ramesh, Senior Vice President, Indian Register of Shipping, Mumbai were felicitated as eminent engineering personalities in recognition of their eminence and



Dr Brijendra K Saxena



Dr O P Sha



Er H V Ramesh



Cdr Dr Bhaskar M Bhandarkar

contribution to the profession of Marine Engineering.

The IEI Young Engineers Award in Marine Engineering Division for the year 2023-24 was presented to Dr Srineash Vijaya Kumar, Assistant Professor, Ocean Engineering Division, Department of Civil Engineering, Indian Institute of Technology Bombay in recognition of his contributions in the field of Marine Engineering.



Dr Srineash Vijaya Kumar

Followed by the inaugural session, the Rear Admiral T B Bose Memorial Lecture was delivered by Cdr Dr Bhaskar M Bhandarkar, Council Member, IEI, Past Chairman MRDB, IEI & Vice President, Institute of Marine Engineers (India) on the topic 'Safety in Maritime Engineering'. In his lecture, Cdr Bhandarkar discussed the significance of loss of resources due to various

factors, different types of accidents and measures to prevent the same, relation between age and frequency of accidents, safety management and necessary planning to prevent accidents. Er H V Ramesh, delivered the State of Art Lecture on the topic 'Digital Transformation –Migration from Normal to 5G' and spoke about the industrial revolution 5.0, mass customization, cyber physical cognitive systems, Augmented Reality, Mixed Reality, Blockchain, Cloud Computing, Mass-code, Maritime Digitalisation, data driven design optimization, collective expertise integration, Virtual Twins, etc.

Dr Amit Srivastava, Professor in the Department of Civil Engineering, Graphic Era (Deemed to be) University, Dehradun presented his lecture on the topic 'Sustainable Blue Economy Development in Indian Context; Opportunities & Challenges'. He deliberated on the different types of marine ecosystems, components of green & blue economy, contribution of earth science, marine spatial planning, marine tourism, sagar mala project, sustainable ocean energy and ocean pollution Marine Industry & Economy. He further explained the significant role of Marine Industry in the development of national economy. He explained the sources of marine pollution, marine ecosystem, which provides marine foods like fishes, green marine vegetation & medicinal marine plants. Marine Ecosystem also plays an important role in pollution control by generating oxygen, he added.

Er Amit Dimri delivered his presentation on the topic 'Spaceship Launching from Marine by Marine Ship'. Prof Amit Srivastava and Er Narendra Kumar Yadav delivered lecture on 'Climate Resilient Geo-Infrastructure to combat the impact of Climate Change and Global Warming: state of Art Overview.

Er Amit Singh, Consultant, AToS Remote Solutions spoke on the topic 'The Shipping Industry is transforming itself into a more Efficient and Eco-friendly Sector with the Integration of Advanced Technologies and Regulations'. The speaker deliberated on the importance of digitalization of marine industry and explained Ship Energy Efficiency Management Plan, Ballast Management Regulation, Voyage Optimization etc. Dr Om Prakash Sha, (Emeritus) Professor, Department of Ocean Engineering and Naval Architecture, IIT Kharagpur, presented his lecture on Hydrodynamic Characteristics of Ocean and Design of Ships. Dr Brijendra K Saxena spoke on maritime education and motivated the students to explore the maritime world.

Dr Dharmendra Pratap Singh, Assistant Professor, Earth Science Department, IIT Roorkee, delivered a thoughtful presentation on the topic 'Oceans; The Brief History'.

Dr Duggirala Rajasekhara, Chairman, Marine Engineering Division Board, IEI presented a technical talk on the topic 'Navigating the Digital Storm' and

*Contd. on page 18*

## Green Hydrogen, Electric Vehicles and Energy Storage

Tamilnadu State Centre, IEI, organized the 39<sup>th</sup> National Convention of Electrical Engineers under the aegis of the Electrical Engineering Division Board [ELDB] IEI, during 25 – 26 October, 2024, at Anna University, Chennai. A National Conference was also concurrently organised with the National Convention on the theme **Green Hydrogen, Electric Vehicles and Energy Storage**, addressing crucial advancements and challenges in renewable energy and sustainable technologies.

Mr R Chellappan, Founder & Managing Director, M/s SWELECT Energy



Systems, graced the inaugural function as the Chief Guest. In his address, he highlighted advancements in power electronic devices, the significance of renewable energy like green hydrogen and the critical need for addressing global warming and achieving net-zero emissions. Dr S Salivahanan, Former Vice-Chancellor, Vel Tech Rangarajan Dr Sagunthala R & D Institute of Science and Technology graced the function as the Guest of Honour. Dr Salivahanan shared his valuable insights in future of energy, global challenges in climate change, renewable energy efficiency and the integration of energy storage for future energy security.

The event started with the welcome speech delivered by Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI. In his address, Dr Kartikeyan outlined the objectives of the National Convention. Dr G Madhusudan, Convener, provided an overview of the event's agenda and its relevance to the electrical engineering community. Er K K Gopalakrishnan Nair, the then Chairman, Electrical Engineering Division Board, IEI and presently Vice President, IEI, presided over the inaugural session. In his address, Er Nair in his address highlighted the use of renewable energy and the associated challenges. Dr G Ranganath, the then President, IEI graced the occasion



Er K Indirani

through his online presence and underscored the importance of the Convention's theme.

On the occasion, Er K Indirani, Managing Director, TANTRANSO, Chennai; Prof P O J Lebba, Former Principal, T K M College of Engineering, Kollam, Kerala; Dr N Kumaresan, Professor & Dean (Faculty Welfare), Department of Electrical & Electronics Engineering, NIT Tiruchirappalli; and Er P C Rajan Babu, Chief Consultant were felicitated as eminent engineering personalities in recognition of their eminence and contribution



Prof P O J Lebba



Dr N Kumaresan



Er P C Rajan Babu

to the profession of Electrical Engineering. The IEI Young Engineers Award in Electrical Engineering Division for the year 2023-24 were presented to Dr Sreedhar Madichetty, Associate Professor, Department of Electrical and Computer Engineering, Echo Centrale School of Engineering, Mahindra University, Hyderabad, Telangana; Dr Ranjan Jha, Senior



Dr Sreedhar Madichetty

Scientist, CSIR-Central Scientific Instruments Organization, Biomedical Applications Divisions, Chandigarh and Mr Pratik Biswas, Deputy Chief, Central Electricity Regulatory Commission (CERC), World Trade Centre, Nauroji Nagar, New Delhi.



Mr Pratik Biswas



Dr Ranjan Jha

Dr K Boopathi, Director & Division Head, Wind Resource Assessment (WRA), National Institute of Wind Energy, Pallikaranai, Chennai delivered the M S Thacker Memorial Lecture on the topic 'Emerging Trends in Wind and Hybrid Energy Technology'. The speaker explained wind profile measurement to assess wind energy potential, remote sensing instruments for mapping wind resources to improve the accuracy of wind assessment, growth in wind turbine generators, hybrid energy systems etc. Dr Boopathi's lecture provided a comprehensive overview of the current trends and future potential of wind and hybrid energy technologies in India.

Dr G A Pathanjali, Managing Director, High Energy Batteries (India) Limited, Trichy delivered the State of Art Lecture on the topic 'Hydrogen Production and Energy Storage'. In his address, Dr Pathanjali focussed the significance of Hydrogen as a clean energy resource and various technologies available for energy storage. He lucidly explained Electrolysis to produce Hydrogen, Steam Methane Reforming, Biomass Gasification, Photo Electrochemical Water Splitting, Energy Storage Technologies, Supercapacitors etc.

Dr S Dharmalingam, Council Member, IEI, Former General Manager, BHEL, Trichy and Visiting Faculty, NIT Tiruchirappalli delivered an Invited Lecture on the topic 'Energy Storage Revolution to Unlatch Renewable Potential'. He explained the challenges posed by large scale variable renewable energy (VRE) integration including market structure dynamics, regulatory hurdles etc. He discussed the electricity production landscape in India, role of inertia in grid stability, and presented a roadmap for enhancing renewable energy utilization to achieve economic growth.

Dr K Selvajothi, Associate Professor, IITDM, Kanchepuram delivered an Invited Lecture on batteries used for propulsion applications, particularly in Electric Vehicles. His lecture focussed on overview of battery functionality, battery failure and dendrite formation, battery pack design and management, battery sizing for EV applications, thermal runaway, different terminologies in battery technology, fast charging and Off-board EVSE, Block diagram of On-Board Charger etc.

Dr A Jagadeeshwaran, Professor, Department of Electrical and Electronics Engineering, Sona College of Technology, Salem delivered an Invited Lecture on the topic 'Significance of Energy Storage Systems (ESS)'. His presentation focussed on various energy storage technologies, their applications, advantages and limitations. He further presented an overview of National Electricity Plan 2023 published by the Central Electricity Authority. He highlighted the projected energy storage requirement for India and the growing need for robust energy storage solutions to support renewable energy adoption, maintain grid stability and ensure reliable power supply across the country.

A panel discussion was held on the topic 'Comprehensive Discussion on the Current State and Future of Green Hydrogen, Electric Vehicles, and Energy Storage Systems'. Mr Muthukumar Subramaniam, General Manager, Product Development, Qmax Test Equipments Private Limited; Dr C

Contd. on page 19

## Advanced Developments in Concrete Structures

**Neyveli Local Centre**, IEI organized an All India Seminar on the theme **Advanced Developments in Concrete Structures** during 23-24 August 2024 at Neyveli under the aegis of Civil Engineering Division Board, IEI. The event started with opening remarks delivered by Er M S Rajan, Convener of the Seminar & General Manager, Civil & Contracts, NLC India Limited. The Inaugural Address by Er B Sivagnanam Former Executive Director, NLC India Limited and Past Honorary Secretary of Neyveli Local Centre, IEI. Er Sathish Vel C, Executive Director, M/s Argunt Aggregates Private Limited, Erode lecture on the topic 'Waste to Health – OB to Sand'. The inaugural session was concluded with vote of thanks, delivered by Er Appavu Eraniyan, Honorary Secretary of Neyveli Local Centre.

During the first technical session, Er Amar Deep Singh Sohal, Senior Manager, M/s L&T delivered an Invited Lecture on the topic 'Emerging Cementitious Materials & Utilization of Industrial Wastes'. Mr Dinesh Singh K Deputy Manager & Dr Sendil Kumar C, Chief Manager, CARD, NLC India Limited delivered presentation on the topic 'Sustainable Utilisation of Coal Mine Over Burden as Building Material for the Construction Sector'. Mr Pon Prabhu, Senior Manager, Technical Services, Ramco Cements, Pondicherry on 'Customisation of Cement'; Mr Pranamika R, Research Scholar, Annamalai University spoke on 'Performance Analysis and Sustainability of Ternary Blend Binder Concrete in Construction'. Mr Suriyakumar T, Research Scholar, Civil Engineering Department, Annamalai University delivered lecture on 'A Study on Mechanical Properties Of Ambient Cured Geopolymer Concrete'.

The second technical session was started with Invited Lecture delivered by Er B Sivagnanam on the topic, Methodologies & Practices in Civil Construction

- Neyveli Project'. Mr Manishankar S and Ms Vidhya Kumarasamy, Mahendra Engineering College, Salem delivered lecture on 'Experimental Study on Flexural Behaviour of E- Concrete using Ecofriendly Materials'. Mr Padmanaban G, Research Scholar, Civil Engineering Department, Annamalai University on 'Development of Ambient Cured Geopolymer Bricks'. Dr M Jegadeeswaran and Dr V Karthikeyan, Thiyagarajar Polytechnic College spoke on 'Utilization Of Industrial Wastes'. Mr A Gopalan from Annamalai University delivered lecture on 'Flexural Behaviour of Nano-Silica RC Beams incorporated with Steel Fibre'.



In the last technical session, an Invited Lecture was delivered by Er Vignesh Selvamani from M/S SRPL on the topic, RCC Repairs and Protective Coating of RCC Prilling Towers. Dr G Ganesan Managing Director, M/S Meena Fibreglas Industries Private Limited, Pondicherry, delivered Invited Lecture on 'Strengthening Of RC Structures using Fibre Reinforced Polymers(FRP)'. Mr Mohan S And

Ms Vidhya Kumarasamy from Mahendra Engineering College, Salem spoke on 'Study The High Performance Concrete Using The Nano Materials'. Dr S Dhavamani, Associate Professor, Civil Engineering Department, Sethu Institute Of Technology, Virudhunagar on - Cyclic Behaviour 'of Reinforced Geopolymer Frames With and without Infill. Er M Palani, Neyveli Local Centre, IEI delivered a video presentation on the topic 'Glimpses Of Few Amazing Structures In India'.

The Seminar focused on the technological advancement in construction building materials, use of Fibre Reinforced Polymers to strengthen RC structure, application of Reinforced Geopolymer frames etc.

## One Day Workshop under the aegis of Electronics and Telecommunication Engineering Division Board

### Internet of Things

**Agra Local Centre**, IEI, in association with BSA College of Engineering and Technology [BSACET], Mathura (UP) organised One Day Workshop on the theme **Internet of Things** on 16 April, 2025 under the aegis of Electronics and Telecommunication Engineering Division Board [ETDB], IEI. The Workshop was inaugurated by Shri Umashankar Agrawal, Chairman, BSACET. Er Rajnesh Kumar Yadav, Honorary Secretary, [Session 2022-24] and presently Chairman, Agra Local Centre delivered the welcome address.

During the technical session, expert speakers as resource persons shared their insights with the participants and guided them to enhance the domain knowledge in Internet of Things. Prof (Dr) D K Chaturvedi from Dayalbagh Education Institute, Agra narrated fundamentals of Internet of Things and its versatility makes it an attractive option for so many businesses and organizations, which include agriculture, consumer durables, healthcare, insurance, manufacturing, retail management, transportation, electrical energy utilities, traffic monitoring, hospitality, smart grid & energy saving, water supply, smart city & home management etc. Er Tapas Kumar Sethi, Corporate Member, IOC Refinery, Mathura spoke on the applications of IoT



in industries and business. Mr Vishal Lal Goswami, HoD, Electronics and Communication Engineering Department, BSACET explained the applications and benefits of IoT in healthcare, retail, data analytics, and focused on the reliability and safety aspects of the same. Er Paras Yadav, Trainer demonstrated smart consumer appliances control through web page applications. Prof (Dr) Shyamsundar Agrawal, Director, BSACET and Dr Lokendra Sharma, Director, ASM Polytechnic also spoke on the occasion.

## Maritime Excellence through Digital Integration

Contd. from page 16

discussed the problems of marine emissions, 50 years of SOLAS (Safety of life at seas), importance of industry experts & policy makers, digital technologies driving the maritime excellence, benefits of digital integration, data analytics for improvement and cyber security at sea. The Technical sessions saw paper presentation from bright minds of marine engineering, followed by the interactive technical session and a state of art exhibition pertaining to marine services.

The valedictory function was presided by Er Narendra Kumar Yadav, Chairman, Uttarakhand State Centre, IEI. In his address, Er Yadav urged to all stake holders to contribute towards the development of marine applications for the growth of marine engineering. The vote of thanks was delivered by the Er Satish Kumar Chauhan, Honorary Secretary, Uttarakhand State Centre, IEI.

## Emerging Trends in Deep Learning for Multimodal Image Fusion and Analysis

Coimbatore Local Centre of the Institution organized a One Day Seminar on the theme **Emerging Trends in Deep Learning for Multimodal Image Fusion and Analysis**, in association with the Department of Electronics and Communication Engineering, PSG Institute of Technology and Applied Research (PSGiTech), Coimbatore on 13 April 2024 at Coimbatore. Dr Sudhakar Radhakrishnan, Professor and Head, Department of Electronics



and Communication Engineering, Dr Mahalingam College of Engineering and Technology graced the occasion as the Chief Guest and addressed the gathering. Dr Radhakrishnan shared his insightful perspectives on the Seminar's topic and elucidated the wide array of opportunities in the field of image analysis, emphasizing its potential for professional growth and academic advancement. Earlier, Dr P R Natarajan, Past Chairman of Coimbatore Local Centre welcomed the gathering and addressed the insights and significance of the Seminar. Dr P Vijayakumar, Professor and Head and Dr M Jothibasu, Assistant Professor, Department of Electronics and Communication Engineering, PSGiTech spoke on the occasion and briefed on the theme.

Dr Sudhakar Radhakrishnan delivered an Invited Lecture on the topic 'Medical Image Analysis using Wavelets' and explained the significant aspects of medical image processing and analysis. He discussed the modalities utilized in medical imaging and proceeded to cover data processing, classification, compression, and wavelet transform. He also encouraged passionate students to undertake research projects in the field of image processing, assuring them of support and guidance. His presentation not only provided valuable

knowledge but also inspired students to explore research opportunities in this dynamic field.

Mr Boopathi Sakthivel, Founder and CEO, Prashan Medical Technologies, Coimbatore delivered an Invited Lecture on 'Innovations in Medical Imaging Equipment: Harnessing the Power of Deep Learning'. In his lecture, Mr Sakthivel provided valuable insights into medical devices such as X-Ray, CT, MRI, and PET machines, elucidating their applications in healthcare. Moreover, he delved into the business aspects of biomedical research, offering students a comprehensive understanding of the industry landscape. His engaging discussion not only broadened students' knowledge but also inspired them to explore opportunities in the field of medical technology and research.

Dr S Esakkirajan, Professor, Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore delivered Invited Lecture on the topic 'Transform Domain Based Analysis of Biomedical Signals'. His adept use of analogies facilitated a clear understanding of fundamental concepts for students. Professor Esakkirajan also demonstrated a paper on 'A Generalized Classification Framework for Power Quality Disturbances Based on Synchrosqueezed Wavelet Transform and CNN', highlighting the practical applications of the discussed techniques. Furthermore, he motivated students to embark on research journeys and emphasized the enjoyment derived from the process of learning. Overall, the session served as an enlightening experience for all attendees.

Dr C Bagavathi, Assistant Professor, School of Computing, Amrita Vishwa Vidyapeetham, Coimbatore delivered Invited Lecture on the topic 'Deep Learning-based Multimodal Image Fusion and Future Perspectives'. In his lecture, Dr Bagavathi provided a comprehensive explanation on the significance of Multi-modality in image processing during the session. She compared various image processing techniques, emphasizing their importance and applications. Additionally, the speaker elucidated image fusion techniques with relevant examples, providing clarity on their implementation. Furthermore, she discussed the U-Net architecture and other models with potential for future development, offering insights into advancements in the field. To engage students further, Dr Bagavathi conducted an online quiz on the topic and recognized the top scoring students for their achievement. Overall, her session contributed significantly to enhancing understanding and enthusiasm among participants.

## Green Hydrogen, Electric Vehicles and Energy Storage

Contd. from page 17

Sharmeela, Professor, and Dr K Gayathri, Associate Professor, Department of Electrical and Electronics Engineering, Annamalai University, Chennai and Dr Padmanathan K, Director, EVNEXUS Private Limited, Chennai were the speakers of the panel discussion. Mr Gopinath K, Director, Srivari Enterprises, Adithy Technologies, Tiger Automobiles Company moderated the session. provided insights into energy storage systems, emerging trends and predictive maintenance using machine learning.

During the technical sessions, papers were presented on relevant topics, namely Transformer-less Single Stage Converter for Low Voltage DC Source Integration; Effective Generation Scheduling of Independent Power Producers in Day Ahead Electricity Market using the CSHO Algorithm; Optimization of Type IV Pressure Vessel using Finite Element Analysis; Review on

Selection of DC Link Capacitors for Grid connected Photovoltaic Inverters; Comprehensive Review on On-Board Chargers for Electric Vehicles; Optimal Allocation of Electric Vehicle Charging Stations and Distributed Generators for Voltage Stability Enhancement in Distribution Network; Design of Heavy Duty EVs – A Step towards Sustainability in Steel Industry; IoT based Solar Drying System for Enhanced Efficiency and Performance; Reimagining Shipping Containers as EV Charging Stations; Linear and Non Linear Controllers for DC-DC Converters; A Comparative Study; Advanced Electric Scooter powered by Graphene Battery and High Efficiency Motor; Electrified Transportation; Review of various MPPT Techniques for Photovoltaic System; Optimising CO<sub>2</sub> Emissions and enhancing Peak Load Reduction in Residential Distribution Networks using Monarch Butterfly etc.

The National Convention was attended by the professionals, students, research scholars from different walks of life.

## Advancements in Semiconductor Fabrication Process

Semiconductor device manufacturing involves a complex series of processes, that typically involves wafer preparation, patterning, doping, deposition, etching and packaging. Semiconductor processes are highly complex and involve a wide range of specialized equipment and materials. These processes are essential for the creation of modern electronic devices and are constantly evolving as new technologies are developed.

In general, the process of producing a semiconductor microchip can take several weeks to several months. The first stage involves creating a silicon wafer, which will serve as the substrate for the microchip. This process typically involves several steps, including cleaning, deposition, lithography, etching, and doping. Once the individual chips have been fabricated on the wafer, they need to be separated and packaged into individual units. This typically involves testing each chip to ensure that it meets the required specifications, then separating it from the wafer and mounting it onto a package or substrate. After the chips have been packaged, they undergo a rigorous testing process to ensure that they meet quality standards and perform as expected. This typically involves running electrical tests, functional tests, and other types of validation tests to identify any defects or issues.

Salem Local Centre, IEI organised an One Day Seminar on the theme **Advancements in Semiconductor Fabrication Process** on 14 May 2024 at Salem under the aegis of Electronics and Telecommunication Engineering Division Board [ETDB], IEI. The one day event brought together distinguished experts, professionals, and researchers in the fields of engineering and semiconductor industry. The event aimed to foster collaboration and knowledge sharing, discussions, insights and emerging trends in semiconductor fabrication process.

The Seminar started with a welcome address delivered by Dr K Thangaraj, Chairman, Salem Local Centre, IEI. He highlighted the role of advancement of etching technology, which has been a key driver of the rapid progress in the semiconductor industry, enabling the creation of smaller and more complex electronic components. Dr M Sudha, Organizing Secretary of the event & HoD, Electronics and Communication Engineering Department, Paavai Engineering College, Namakkal, introduced the theme of the Seminar.

Dr K K Ramsamy, Director-Admin, Paavai Institutions, Namakkal delivered the inaugural address. He highlighted the current demand and the ideas of collaborating with IEI for future technology developments and he explained how silicon process technology is the dominant technology for the fabrication of a majority of the consumer electronics chips that are the building blocks of smartphones, tablets, microcontrollers, data converters, power management chips, and computers. The functional block diagram of the silicon chips for typical smartphones are the synchronization of applications processors, FLASH memory, power and battery management, touch-screen drivers, the 2G/3G/4G long-term evolution radio-frequency transceiver, the baseband modem, Wi-Fi, Bluetooth, GPS chips, audio CODEC, and CMOS image sensors, among others, he mentioned. The exception to this may be the power amplifier, which is still mainly fabricated by the Gallium Arsenide (GaAs) bipolar process as a niche area in the chip industry. Since the invention of the integrated circuit and the metal oxide semiconductor field-effect transistor (MOSFET), the silicon process for making transistors and chips has become the driving force for the chip industry. The evolution of the cell phone and computers is intrinsically linked to the evolution of the silicon fabrication process advancement, the speaker added.

The Keynote address was delivered by Er P R Sudhakar, Associate Director, Test Engineering, Tessolve Services Private Limited, Bangalore. He highlighted the current demand and the ideas of Advancements in Semiconductor Fabrication Process and explained, how the fundamentals of semiconductor manufacturing, popularly known as 'chip manufacturing'. Starting with the use of larger single crystal silicon wafers and defect density reduction

techniques necessary for manufacturing chips with lower cost, the principles of lithography and etching are presented. The basic sequence in integrated circuit (IC) manufacturing is transistor formation (front-end processing), interconnect formation (back-end processing), and assembly and test. Advancements in lithography, single-wafer processing and advanced process control have played key roles in manufacturing semiconductor products with critical dimension (CD) as small as about 20 nm today. Process variability is one of the key challenges that the industry faces as CDs are scaled to roughly the 10 nm regime. Fundamental research on new materials, their interfaces, new processes and new devices is certainly required if we are ever to achieve practical ICs with sufficiently low power consumption for products manufactured with critical dimensions approaching 5 nm and beyond.

Er V Sasikumar, Managing Director, Mikrosun Technology, Salem delivered Keynote address on the topic 'Role of IC's in Industrial Applications'. Dr Kamalakannan, Associate Professor, Paavai Engineering College, Namakkal delivered Keynote address on 'Fabrication of Quantum Materials based Nanodevices for Cutting Edge Nanodevices'. Er S Vijayakumar, Associate Professor, Electronics and Communication Engineering Department, Paavai Engineering College, Namakkal delivered Keynote address on the topic 'CMOS Processing and Analysis'. Er S

Loganathan, Associate Professor, Electronics and Communication Engineering Department, Paavai Engineering College, Namakkal delivered Keynote address on the topic 'Performance and Characterization of IC'.

The seminar concluded successfully with participants gaining valuable insights into the intersection of advancements in semiconductor fabrication process, fostering ideas for future research and collaboration. The vote of thanks was delivered by Prof (Dr) Ms C Dhavamani, Honorary Secretary of Salem Local Centre, IEI.



### Upgradation of Membership

- ❖ Existing Associate Members are requested to upgrade their Membership to the grade of MIE and FIE as per the eligibility criteria
- ❖ Existing Members are requested to upgrade their Membership to the grade of Fellow as per the eligibility criteria

For details, please contact  
**Deputy Director (Membership)**, The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700020

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# IEI Celebrates Energy Conservation Day

The Energy Conservation Day was celebrated by the Institution on December 14, 2024. Brief accounts of celebration as received from various Centres are reported hereunder.

## STATE CENTRE

### Bihar



Bihar State Centre, IEI, observed National Energy Conservation Day 2024 on 18 December 2024 at Patna. Chief Guest of the event was Dr Rakesh Kumar Singh, Head of Nanotechnology Centre & Ex-Registrar, Arybhata

Knowledge University, Patna. Dr Muhammad Asif Hasan, Assistant Professor, Department of Electrical and Electronics Engineering, BIT Mesra delivered the Keynote address. In his address, Dr Hasan underscored the significance of innovation, collaboration and public awareness in achieving energy sustainability. Chief Guest, Dr Rakesh Kumar Singh in his address outlined the function of Green Energy Hydroelectric Cell prepared from nanomaterials and its application in production of Hydrogen gas, battery etc.

## LOCAL CENTRES

### Prayagraj

Allahabad Local Centre, IEI, observed National Energy Conservation Day on 14 December 2024 at Prayagraj. A technical seminar was organised on the occasion on the topic 'Energy Conservation and Sustainable Technologies for a Greener Future'. Keynote Speaker, Dr Ashwini Yadav, Associate Professor, Department of Mechanical Engineering, Motilal Nehru National Institute of Technology Allahabad, Prayagraj, delivered lecture on the topic 'Energy Conservation and Sustainable Technologies for a Greener Future'. The event saw active participation from engineers, professors and students.

### Kanpur



Kanpur Local Centre, IEI, in collaboration with the All India Valuer Association, organized Energy Conservation Day on 14 December 2024, at Kanpur. Guest speaker, Dr

Keshav Kant, Former Professor, Department of Mechanical Engineering, IIT Kanpur delivered lecture on the topic 'Impact of Energy Conservation on Building Valuation'. Er Khushnuma Parveen, Researcher, Department of Mechanical Engineering, HBTU Kanpur spoke on 'Innovative Strategies and Government Drives for Energy Sustainability'.

### Kanyakumari



Kanyakumari Local Centre, IEI, observed National Energy Conservation Day 2024 on 14 December 2024 at Nagercoil. Er M R Padma Kumar, Superintending Engineer,

Kanyakumari EDC, TANGEDCO delivered an enlightening session on energy consumption patterns and the global initiatives in energy conservation. Mr V P Balasubramanian, Senior manager, Sales, L&T, Madurai spoke on energy efficiency in everyday operations. Mr P Swaminathan, Manager-LEM, L&T Madurai in his lecture demonstrated modern energy efficient appliances to reduce power consumption without compromising performance.

### Kochi

Kochi Local Centre, IEI, celebrated Energy Conservation Day on 12 December

2024 at Kochi to raise awareness about energy conservation and the role of engineers in promoting sustainability. Keynote speaker, Er G Krishnakumar,



General Secretary, Society of Energy Engineers and Managers (SEEM), shared his insights on energy efficiency and the role of engineers in advancing sustainable energy management practices. He

emphasized the critical role of engineers and energy managers in implementing cutting edge technologies and policies aimed at reducing energy consumption and minimizing environmental impacts.

### Ludhiana

Ludhiana Local Centre, IEI, observed Energy Conservation Day 2024 on 13 December 2024 through online mode. Er VB Singh, the then President Elect and now President, IEI, was the Chief Guest. Keynote speaker of the event was Dr Naveen Kumar Sharma, Assistant Professor, Electrical Engineering Department, IKG, PTUY Main Campus, Kapurthala.

### Rourkela

Rourkela Local Centre, IEI, observed National Energy Conservation Day 2024 on 14 December 2024 through online mode and a webinar was organised on the occasion. Keynote speaker of the event was Dr S. Murugan, Professor, Department of Mechanical Engineering, NIT Rourkela.

### Sunabeda

Sunabeda Local Centre, IEI, observed World Energy Conservation Day 2024 on 12 December 2024 at Sunabeda. Chief Speaker



of the session, Dr Nutan Kumar Dash, the then Vice President, IEI, emphasized the importance of energy conservation as a cost-

effective and environmentally friendly solution to overcome energy challenges.

### Tiruvallur



Tiruvallur Local Centre, IEI, celebrated Energy Conservation Day on 16 December 2024 at Tiruvallur. The event featured a Keynote address delivered by Jens Bo Holm-Nielsen, Head,

Bio-Energy and Green Energy, Aalborg University, Denmark, on the topic 'Advancements in Bio-Energy and Green Technologies', who had shared his insights into the latest innovations in renewable energy. His expertise provided valuable perspectives on the role of bio-energy in sustainable development and energy conservation.

### Trichur



Trichur Local Centre observed Energy Conservation Day on 14 December 2024 at Trichur, IEI. Chief Guest Dr K K Ramachandran, Former Professor, Government Engineering College Thrissur,

delivered lecture on the topic 'Green Transformation, Energy Saving'.

# IEI Celebrates World Habitat Day 2024

**Theme : Engaging Youth to Create a Better Urban Future**

The World Habitat Day was celebrated by the Institution on October 7, 2024. Brief accounts of celebration as received from various Centres are reported hereunder

## STATE CENTRES

### Assam



Assam State Centre, IEI, celebrated World Habitat Day on 07 October 2024 at its Golden Jubilee Lecture Theatre, Panbazar, Guwahati. Resource person of the event, Dr Arup Kumar Misra, Chairman, Pollution Control Board, Assam

delivered lecture on the theme.

### Karnataka

Karnataka State Centre, IEI, observed World Habitat Day 2024 on 10 October 2024 through online mode. Speaker of the session, Mr Chetan Sodaye, Program Manager for Sustainable Cities & Transport at the World Resources Institute, Bengaluru, delivered an insightful lecture on urban mobility using the ASI Framework of NUTP India. The session showcased strategies for smart cities, including walkability, cycle networks, public transport and slum upgradation. Dr H K Ramaraju, Vice Principal & HOD of Civil Engineering, Dayananda Sagar College of Engineering, Bangalore delivered the concluding remarks.

### Manipur



Manipur State Centre, IEI, observed the World Habitat Day 2024 on 07 October 2024 at the Seminar Hall, Govt Polytechnic Campus, Imphal. Architect Bikram Wangkheimayum, Proprietor

of Tampak Associates, Imphal delivered the thematic address, highlighting youth empowerment in urban development and Imphal's urban challenges.

### Punjab & Chandigarh

Punjab & Chandigarh State Centre, IEI, in collaboration with B A M Khalsa College, Garhshankar, Hoshiarpur, observed the World Habitat Day 2024 on 07 October 2024 through online mode. The Chief Guest, Dr Tarunpreet Singh Thind, Nodal Officer, Government College for Girls, Ludhiana, highlighted the pivotal role of youth in addressing climate change challenges within urban environments and fostering sustainable practices and in promoting innovative solutions to improve urban mobility and create more sustainable and accessible urban environments, to reduce private car dependency and CO2 emissions. Keynote speaker of the session, Dr Jatinderpal Singh, Associate Professor & Head, Department of Zoology, Baring Union Christian College, Batala emphasized the role of youth in sustainable urbanization.

## LOCAL CENTRES

### Amravati

Amravati Local Centre, celebrated World Habitat Day on 05 October 2024 at Amravati. Er Sanjay Gulhane, Divisional Convener, Amravati Local



centre, IEI delivered lecture on 'Significance of Climate Change, Urbanization, and Social equity on the Betterment of Human Life'. He spoke on affordable housing solutions initiative by Government, needs to

promote sustainable urban planning and development.

### Bhilai



Bhilai Local Centre, IEI, organized a Round Table-Panel Discussion on World Habitat Day on 06 October 2024 at Bhilai. Mrs Shraddha Trivedi, Deputy Secretary, Finance Department, CG Government; Mr Vineet

Nair, Joint Director, Urban Administration, Government of Chattisgarh; Mr Satyaprakash Tiwari, City Superintendent of Police, Bhilai Nagar; Mr Satish Thakur, Deputy Superintendent of Police, Traffic, Durg, Bhilai; Mr K Praveen, General Manager, Environment Management Department, Bhilai Steel Plant; Mr Chaitanya Venkateshwar, General Manager, CET SAIL; Dr Vivek Agnihotri, Assistant Professor, NIT Raipur; and Dr Harshita Raja, Medical Officer SIMHANS, were present as subject experts in the program.

### Coimbatore



Coimbatore Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 in collaboration with the Department of Civil Engineering, PSG College of

Technology, Coimbatore at Coimbatore. The event featured a talk by the Guest Speaker, Mr R Manikandan, Founder, Kovai Kulangal Padhukappu Amaippu, Coimbatore on empowering youth for environmental conservation. Dr M Palanikumar, Professor & Head, Department of Civil Engineering, PSG College of Technology, Coimbatore also delivered address on the occasion.

### Faridabad

Faridabad Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024, through online platform. Prof (Dr) Manoj Nayak, Professor and Head, Mechanical Engineering Department, MRIIRS, Faridabad delivered lecture on the theme.

### Ghaziabad



Ghaziabad Local Centre, IEI, celebrated the World Habitat Day 2024 on 07 October 2024 at Ghaziabad. Chief Guest, Ar Ved Prakash Mittal, Architect & Town Planner, GDA Ghaziabad

discussed the planning problems of towns and cities due to increased population. Keynote Speaker Ar Anand Tripathi, Director, Hearse Associate, Noida, highlighted engineers' roles in sustainable housing.

### Gorakhpur

Gorakhpur Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 through online mode. Ar Virender Sharma, Principal Architect, M/s Virender Sharma and Associates, New Delhi was the Chief Guest. Dr Deepti Pande Rana, Associate Professor, Amity School of Architecture and Planning, Amity University, Lucknow was the Guest of Honour.

### Gwalior



Gwalior Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 at Gwalior. Resource person of the event was Shri Ranvir Singh, Former Chief Engineer, Madhya Pradesh Electricity Board. In his lecture, Shri Singh shared his insights in water harvesting techniques and sustainable construction practices, highlighting their importance in addressing urban infrastructure challenges in India. His presentation reinforced the need for integrating eco-friendly methods in urban development to ensure resource conservation and sustainability. Other resource persons include; Prof C S Malvi, Mechanical Engineering Department, MITS, Gwalior; Mr K N Jha, Former Principal, Ashok Nagar Polytechnic, MP and Er U S Pandey, Former Chief Engineer, PHE.

### Kanyakumari

Kanyakumari Local Centre, IEI, celebrated the World Habitat Day 2024 on 07 October 2024 at St Xavier's College of Engineering, Nagercoil. The Chief Guest, Dr Jerlin Regin, Associate Professor, Department of Civil Engineering, St Xavier's College of Engineering, Nagercoil delivered an inspiring lecture on the theme.



### Kochi

Kochi Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 through online mode with a focus on youth-driven sustainable urban development. Keynote speaker, Dr Rajeev Kumar P, Professor, Civil Engineering Department, Alliance University, Bangalore in his address, centered on the pivotal role that youth can play in shaping the future of cities. He explained how urbanization is both a challenge and an opportunity, and how the next generation of engineers, planners, and innovators must be actively engaged in creating sustainable, resilient, and inclusive urban environments. He discussed emerging trends in urban development, including smart cities, green infrastructure, and digital innovations, and encouraged young professionals to contribute through fresh ideas and forward-thinking solutions. Dr Rajeev also emphasized the need for inclusive policies that integrate the perspectives of youth in urban planning, ensuring that cities not only meet current demands but also prepare for future challenges such as climate change, resource management, and rapid urbanization.

### Kollam

Kollam Local Centre, IEI, in collaboration with the IEI Students' Chapter (Civil) of MES Institute of Technology and Management [MESITAM], Kollam observed the World Habitat Day 2024 on 10 October 2024 at Kollam.



Prof Anees Beegom H, HoD, Department of Civil Engineering, and Prof Rafi A, Principal in Charge, MESITAM, delivered the presidential address. Mrs Ashiqua Sulthana, Lead Consultant, Tropical Innovation Cluster delivered lecture on 'Net Zero Transition: Concepts, Framework, and Cases'.

### Madurai



Madurai Local Centre, IEI, organized the World Habitat Day 2024 on 10 October 2024 at Madurai. Chief Guest of the session, Er A K. Rajaduraivelpandian, Former Chief Engineer, Tamil Nadu Highways Department, Projects delivered a lecture on the theme.

### Meerut

Meerut Local Centre, IEI observed World Habitat Day on 07 October 2024 through online platform. A webinar was organized on the occasion. Keynote speakers of the session were, Ar Anirudh Bhattar, an Associate Architect, Suresh & Rakesh, Meerut and Ar Rajat Bhattar, Principal Architect, Suresh & Rakesh, Meerut. Prof (Dr) Neeraj Singhal, Director, SCRIET, CCS University, Meerut also joined the webinar.

### Salem

Salem Local Centre, IEI, organized the World Habitat Day 2024 on 09 October 2024 through online mode. Chief Guest and Keynote speaker was Dr G Tholkappia Arasu, CEO, Aasaan Accreditation Private Limited, Chennai. Dr Arasu's lecture highlighted youth engagement in sustainable urban planning.

### Sunabeda



Sunabeda Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 at Sunabeda. Er Manoj Kumar Patnaik, Manager (Tooling), HAL, Sunabeda, served as the Chief Speaker,

emphasizing the critical role of resilient urban economies in fostering growth and recovery. Er Sasmita Das, Manager (Works), HAL, Sunabeda, in her concluding remarks underscoring the collective responsibility for sustainable human habitats.

### Tiruchirappalli

Tiruchirappalli Local Centre, IEI, in association with Indian Institute of Welding Tiruchirappalli Branch, Computer Society of India, Tiruchirappalli Chapter, Safety Quality Forum - IEI /New Delhi, Indian welding Society Southern zone, Indian Institute of Metals Tiruchirappalli Chapter, Indian Institution of Industrial Engineering Tiruchirappalli, Indian Institution of Plant Engineers Trichy Chapter, Kumari Arivial Peravai Kanyakumari and Indian Society for Non-destructive Testing, Trichy Chapter observed World Habitat day 2024 on 08 October 2024 through virtual mode. The event featured a lecture by Dr V Rajagopalan, Assistant Professor (Sr Gr), Department of Civil Engineering, UCE – BIT Campus, Tiruchirappalli.

### Tirunelveli



Tirunelveli Local Centre, IEI, organized the World Habitat Day 2024 on 23 October 2024 at Tirunelveli. Resource person of the event, Dr S Arumugam, Former Professor, Anna University, Guindy, Tamil Nadu, delivered lecture on the occasion.

## Upper Assam



Upper Assam Local Centre, IEI, celebrated World Habitat Day on 05 October 2024 at Duliajan, in collaboration with Duliajan College, Assam. Chief Guest, Dr Lok Bikash Gogoi,

Principal, Duliajan College, in his address focused on youth engagement for sustainable development. Two technical papers were presented by Shri Mobia Gambo, Chief Engineer (Civil), Oil India Limited, Duliajan on the topic 'Engaging Youth to create a Better Urban Future', and Smt Tinamoni Hazarika, Assistant Professor, Department of Botany, Duliajan College on the topic 'Achieving SDG-11 through Youth'.

## Varanasi

Varanasi Local Centre, IEI, observed the World Habitat Day 2024 on 07 October 2024 at Varanasi. Keynote speaker, Dr Ujjwal Kumar Banerjee, former Executive Engineer, University Works Department, BHU delivered lecture on the topic 'Water Management in Urban Areas'. From the Department of Civil Engineering, IIT-BHU, Prof Rajesh Kumar, Prof K K Pathak. Prof Devendra Mohan and Prof (Dr) Prabhat Kumar Singh also graced the occasion and expressed their view.

## Visakhapatnam

Visakhapatnam Local Centre, IEI, organized the World Habitat Day 2024 on 07 October 2024 through online mode. Speaker of the event was Dr Kameswara Rao Kotamraju, Retired Professor & Chairman, Department of Environmental Sciences, Andhra University.

## Qatar Overseas Chapter of The Institution of Engineers (India) Hosts Webinar on AI Security

The Qatar Overseas Chapter of The Institution of Engineers (India) (IEI) successfully hosted a webinar on **Artificial Intelligence Security** on 30<sup>th</sup> December, 2024 drawing over 100 participants via Zoom. The event emphasized the critical importance of cyber security in today's digital landscape.

Er Abdul Sathar, Hon. Chairman of the Qatar Chapter, highlighted the Chapter's commitment to empowering engineers with knowledge to address cybersecurity challenges. Chief Guest Er Ahmed Jassim Al Jolo, President of the Federation of Global Engineers, and Guest of Honour Mr

Thaha Muhammed, President of IBPC, praised the Chapter's contributions to the professional community in Qatar. Prof. Huzur Saran from IIT Delhi and Keynote Speaker Ms Satyavathi Divadari provided deep insights into AI security, cloud challenges, and emerging technologies across various industries.

Moderated by Er Ashik, Hon. Treasurer, the event reinforced the Chapter's role as a leader in fostering professional development and advancing secure, innovative practices in engineering.

### Discount at the Samsung e-store for IEI Corporate Members

Exclusive access to the Samsung e-store for IEI Corporate Members. This shall enable the Corporate Members to procure the Samsung Products in a discounted rate. The Samsung e-store can be accessed at [www.samsung.com/in/multistore/iei](http://www.samsung.com/in/multistore/iei) using your Membership No. and email id/Mobile.

### Empanelment as Advocate/ Attorneys & Chartered Accountant who are also Engineers

The Institution of Engineers (India) invites practicing Advocates/Attorneys and Chartered Accountants who are also Engineers to apply for empanelment to enhance their visibility in the public domain. Empanelment entails a nominal application fee of Rs. 5900/- (inclusive of GST) payable by Demand Draft/Multi-city Cheque made in favor of "The Institution of Engineers (India)" and payable at Kolkata.

Applicants are requested to send a hard copy of their application to the **Deputy Director (Membership)**, The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700020. For further details, please visit our website at <https://www.ieindia.org/webui/iei-home.aspx>.

### Certificate of Practice for Practicing Chartered Engineers

The Corporate Members of the Institution having **Chartered Engineer Certificate in the current grade of Membership with five years of experience** as an Engineer in the relevant field can apply for **Practicing Chartered Engineers Certification**. The Institution will issue **Practicing Registration No.** for practicing Chartered Engineers, which is valid for **five years**.

The application fee for empanelment is, Rs.5900/- (GST included), which may be paid through Demand Draft/ Multi-city Cheque in favour of "The Institution of Engineers (India)" payable at Kolkata.

The hard copy of application form duly filled in alongwith supporting documents should reach to:-

**Deputy Director (Membership)**, The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700020

Please visit : <https://www.ieindia.org/webui/IEI-RegistrationForPPCE.aspx> for more details.

## Trends in Aviation (Civil & Defence)

**Tamilnadu State Centre**, IEI, in association with the Indian Aviation Academy and Aerospace (IAAA) and Periyar Maniammai Institute of Science & Technology (PMIST), Thanjavur, organized an All India Seminar on the topic **Trends in Aviation (Civil & Defence)** during 30-31 August, 2024, under the aegis of Aerospace Engineering Division Board (ASDB), IEI at Thanjavur. The seminar gathered professionals, academicians, researchers and students to discuss key trends and innovations in aviation, focusing on both civil and defence sectors.

The event began with the welcome address delivered by Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI, who stressed the importance of fostering collaboration between industry and academia to drive aerospace advancements and highlighted the crucial role of IEI in creating opportunities for future aerospace technologies.

Dr S Pandiyan, Former Director, SDSC SHAR, ISRO, graced the inaugural function as the Chief Guest. Dr Pandiyan delivered an insightful address, focusing on the latest trends in the space industry, India's startup aerospace ecosystem and its potential in the satellite and rocket economy. He outlined upcoming key projects, such as the development of India's 19-seater and 90-seater aircraft, the country's goal for a space station by 2035 and manned lunar missions by 2040. He also discussed the role of Artificial Intelligence (AI) and drones in civil aviation and aerospace sectors.



Er C S Karunakaran, Convenor briefed the august audience about the theme and emphasized the need for partnerships between government, academia, and industry to drive forward the aerospace ecosystem in India. Dr J Arivudainambi, Chairman, ASDB, IEI [Session 2023-24] shared insights on how startups are driving innovation in the aerospace sector. He encouraged collaboration between research institutions and industry for the commercialization of new technologies, particularly in space-related domains. Dr N Sivasubramanian, Member, ASDB, IEI [Session 2023-24] emphasized the importance of maintaining stringent quality standards in the aerospace industry, citing international cases like the issues in thruster mechanisms. He called for uncompromised attention to the quality of space-grade materials. Prof (Dr) N Venkatachalapathy, Chairman, Thanjavur Local Centre, IEI was present on the dais and introduced the Chief Guest.

Dr V Ramachandran, Vice Chancellor, PMIST, Thanjavur delivered the Keynote address on the importance of integrating entrepreneurship into academia. He introduced the Periyar Technology Business Incubator (TBI) and highlighted its role in supporting startups and innovation in aerospace and space technologies. Dr V Karupannan, Project Lead, Startup TN, in his special address discussed the evolving aerospace startup ecosystem in Tamil Nadu with specific focus on aerospace ventures. He highlighted the success stories of Yazhi Aerospace, Pullinam Aerospace and GalaxEye and outlined government initiatives to support aerospace ventures. A Souvenir was released by the Chief Guest and other dignitaries on the dais.

The seminar included multiple technical sessions, invited lectures, panel discussions and paper presentations on cutting-edge topics in aviation and aerospace by the following eminent personalities. Chief Guest, Dr S Pandiyan delivered an Invited Lecture on the topic 'Indigenizing UAV Technologies –Challenges and Opportunities'. Mr Karthick Somasekar, Application Engineer, Altair, delivered presentation on 'Fly High with Altair Simulation'. Mr Ramakrishna Madira, Technical Lead, Infinity Arsenal Private Limited delivered Invited Lecture on the topic 'Drone manufacturing and

Challenges'. Dr J Ashokbabu, Chief Aviation Analyst, Pullinam Aerospace Technologies Private Limited deliberated on the topic 'Aviation in India – Challenges Ahead'.

Mr D Uma Maheshwar, Chief Consulting Engineer, GE Aerospace India spoke on 'Ongoing Research in Electric Aviation and SAF Towards Sustainable Aviation'. Mr Vignesh S M, Application Engineer, Pre & Post Sales, CADFEM India Private Limited delivered lecture on the topic 'ANSYS Simulation's Significance in the Aviation and Defence Industries at the Component to System Level'. Prof (Dr) S R Chakravarthy, Professor of Aerospace Engineering, Founder, The ePlane Company, IIT Madras delivered lecture on the topic 'E-VTOL and Advanced Air Mobility'. Mr Vignesh S M, Application Engineer, Pre & Post Sales, CADFEM India Private Limited and Er C S Karunakaran, Founder, Pullinam Aerospace Technologies Private Limited delivered lecture on the topic 'Role of Professional Forums in Building an Aero Startup-Ecosystem'.

A panel discussion was held during the event. The panel explored the landscape of space-tech startups in India, focusing on opportunities for collaboration, funding strategies, and the role of government and private partnerships

in nurturing innovation. The panellists discussed the current challenges, market potential, and success stories from Tamil Nadu's growing aerospace start-up ecosystem.

The technical sessions concluded with a focus on how professional forums and industry collaborations can play a pivotal role in fostering the growth of startups in the aerospace ecosystem. A brief interactive Q&A allowed participants to delve deeper into the opportunities and challenges of launching aerospace startups.

In the valedictory function, Prof (Dr) N Venkatachalapathy, Chairman, Thanjavur Local Centre, IEI delivered the welcome address and acknowledged the speakers, organizers and attendees for their efforts over the two-day event. Dr M Senthil Kumar, Chairman, Technical Committee, presented a report on the seminar's proceedings, highlighting key discussions and insights from the technical sessions and panel discussions. Dr P K Srividhya, Registrar, PMIST, delivered the valedictory address, where she emphasized the importance of industry-academia collaboration for advancing aerospace technologies. She commended the seminar for its contributions to these efforts. Er D Gokul, Honorary Secretary, Tamilnadu State Centre, IEI, delivered the vote of thanks, expressing gratitude to the sponsors, organizing committee and participants for their contributions to making the seminar a success.

### Corporate Air Ticketing for IEI Members

Corporate Members may book Corporate Air Ticket through M/s EBIX Travels Private Ltd. For details please visit

<https://www.ieindia.org/webui/IEI-AirTickets.html>

# IEI Celebrates

# World Standards Day 2024

**Theme : Shared Vision for a Better World: Incorporating SDG 3**

The World Standards Day was celebrated by the Institution on October 14, 2024. Brief accounts of celebration as received from various Centres are reported hereunder.

## STATE CENTRE

### Puducherry



Puducherry State Centre, IEI, celebrated World Standards Day 2024 on 14 November 2024 in collaboration with the Department of Electrical and Electronics Engineering, Puducherry Technological University (PTU) at Puducherry. Chief Guest of the session was Prof (Dr) S Mohan, Vice-Chancellor, PTU. Special Guest of the session, Shri L Dinesh Rajagopalan, Scientist-D/Joint Director, Bureau of Indian Standards, Chennai Branch Office [CNBO], Chennai delivered a lecture on importance of Indian Standards for crucial electrical equipment including transformers, induction motors and switch gears.

of Ghaziabad Local Centre, was the Chief Guest and Dr Nidhi Sisodia, Sr Scientific Officer, NITRA, delivered the Keynote address. Dr Sisodia elaborated the role of standards in achieving SDG-3.

### Gorakhpur



Gorakhpur Local Centre, IEI, celebrated World Standards Day 2024 on 17 October 2024 in collaboration with the Institute of Technology and Management (ITM), GIDA, Gorakhpur at Gorakhpur. Chief Guest of the session was Er Ashutosh Kumar Srivastava, Assessor of NABCB and International Accreditation Services. Guest of Honour of the session was Dr N K Singh, Director, ITM, GIDA, Gorakhpur.

Gorakhpur Local Centre, IEI, celebrated World Standards Day 2024 on 17 October 2024 in collaboration with the Institute of Technology and Management (ITM), GIDA, Gorakhpur at

### Kadapa



Engineering and Technology, highlighted how international standards and AI-driven innovation foster resilient infrastructure, sustainable industrialization and global collaboration. The event emphasized aligning with SDG 9 for sustainable economic transformation.

Kadapa Local Centre, IEI observed World Standards Day 2024 on 14 October 2024 at Kadapa. Keynote speaker, Er G Krishna Kishore, Associate Professor, Department of Mechanical Engineering, Global College of

## LOCAL CENTRES

### Agra



Agra Local Centre, IEI, celebrated World Standards Day on 15 October 2024 in collaboration with the Department of Electronics and Communication Engineering, BSA College of Engineering and Technology, Mathura. Shri Uma Shankar Agrawal, Chairman, BSA College of Engineering and Technology inaugurated the event. Keynote speakers Prof (Dr) Shyam Sundar Agrawal, Director, BSA College of Engineering and Technology and Mr Vishal Lal Goswami, Assistant Professor, BSA College of Engineering and Technology, Mathura highlighted the role of international standards in global progress and AI-driven innovation.

### Ludhiana



significance of SDGs and emphasizing SDG 3's role in equitable healthcare, innovation and disease prevention. Ms Mehak, a student member, presented on the theme, discussing how accessible healthcare can transform global well-being.

Ludhiana Local Centre, IEI, celebrated World Standards Day 2024 on 26 October 2024 at Ludhiana. Dr Arvind Dhingra, Chairman, delivered the welcome address, highlighting the

### Coimbatore



Technology, Coimbatore at Coimbatore. Shri V Gopinath, Scientist G and Head, Bureau of Indian Standards, Coimbatore Branch, presented a lecture on the theme. The talk highlighted the role of standards in sustainable industrialization, fostering innovation, and global cooperation.

### Palghat

Palghat Local Centre, IEI, celebrated World Standards Day 2024 on 14 October

2024 at Palakkad. Guest Speaker, Dr Jyothisankar P R, Professor, Department of Mechanical Engineering, NSS College of Engineering, Palakkad, emphasized the role of standards in driving innovation, sustainability

### Ghaziabad



Ghaziabad Local Centre, IEI, celebrated World Standards Day 2024 on 17 October 2024 at Ghaziabad. Er S S. Sharma, Past Chairman



and AI-driven advancements. He explained, how individuals can contribute to SDG 9 to promote sustainable growth.

### Rourkela

Rourkela Local Centre, IEI, observed World Standards Day 2024 on 16 October 2024 through hybrid mode. Speaker of the session, Er Ramakrishnan R, Sr Manager, Research & Control Lab, SAIL, Rourkela Steel Plant highlighted the role of international standards in promoting safety, efficiency and sustainability. He explained the technological, economic and societal benefits of International Standards.

### Sunabeda



Sunabeda Local Centre, IEI, celebrated World Standards Day 2024 on 14 October 2024 at Sunabeda. Chief speaker of the session, Er Ananda Prasad Sahu, Chief Manager (Indigenization),

HAL, Sunabeda emphasized the role of standards in achieving SDG 3, focusing on healthcare, disease prevention and equitable medical access. Er Sanjaya Kumar Bishoyi, Honorary Secretary highlighted the collective responsibility to prioritize health and well-being through international standards for a sustainable future. Er Sanjib Kumar Mishra, Senior Manager (Testing), HAL, Sunabeda delivered the concluding remarks.

### Tirunelveli



Engineering, Tirunelveli.

Tirunelveli Local Centre, IEI, celebrated World Standards Day on 14 September 2024 at Tirunelveli. Resource person of the event was Dr R Velayutham, Principal, Einstein College of



## The Institution of Engineers (India)

### Notification for

### R&D Grant-in-Aid

To promote appropriate technology, assist in building up design & research talents and, most importantly, to help in nurturing potential R&D venture amongst engineering students pursuing Diploma/UG/PG/PhD courses, The Institution of Engineers (India) had instituted the R&D Grant-in-Aid program way back in 2001.

Like every year, the Institution invites applications for the session 2024-2025 for funding industry-oriented R&D projects and research initiatives aimed at improving the life-style of common people from engineering students pursuing full time Diploma/UG/PG/PhD engineering program in AICTE/UGC/NAAC approved Institutions/Colleges/Universities. The application form and guidelines are available in our website <https://www.ieindia.org>. The projects should be carried out under the guidance of faculty members who are Corporate Members of IEI. Membership criteria for student(s), guide(s) and Institution(s) are as follows:

Project Category	Student/Applicant Membership	Guide(s) Membership	Institutional Membership	Quantum of Grant (INR)
1. Diploma	Exempted [Membership of Student Chapter is desirable]	AMIE/MIE/FIE	Not Mandatory	Not exceeding ₹20,000/- for a single project
2. UG (BE/BTech/AMIE/Equivalent)	SMIE	AMIE/MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank	Not exceeding ₹50,000/- for a single project
3. PG (ME/MTech/Equivalent)	AMIE/MIE/FIE	MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank	Not exceeding ₹1,00,000/- for a single project
4. PhD	AMIE/MIE/FIE	MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank	Not exceeding ₹1,50,000/- for a single project

The soft copy of the duly filled-up applications (in editable format), as per the pro-forma available in our website [www.ieindia.org](http://www.ieindia.org), should be sent through email to [research@ieindia.org](mailto:research@ieindia.org) and one printed copy of the same should reach the following address:

**Deputy Director (Technical)**

**The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700 020**

Applications received in format other than that available on our website will not be accepted. Application should be forwarded through the Guide, Head of the Department or Head of the Institution. Please note that preference will be given to project proposals received from Institutions who are members of The Institution of Engineers (India) and with NBA / NAAC Accreditation or valid NIRF Rank. Kindly go through the guidelines (visit link <https://www.ieindia.org/webui/IEI-Activities.aspx#RnD-Initiative>) carefully before filling up the application.

The grant is not intended for the faculty members / working individuals who have access to other avenues of research funding. Proposals received will be scrutinized and the recipients of R&D Grant will be informed accordingly.

IEI Celebrates

# 57<sup>th</sup> Engineers' Day 2024

Theme : Driving Sustainability with Engineering Solutions Embracing the Latest AI Driven Technologies

The 57<sup>th</sup> Engineers' Day was celebrated by the Institution all over the country on September 15, 2024 to commemorate the 163<sup>rd</sup> birth anniversary of legendary Engineer-Statesman Bharat Ratna Sir M Visvesvaraya. Brief accounts of the celebration as received from various Centres are reported hereunder.

## STATE CENTRES

### Andhra Pradesh



Andhra Pradesh State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024. Chief Guest of the session was Er Kothamasu Dinesh Kumar, IAS, Managing Director, Andhra Pradesh

State FiberNet Limited. In his address, he focussed on Smart Resource Management, Sustainable Design, Integration of Renewable Energy, Transportation Innovations, Environmental Monitoring and so on.

### Delhi



Delhi State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Delhi. Chief Guest, Shri Raj Bhushan Choudhary, Hon'ble Minister of State for Jal Shakti, Ministry of Jal Shakti, Government of

India highlighted AI's transformative role in sustainability. Shri Dharmendra, IAS, Chief Secretary, Government of NCT of Delhi; Dr Shishir Bansal, Former Special Director General, CPWD and Shri Manuj Singhal, Director [Infrastructure], Delhi Metro Rail Corporation Limited also graced the function.

### Haryana



Haryana State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 16 September 2024 at Om Sterling Global University, Hisar. Prof Rajender Singh Chillar, Pro Vice Chancellor, Om Sterling Global

University, welcomed the Chief Guest, Dr Arun Goel, Professor and Head, Civil Engineering Department, NIT Kurukshetra, and the Guest of Honour, Er Ombir Singh, Superintending Engineer, Dakshin Haryana Bijli Vitran Nigam [DHBVN] Hisar. Keynote speaker Er Suraj Sapra, Co-Founder & CSO, Meritto delivered the Keynote address and highlighted AI's transformative role in engineering.

### Karnataka

Karnataka State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Bangalore. The event included a Seminar organized with



Dayanand Sagar Institute of Technology and BNM Institute of Technology, featuring various technical talks. Chief Guest, Sri Ramalinga Reddy, Hon'ble Minister for Transport & Muzrai, Government of Karnataka inaugurated the event, joined by dignitaries including Sri G C Chandrashekhara, MP and Sri Rizwan Arshad, MLA, Shivajinagar Constituency.

### Maharashtra



Maharashtra State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Mumbai. Keynote speaker of the event was Er Umesh Swami, Corporate Trainer and YouTuber. He spoke on smart cities, innovations in renewable energy and transformed transportation.

### Manipur



Manipur State Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Manipur. Chief Guest of the event was Er M Lokendro Singh, Former Chief Engineer, PWD Manipur. Er Ng Basantakumar Singh, Controller of Technical Education, Government of Manipur was the Guest of Honour. Prof (Dr) Aheibam Dinamani Singh, Electronics and Communication Engineering, NIT Manipur, delivered the thematic address. A souvenir was released by the dignitaries on the dais on the occasion.

## LOCAL CENTRES

### Anantapuram



Anantapuram Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 21 September 2024 at Ananthapuramu. Dr M Rama Krishna Reddy, Honorary Secretary, Ananthapuram

Local Centre, IEI [Session 2022-24], was the Keynote speaker. Dr V Dileep Kumar, Head, Computer Science Engineering Department, PVKK Institute of Technology delivered the concluding remarks.



### Durgapur

Durgapur Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Durgapur. The event featured Mr S K Srivastava, Director, National Power Training Institute, Durgapur, as Chief Guest. Dr Mou Sen, Joint Director, MSME & T, West Bengal was the Guest of Honour. Dr Parag Kumar Guhathakurta, Assistant Professor, Department of Computer Science and Engineering, NIT Durgapur and Dr Avishek Banerjee, Head and Associate Professor, Department of Information Technology, Asansol Engineering College were the Guest Speakers. Dr Guhathakurta presented lecture on the topic 'Intelligent Frameworks for Sustainable Agricultural Practices: A Major Necessity'. Dr Banerjee delivered presentation on the topic 'IoT-based Air Quality Analysis and Asthma Attack Risk Prediction using Machine Learning in the Asansol-Durgapur Region of WB, India'.

### Indore



Indore Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Indore in two sessions. The morning session included a garlanding ceremony at Lantern Square, Indore, with Dr Vijay Rode, Director, Shri GS Institute of Technology & Science, as Guest of Honour. The evening session, held at Brilliant Convention Center, Indore featured Chief Guest, Dr Varun Kapoor, IPS, SDGP, Rustamji Armed Police Training College, Indore and Keynote Speaker, Er Rajeev Dixit, Co-founder and CTO of 47Billion.

### Jabalpur

Jabalpur Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Jabalpur. Chief Guest and Keynote speaker, Prof Bhartendu K Singh, Director, Pandit Dwarka Prasad Mishra Indian Institute of Information Technology, Design and Manufacturing, Jabalpur [PDPM IITDM] Jabalpur, emphasized AI's role in sustainable engineering. Er Pankaj Mishra, CSP, OMTI, and Er



VK Gupta, Chairman, Takshshila Institute of Science & Technology, were the Guests of Honour. The event focussed on integration of AI surfaces in sustainable engineering solutions, AI driven intelligent waste management systems etc.

### Jamshedpur



Jamshedpur Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Jamshedpur. Er R P Tyagi Das, Past Chairman of Jamshedpur Local Centre

was the Chief Guest and delivered a lecture on the theme.

### Kakinada

Kakinada Local Centre, IEI, in collaboration with Jawaharlal Nehru Technological University, [JNTU], Kakinada and the Retired Irrigation



Engineers Association celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Kakinada Dr KVSG Murali Krishna, Vice Chancellor, JNTUK Kakinada, graced the function as the Chief Guest and Er M S Sai Kumar, Former Superintending Engineer, Water Resource Department, was the Guest of Honour.

### Kollam



Kollam Local Centre, IEI and the IEI Civil Students Chapter jointly celebrated 57<sup>th</sup> Engineers Day on 10 & 11 September 2024 at Kollam. Dr Madhusoodanan Pillai K, Chairman, Kollam Local Centre delivered the Keynote address. A technical talk was delivered by Dr Santhosh Sathyapal, General Manager (Technical), Vizhinjam International Seaport Limited on the topic 'Major Challenges and Opportunities for Civil Engineers in the Modern World'.

### Kota



Kota Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Kota. Er S K Malviya, Station Director, RAPP Unit 7 & 8, Rawatbhata graced the function as the Chief Guest. Er Yogesh Singh Katiyar, Additional Chief Engineer, KSTPS was the Guest of Honor. Er Tanmay Goyal, Director, Aakar Consultant, Kota delivered the Keynote address and focussed the potential of AI as the pinnacle of human innovation.

### Meerut



Meerut Local Centre, IEI, in collaboration with Sir Chhotu Ram Institute of Engineering Technology (SCRIET) Chaudhary Charan Singh University Campus Meerut celebrated the 57<sup>th</sup> Engineers' Day on

15 September 2024 at Meerut. The Chief Guest of the session was Dr Arpit Chhabra, Senior System Analyst, SCRIET, Meerut. Speakers of the event, Er Rakesh Kumar Pandey, Assistant Professor, Department of Electronics and Instrumentation Engineering and Er Pravin Kumar, Assistant Professor, SCRIET, delivered their presentations on the topics 'Engineering Solutions for Sustainability with latest AI Driven Technologies' and 'Driving Sustainability with Engineering Solutions embracing the Latest Technology' respectively.

### Munirabad



Munirabad Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 15 September 2024 at Munirabad. Dr Chandre Gowda, Professor, Department of Mechanical Engineering at Rao Bahadur

Y Mahabaleswarappa Engineering College, [RYMEC] Ballari, delivered an insightful Keynote speech and emphasized sustainable practices and AI-driven solutions. The event highlighted the importance of AI driven technologies for sustainable future.

## Nagpur



Nagpur Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 18 September 2024 at Nagpur. Maj Gen S K Vidyarthi, AVSM, SM, General Officer Commanding, Uttar

Maharashtra & Gujarat Sub Area, was the Chief Guest and Keynote Speaker. Vice Admiral Kishore O Thakare, AVSM, NM (Retd), Past President, IEI, presided over the function.

## Palghat



Palghat Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 23 September 2024 at Palakkad. Keynote addresses were delivered by Er P Balakrishnan Nair,

Chairman, Kerala State Centre, IEI and Dr A Seshadri Sekhar, Director, IIT Palakkad.

## Pune

Pune Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 14 September 2024 through virtual platform. Mr Satyajit Nimbalkar, CEO, Long Span Structures Private Limited, graced the function as the Chief Guest. Mr Nitin Mahajan, Director, Cloud Energy Management Platform was the Guest of Honour. In his address, Mr Mahajan deliberated on cloud management, product and platform development and implementation in IT industry etc.



Dr Vaibhav Hendre, Deputy Director, G H Raison College of Engineering & Management delivered the Keynote address. Dr R K Jain, Vice Chancellor, Ajinkya D Y Patil University, Pune in his address, underscored the crucial role of engineers play in a nation's progress.

## Saurashtra

Saurashtra Local Centre, IEI, in collaboration with V V P Engineering College, Rajkot, celebrated the 57<sup>th</sup> Engineers Day on 14 September 2024 at Rajkot. Speakers of the event were Dr Komil Vora and Ms Dishita Mashru, Assistant Professors at V V P Engineering College, discussed the role of AI in sustainable engineering.



## Trichur



Trichur Local Centre, IEI, celebrated the 57<sup>th</sup> Engineers' Day on 28 September 2024 at Trichur. Chief Guest and Speaker of the event was Dr S Brilly Sangeetha, Principal, IES College of Engineering, Chittilappilly.

Dr Vaibhav Hendre, Deputy Director, G H Raison College of Engineering & Management delivered the Keynote address. Dr R K Jain, Vice Chancellor, Ajinkya D Y Patil University, Pune in his address, underscored the crucial role of engineers play in a nation's progress.

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## Chartered Engineer Certification

The Members who have not availed the Chartered Engineer Certificate [CEng(I)], are requested to apply through online:

<https://www.ieindia.org/WebUI/iei-Memb.aspx#chartered-engineering>

## Elevate your status as a Certified Professional Engineer (PE) and International Professional Engineer (IntPE)

### Professional Engineers (PE) Certification by IEI

#### ELIGIBILITY REQUIREMENT

To attain the Professional Engineers (PE) certification through the Institution of Engineers (IEI), you must meet the following eligibility criteria:

1. Hold a BE/BTech or equivalent degree recognized by a Statutory Authority or the Government of India.
2. Have accumulated five years or more of professional experience.
3. Be a member of a recognized professional engineering institution or association.
4. Maintain a satisfactory level of Continued Professional Development (CPD).

For more information and details, please visit the following link :

[https://www.ieindia.org/webui/IEI\\_PE\\_Certification.aspx](https://www.ieindia.org/webui/IEI_PE_Certification.aspx)

### International Professional Engineers (IntPE) Certification by IEI

#### ELIGIBILITY REQUIREMENT

To be eligible for IntPE Certification by IEI, candidates must meet the following criteria:

1. Hold a BE/BTech or equivalent degree recognized by the Statutory Authority or the Government of India.
2. Possess seven years or more of professional experience.
3. Have a minimum of two years of professional experience in a significant engineering activity.
4. Be a member of a recognized professional engineering institution or association.
5. Maintain a satisfactory level of Continued Professional Development (CPD).

For more information and details, please visit the following link :

[https://www.ieindia.org/webui/IEI\\_IntPE\\_Certification.aspx](https://www.ieindia.org/webui/IEI_IntPE_Certification.aspx)

The eligible candidate can submit application in the prescribed format to:  
Deputy Director (Technical), The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700020  
For any query and assistance please send email to: [pe@ieindia.org](mailto:pe@ieindia.org)

# News-in-Brief

The following are the brief account of Technical Activities organised by various Centres and Fora

## STATE CENTRES

### Gujarat

Celebrated its Foundation Day on 01 September 2024 at Bhaikaka Bhawan with a series of insightful technical activities. The Keynote address by Prof Milan Patel, Asst Professor, GLS University, delivered in the regional language, captivated the audience with its focus on 'Success Business Models for Startups', offering valuable strategies for budding entrepreneurs. Practical workshops on the same theme followed, providing hands-on insights to equip participants for the competitive business landscape. The program saw active participation from approximately 65 corporate members and 15 committee members, reflecting strong engagement from the engineering community. The event underscored the Institution's commitment to innovation and professional development, leaving a meaningful impact on all attendees.

### Kerala

Organized a technical talk on 'Recycling of Pavements' on 04 September 2024, in association with IEEE, INSARM, ASI, SSI, ISTD, SAME, IITArb, PMI, and IETE. Speaker, Dr Neethu Roy, Dean, Research and Consultancy and Professor, Department of Civil Engineering at Mar Baselios College of Engineering and Technology, Thiruvananthapuram, discussed innovative approaches and best practices in pavement recycling, highlighting its significance in sustainable infrastructure development.

### Telangana

Conducted the Dr Narla Tata Rao 23<sup>rd</sup> Endowment Lecture on 04 September 2024, through online mode. The event featured Dr M V Krishna Rao, Former Technical Member of APSEB and Founder Managing Director, Global Energy Consulting Engineers, as the Chief Guest. Dr M V Ramana Rao, Associate Professor, Department of Electrical Engineering, University College of Engineering, Osmania University, Hyderabad, delivered Endowment Lecture on 'The Future of Motion Control: Trends and Innovations in BLDC Motors'. The session highlighted advancements in Brushless DC motors, emphasizing their evolving role in motion control technologies. The event was well attended and fostered engaging discussions on innovations in the electrical engineering domain.

### West Bengal

Organized the Prof A K Seal Memorial Lecture on 03 September 2024 at Kolkata. The event, held in honor of the Late Prof Arun Kumar Seal, an eminent metallurgist and educationist, featured a commemorative lecture by Prof Himadri Sekhar Maity, Former Director of CSIR-CGCRI, Kolkata. Prof Maity's lecture, titled 'Important Materials and Systems for Generating Renewable & Hydrogen Energy', explored advancements in renewable energy technologies such as solar thermal, solar photovoltaic and hydrogen energy, with a focus on the structural material requirements to enhance efficiency and durability. Guest Speaker of the session was Dr Mitun Das, Sr Principal Scientist, CSIR-CGCRI, Kolkata & Member, MME Division, WBSC, IEI. The lecture generated significant interest, sparking engaging discussions among attendees.

## LOCAL CENTRES

### Ahilyanagar

Organized a technical lecture titled 'Indian Automobile – Car Segment' on 04 September, 2024 at Ajitdada Pawar College of Polytechnic, Shrirampur. Resource person of the session, Er Abhay Krishnrao Rajee, Honorary

Secretary, Ahmednagar Local Centre, IEI focused on educating students about the history, classification, and technical specifications of Indian cars. Topics of demonstration included car body types, engine power, transmission systems, crash protection features, and a comparative case study of diesel vs. petrol vehicles.

### Dhanbad

Organized a technical lecture on 'Smart Solutions for Environmental Applications' on 05 August 2024, at IIT ISM Dhanbad. The lecture, delivered by Prof S K Gupta, Professor (HAG), Dept of Environmental Science & Engineering, IIT ISM Dhanbad focused on innovative and smart solutions addressing environmental challenges. Prof Gupta discussed the application of technology to mitigate environmental issues and highlighted the importance of integrating smart systems in environmental engineering.

### Gwalior

Organized a Skill Development Program titled 'Green Chemistry, Environment Sciences, and Indian Economics' on 05 June 2024, at Gwalior. The program aimed to raise awareness about sustainable chemical practices and their environmental impacts. Keynote speakers, including Er P K Singhal, Past Chairman, Gwalior Local Centre, IEI and Prof & HoD, EC, MITS, Gwalior and Er Ranvir Singh, Former Additional Chief Engineer, MPEB, Gwalior discussed the importance of reducing environmental degradation through sustainable practices, emphasizing the need to minimize hazardous chemical generation and optimize chemical processes to prevent pollution.

### Kadapa

In collaboration with the Electronics and Communication Engineering Department of Electronics and Communication [ECE], Annamacharya Institute of Technology & Sciences (AITS), Utukur, organized a Seminar on 'Emerging Technology in Electronics Communication' on 06 March 2024 at Kadapa. Dr P V S Murali Krishna, Professor & HoD, Department of ECE, AITS, presented a lecture on the topic. The Seminar aimed to provide professionals and students with a platform to present research findings, enhance their experience in the field and receive constructive feedback.

### Kanpur

In collaboration with the All India Valuers Association (AIVA), Kanpur, organized a lecture on 'ESG Impact on Valuation, A Paradigm Shift' on 06 July 2024 through online mode. The event featured Er Chandresh Behl, a Registered Valuer from Kanpur, as the Guest Speaker. In his lecture, Er Chandresh Behl provided valuable insights into how the integration of Environmental, Social and Governance (ESG) criteria is transforming property valuation. He emphasized that ESG considerations are becoming a standard practice, highlighting their role in promoting sustainability, social responsibility and good governance within the real estate industry.

### Mangalore

Organized a technical talk on 'Geotechnical Investigations for Civil Engineering Projects' on 06 March 2024 at Mangalore. The event featured Dr D Venkat Reddy, Advisor for the Centre for Climate Change and Environment Management, Engineering Staff College of India, Hyderabad, as the Keynote speaker. Dr Reddy emphasized the importance of detailed geological and geotechnical investigations in tunnelling projects, highlighting that many challenges, such as wall and crown collapses are often caused by poor geological conditions, including shear zones, faults and folds. He explained that tunnelling through highly crushed rock masses in shear zones presents

frequent risks of collapse. The technical talk provided valuable insights into addressing geotechnical challenges in civil engineering, particularly in tunnelling projects.

### **Nagpur**

In collaboration with the Association of Consulting Civil Engineers (India) [ACCE(I)], Nagpur Centre, organized a technical lecture on 'Recent Failures in Deep Excavations and Precautionary Measures' on 06 July 2024 at Nagpur. Er Amol Shingarey, MD, M/s. Geotech, a leading soil investigation agency, served as the expert speaker. Er Shingarey explained the frequent failures in deep excavations, emphasizing the importance of thorough geotechnical investigations before construction. The session was followed by an engaging panel discussion featuring Er Shingarey, Er P S Patankar, Structural Designer, Ar Ashok Mokha and Mr Gaurav Agarwala (Builder). The discussion covered topics such as parking regulations, cost implications of deep excavation for parking versus building upwards and the need for continuous learning in this field. The panelists also answered questions from the audience, addressing concerns from builders, purchasers and residents affected by nearby excavation projects.

Nagpur Local Centre of The Institution of Engineers (India) in association with Tulsiramji Gaikwad Patil College of Engineering & Technology [TGPCET], Nagpur organized a online one-week National Level Faculty Development Program (FDP) on the topic 'Recent Trends in Engineering Materials, Mathematical Modelling and its Applications in Technology' during 06 to 10 August 2024. Dr Prashant Thakre, Dean (Academics), TGPCET, delivered the opening remarks, emphasizing that material technology enhances efficiency and that the possibilities in this field are boundless. He focused on learning from failures, the significance of technology in modern life and the role of mathematical models in advancing technology. The FDP aimed to promote learning through interaction, discussion and deliberation among participants, fostering innovation that benefits society.

Organized a technical lecture on the topic 'Permanent Magnet Servomotors (PMSM)' on 04 September 2024. Speaker of the session was Er Shankar Sathawane, Former General Manager, Bharat Bijlee, Navi Mumbai. Er Sathawane provided a comprehensive overview of actuators in automation, focusing on electrically powered actuators and PMSMs. He highlighted the advantages of PMSMs, including low current consumption, shorter ramp-up times and low rotor inertia due to the absence of windings, despite their complex and costly design. The event was organized in collaboration with the Superintending Engineer (Electrical) of Nagpur Region, the Nagpur Region Inspection Circle, and The Electrical Contractors' Association (TECA), Nagpur.

### **Navi Mumbai**

In association with Mechanical Engineering Student Association (MESA) FR C Rodrigues Institute of Technology (FCRIT) and FM Students Chapter organized a National Level Project Poster Competition (NPPC) 2024 during 02 – 03 April 2024 at Vashi. With 52 teams from across the nation participating, the event featured both online and offline poster presentations, showcasing innovative projects to a distinguished jury. Subsidiary events included Rocket-X 2.0, where participants crafted and launched rockets using recycled materials, Caddict, a CAD modelling challenge replicating a paper punching on Fusion 360 software etc.

### **North Bengal**

Organized a lecture meeting on 'High Performance Reconfigurable Radio Processor Design' on 06 February 2024 at Jalpaiguri Government Engineering College, Jalpaiguri. The Keynote speaker, Er Rakhi Roy Ghosh, Assistant Professor, Department of Electronics and Communication Engineering, Jalpaiguri Government Engineering College, delivered an insightful presentation. She explained that conventional radio systems rely on fixed hardware to perform signal processing functions, limiting their

flexibility in terms of modulation methods, waveforms and protocols. She also elaborated on the receiver functions, where RF signals are amplified with a tuned RF stage, highlighting the limitations of conventional radio systems.

### **Pune**

In association with the Institution of Valuers (IOV) Pune Branch, organized an expert session on 'Electricity Act 2003 and Electricity Tariff Determination in Maharashtra' on 06 July 2024. Speaker of the session, Er Mukund Toke, a Local Management Committee Member provided a detailed overview of the evolution of electricity laws in India, tracing the history from the Electricity Act of 1910, through the post-independence 1948 Act, to the landmark Electricity Act of 2003. He discussed the legal framework governing electricity usage and its development through various phases, including the impact of liberalization. The presentation also included real-world examples and site photographs, sparking an engaging discussion with the audience.

In association with IEEE-PES Pune Chapter organized Industry Academia Engagement Workshop on 03 August 2024 at Pune. The event welcomed eight distinguished invitees from academia and industry, alongside a large gathering from both institutions.

### **Rourkela**

Rourkela Local Centre of The Institution of Engineers (India) hosted a webinar on "Air Pollution Control Techniques: A Case Study - Improvement of Air Quality in Rourkela City" on 04 September 2024 through hybrid mode. Keynote speaker, Er Bijaya Kumar Bhoi, Deputy Environmental Engineer, Odisha State Pollution Control Board, provided an in-depth analysis of air pollution, highlighting its sources, such as industrial activities, transportation and energy production and its impacts on public health and the environment. He emphasized the importance of a multifaceted approach combining technological innovations, regulatory measures and public engagement to combat air pollution effectively. The presentation included discussion on strategies to mitigate air pollution, which was well-received and sparked an engaging interactive session.

### **South Gujarat**

Organized an educational poster exhibition competition on 'Challenges and Issues in Urban Water Conservation' on 04 May 2024, at Surat. The event, held in association with the Water Management Forum, Ahmedabad, and Shree Surati Modh Vanik Nanpura Yuvak Mandal, featured large participation from the students. Er Pavan Panwala, Lecturer, Dr S & S S Ghandhy College of Engineering and Technology and Ar Mukesh Variava, Committee Member, South Gujarat Local Centre, IEI, discussed the importance of efficient water usage and conservation. Mr Ketan Vyas, Principal, Swaminarayan H V Vidhyalaya was also present in this event.

### **Sunabeda**

In association with Bhanja Sansad, organized the "Plantation Programme 2024 – EK PED MAA KE NAAM" at HAL Hospital, Sunabeda-2, on 01 September 2024. The event was inaugurated by Chief Guest Dr Sanjay Mohapatra, Chief of Medical, HAL Sunabeda, who emphasized the significance of environmental conservation. Guest of the Day, Er Bighnesh Mishra, Chief Manager of the Engine Division and President, Bhanja Sansad, HAL, also addressed the gathering. Er Manas Ranjan Subudhi, Chief Manager, Sukhoi Engine Division, also spoke in the occasion. The program witnessed the enthusiastic participation of nearly 100 engineers and their families, making it a resounding success and reaffirming the commitment to environmental sustainability and community engagement.

### **Tiruchirappalli**

In collaboration with Indian Institute of Welding Tiruchirappalli Branch; Computer Society of India, Tiruchirappalli Chapter; Safety and Quality Forum, IEI; Indian Welding Society, Southern Zone; Indian Institute of

Metals, Tiruchirappalli Chapter; Indian Institution of Industrial Engineering, Tiruchirappalli; Indian Institution of Plant Engineers, Trichy Chapter; Kumari Arival Peravai Kanyakumari and Indian Society for Non-destructive Testing, Trichy Chapter; organized a lecture on 06 August 2024 through online mode. Speaker of the session was Mr Hariprakash A, Founder and CEO, Aerosparke Industries Private Limited, Bangalore. The event brought together various professional societies to foster knowledge-sharing in the field of welding and industrial engineering.

In association with Indian Institute of Welding Tiruchirappalli branch, Computer Society of India, Tiruchirappalli Chapter, Safety Quality Forum, IEI; Indian Welding Society Southern zone, Indian Institute of Metals, Tiruchirappalli Chapter; Indian Institution of Industrial Engineering Tiruchirappalli; Indian Institution of Plant Engineers, Trichy Chapter; Kumari Arival Peravai Kanyakumari and Indian Society for Non-destructive Testing, Trichy Chapter hosted an online lecture titled 'Introduction to Data Science' on 03 September 2024 through online mode. Dr S Peerbasha, Assistant Professor, Department of Computer Science, Jamal Mohamed College, Tiruchirappalli, was the guest speaker. Dr Peerbasha delivered an insightful presentation on the fundamentals and applications of data science, engaging the audience with his expertise.

**Tirunelveli**

Organizes a Seminar on 'Internet of Things (IoT) Enabled Automation in Agriculture' on 02 February 2024, at Tirunelveli. Mr I Mariya John Xavier, CEO, Revol Process Solution Private Limited, Chennai, served as the chief guest and resource person, presenting an insightful Keynote address. He highlighted the transformative potential of IoT in agriculture, showcasing various smart solutions and explaining their practical applications in enhancing efficiency and productivity in the sector. The event was well-organized by the members of the Institution and provided a valuable platform for discussing innovative technologies in agriculture.

**Udaipur**

In collaboration with the Institute of Engineering and Technology (IET), Mohanlal Sukhadia University, Udaipur, organized the Industry-Academia

Interface on 06 July 2024 at Udaipur. This event served as a vital platform for fostering collaboration, knowledge exchange and innovation between academic institutions and industry professionals. Prof Hanuman Prasad, Director, IET opened the event by highlighting the importance of strong partnerships between academia and industry. The Keynote speaker, Er C P Jain, Chairman, Udaipur Local Centre, IEI shared his experiences, motivating students to embrace innovation and explore opportunities beyond textbooks. Distinguished toastmaster and motivational speaker, Er Sonia Keswani, addressed the students, focusing on research opportunities, practical applications and the value of interdisciplinary collaboration in real-world problem-solving. The interactive session saw students actively engaging with industry experts, discussing industry-relevant projects and expanding their professional networks. The event provided a balanced perspective, merging theoretical knowledge with practical industry insights.

**Vallabh Vidyanagar**

In collaboration with Birla Vishvakarma Mahavidyalaya Engineering College, organized a National Workshop on 'Strategic Planning for Educational Institutions/Universities' on 06 July 2024 at Vallabh Vidyanagar. The workshop, featured expert speakers who discussed key aspects of strategic planning. The first session, led by Prof (Dr) Indrajit N. Patel, Principal, Birla Vishvakarma Mahavidyalaya Engineering College, covered topics such as Mission and Vision Development, SWOT Analysis, Risk Management, and Action Planning, with case studies highlighting the importance of strategic planning for holistic institutional development. The second session was conducted by Prof (Dr) Tejash V Pujara from Tolani Motwane Institute of Management Studies, Adipur who provided insights into internal environment analysis, SWOC (Strengths, Weaknesses, Opportunities, and Challenges) and Key Performance Indicators (KPI) for educational institutions. The workshop encouraged interactive participation, with attendees forming groups to prepare SWOC analyses and discussing strategic formulation and implementation. The workshop was well-received, with attendees praising the informative and impactful sessions and expressing a desire for similar events to be organized regularly.



# IEI - Springer Journal



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# IEI DIARY



## Architectural Engineering Division

All India Seminar on **"Trends In Advanced Building Construction And Innovative Building Materials"**

Rourkela, March 01-02, 2025

The Honorary Secretary, IEI, Rourkela Local Centre, National Institute of Technology Campus, Roukela 769008, Odisha [☎: 0661-2472709, E-mail: rourkelalc@ieindia.org]

## Civil Engineering Division

One Day Workshop on **"Utilisation of Construction Demolition and Industrial Waste in Construction Industry"**

Neyveli, February 15, 2025

The Honorary Secretary, IEI, Neyveli Local Centre, Block 17, Neyveli 607801, Dist Cuddalore, Tamilnadu [☎: 04142-210510; E-mail: neyvelilc@ieindia.org, Website: www.ieineyveli.org]

## Computer Engineering Division

Two Day International Conference in **"Application of AI & Machine Learning ICAML2025"**

Chandigarh, February 22-23, 2024

The Honorary Secretary, IEI, Punjab & Chandigarh State Centre, Plot No.1-A, Engineers Bhawan, Madhya Marg, Sector 19-A, Chandigarh 160019 [☎: 0172-2775418, E-mail: pcsc@ieindia.org, Website: www.ieichd.org]

## Electrical Engineering Division

All India Workshop on **"Artificial Intelligence and Machine Learning Applications in Electrical Engineering"**

Tuticorin, February 07, 2025

The Honorary Secretary, IEI, Tuticorin Local Centre, Plot No.13&14, Daniel Nagar, Korampallam, Tuticorin 628101 [Mobile: 9443471599, Email: tuticorinlc@ieindia.org]

All India Seminar on **"EEHVACR"**

Ranchi, February 08-09, 2025

The Honorary Secretary, IEI, Jharkhand State Centre, Engineer Bhawan, Nepal Kothi Campus, PO Doranda, Ranchi 834002 [(: 0651-3510412, E-mail: jharkhandsc@ieindia.org; Website: ieijscjharkhand.org]

## Electronics & Telecomm. Engineering Division

Thirty-ninth National Convention of Electronics & Telecommunication Engineers on **"Internet of Things (IoT) Reconnecting the World"**

Rourkela, February 14-15, 2025

The Honorary Secretary, IEI, Rourkela Local Centre, The Honorary Secretary, IEI, Rourkela Local Centre, National Institute of Technology Campus, Roukela 769008, Odisha [☎: 0661-2472709, E-mail: rourkelalc@ieindia.org]

One Day Workshop on **"Emerging Trends in Electronics & Communication Sector"**

Chandigarh, February 28, 2025

The Honorary Secretary, IEI, Punjab & Chandigarh State Centre, Plot No.1-A, Engineers Bhawan, Madhya Marg, Sector 19-A, Chandigarh 160019 [☎: 0172-2775418, E-mail: pcsc@ieindia.org, Website: www.ieichd.org]

One Day Workshop on **"Nextgeneration AI Application in Electronics Communication & Embedded Systems"**

Bareilly, March 01, 2025

The Honorary Secretary, IEI, Bareilly Local Centre, Engineers' Bhawan, 44 Camphor Estate Colony, Near Camphor Hospital, Rampur Road, C B Ganj, Bareilly 243502, Uttar Pradesh [Mobile: 9634953691, E-mail: bareillylc@ieindia.org, Website: www.blcieindia.in]

## Marine Engineering Division

All India Seminar on **"Emerging Technologies In Marine Industry"**

Chennai, February 21-22, 2025

The Honorary Secretary, IEI, Tamil Nadu State Centre, No. 19, Swami Sivananda Salai, Chepauk, Chennai 600005 [☎: 044-25360614/9962950333, E-mail : tncs@ieindia.org, Website : www.ieitnsc.org]

## Mechanical Engineering Division

All India Seminar on **"Hydro Project in Himalayas Region including Penstock Barrage Gates, Bypass Gates and Draft Tubes Gates"**

March 07-08, 2025, Dehradun

The Honorary Secretary, IEI, Uttarakhand State Centre, Engineers Bhawan, Near ISBT Flyover, Saharanpur Road, Dehradun 248002 [Mobile: 9412056431; E-mail: uttarakhandsc@ieindia.org, Website: www.ieiuksc.org]

All India Workshop on **"Opportunities and Challenges in AI and ML for Manufacturing"**,

Bhimavaram, March 10-11, 2025

The Honorary Secretary, IEI, Bhimavaram Local Centre, First Floor, General Amenities Building, SRKR Engineering College, PO Chinnaamiram, Dist West Godavari, Bhimavaram 534204, Ph: 08816-233522, E-mail: bhimavaramlc@ieindia.org]

Fortieth National Convention of Mechanical Engineers on **"Recent Advances in Mechanical Engineering"**

Durgapur, August 23-24, 2025

The Honorary Secretary, IEI, Durgapur Local Centre, Nehru Avenue, B Zone, Durgapur 713 205 [ Fax: 0343-2564770, Email: durgapurlc@ieindia.org, Website: http://www.ieidurgapurlc.org]

Forty-first National Convention of Mechanical Engineers on **"Emerging Domains in Robotics and AI"**

Thiruvananthapuram, September 23-24, 2026

The Honorary Secretary, IEI, Kerala State Centre, Visvesvaraya Bhavan, Opposite Kanakakunnu Palace, Thiruvananthapuram 605033 [☎: 0471-2322991, 8078027563; E-mail: keralasc@ieindia.org; Website: www.ieitvm.org]

Forty-second National Convention of Mechanical Engineers on **"AI and ML: Bridging Innovation & Shaping Tomorrow's Industries"**

Belapur, September 17-18, 2027

The Honorary Secretary, IEI, Navi Mumbai Local Centre, Plot No.106, Sector 15, C.B.D Belapur, Navi Mumbai 400614 [☎: 022-49706724, E-mail: navimumbailc@ieindia.org, Website: www.ieinmlc.org]

## Metallurgical & Materials Engineering Division

One Day Seminar on **"Innovations in Material Science Exploring New Generation Composites Smart Materials and E-Waste Recycling"**

Durgapur, February 15, 2025

The Honorary Secretary, IEI, Durgapur Local Centre, Nehru Avenue, B -Zone, Dist. Paschim Bardhaman, West Bengal 713205 [Mobile:94759 12594, E-mail: durgapurlc@ieindia.org; Website: www.ieidurgapurlc.org]

All India Seminar on **"Iron and Steel Industry Enhancing Efficiency Sustainability"**

Ranchi, February 22-23, 2025

The Honorary Secretary, IEI, Jharkhand State Centre, Engineer Bhawan, Nepal Kothi Campus, PO Doranda, Ranchi 834002 [(: 0651-3510412, E-mail: jharkhandsc@ieindia.org; Website: ieijscjharkhand.org]

Thirty-eighth National Convention of Metallurgical & Materials Engineers on **"Capacity Building in Process Metallurgy"**

Rourkela, July 26-27, 2025

The Honorary Secretary, IEI, Rourkela Local Centre, National Institute of Technology Campus, Roukela 769008, Odisha [☎: 0661-2472709, E-mail: rourkelalc@ieindia.org]

## Mining Engineering Division

All India Seminar on **"Smart Mining and Sustainable Development Emerging Trends in ML IoT and AI"**

Durgapur, May 09-10, 2025

The Honorary Secretary, IEI, Durgapur Local Centre, Nehru Avenue, B -Zone, Dist. Paschim Bardhaman, West Bengal 713205 [Mobile:94759 12594, E-mail: durgapurlc@ieindia.org; Website: www.ieidurgapurlc.org]

## Production Engineering Division

Thirty-ninth National Convention of Production Engineers on **"Recent Advancement and Challenges on the Fabrication of Semiconductor Chips in India"**

Madurai, May 23-24, 2025

The Honorary Secretary, IEI, Madurai Local Centre, Er TM Jambulingam Bhavan, No. 1, Vivekananda Nagar, 120 Feet Road, Surveyor Colony, K Pudur, Madurai 625007 [☎: 0452-4373067, E-mail: madurailc@ieindia.org, Website: www.ieimadurailc.org]

## Textile Engineering Division

Thirty-eighth National Convention of Textile Engineers on **"Emerging Challenges of Sustainable Textiles"**

Ghaziabad, September 05-06, 2025

The Honorary Secretary, IEI, Ghaziabad Local Centre, 15, Shopping Complex, ALT Centre, Rajnagar, Ghaziabad 201002 [☎: 0120-2702673, Email: ghaziabadlc@ieindia.org]

## Interdisciplinary Coordination Committee

All India Workshop on **"Solar EV Charging Grid Stability and Advanced Control Innovations"**

Bhimavaram, March 17-18, 2025

The Honorary Secretary, IEI, Bhimavaram Local Centre, First Floor, General Amenities Building, SRKR Engineering College, PO Chinnaamiram, Dist West Godavari, Bhimavaram 534204, Ph: 08816-233522, E-mail: bhimavaramlc@ieindia.org]

# The Institution of Engineers (India)

8 Gokhale Road, Kolkata 700 020

## Proceedings of the Special General Meeting of Corporate Members of The Institution of Engineers (India) held on 25 November 2024 at Kolkata

A Special General Meeting of the Corporate Members of The Institution of Engineers (India) under Bye-Law 32(b)(i) was held on **25 November 2024** at the **Sir R N Mookerjee Auditorium of The Institution of Engineers (India) West Bengal State Centre** located at **8, Gokhale Road, Kolkata - 700020** at **1800 hrs.**

Dr G Ranganath, President IEI, was in the Chair.

The President called the Meeting to order.

On being asked by the President, Maj Gen (Dr) M J S Syali, VSM (Retd), Secretary and Director General, read out the Notice dated 31 October 2024 sent to all Corporate Members of The Institution of Engineers (India) published and circulated through IEI News, Volume 31, Number 7, October 2024 issue to the Corporate Members and displayed at the IEI Website ([www.ieindia.org](http://www.ieindia.org)).

The Secretary and Director General then informed that he had received a total of 102 number of proxies as per provision under Bye-Law 42.

The Corporate Members present then unanimously approved the proposed amendments of Regulations as mentioned in the said notification and RESOLVED that –

**The proposed amendments in the Regulations of The Institution contained in the Notice dated 31 October 2024 published and circulated through IEI News, Volume 31, Number 7, October 2024 issue, IEI Website and by email to all the Corporate Members of IEI be approved and adopted to come into force with effect from 25 November 2024.**

The President then declared the Special General Meeting (SGM) of the Corporate Members of IEI as closed at 1805 hrs.

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# The Institution of Engineers (India)

8 Gokhale Road, Kolkata 700 020

## Proceedings of the Extraordinary General Meeting of Corporate Members of The Institution of Engineers (India) held on 25 November 2024 at Kolkata

An Extraordinary General Meeting of the Corporate Members of The Institution of Engineers (India) under Bye-Law 32(c)(i) was held on **25 November 2024** at the **Sir R N Mookerjee Auditorium of The Institution of Engineers (India) West Bengal State Centre** located at **8, Gokhale Road, Kolkata – 700020**. Although the meeting was scheduled to be held immediately after the Special General Meeting, the Chairman, with the consent of the members waited for half an hour to meet the quorum.

Dr G Ranganath, President IEI, was in the Chair.

The President called the Meeting to order.

On being asked by the President, Maj Gen (Dr) M J S Syali, VSM (Retd), Secretary and Director General, read out the Notice dated 31 October 2024 sent to all Corporate Members of The Institution of Engineers (India) published and circulated through IEI News, Volume 31, Number 7, October 2024 issue to the Corporate Members and displayed at the IEI Website ([www.ieindia.org](http://www.ieindia.org)).

The Secretary and Director General then informed that he had received a total of 102 number of proxies as per provision under Bye-Law 42.

The Corporate Members present then unanimously approved the proposed amendments of Bye-Laws as mentioned in the said notification and RESOLVED that –

**The proposed amendments in the Bye-Laws of The Institution contained in the Notice dated 31 October 2024 published and circulated through IEI News, Volume 31, Number 7, October 2024 issue, IEI Website and by email to all the Corporate Members of IEI be approved and adopted to come into force with effect from 25 November 2024.**

The President then declared the Extraordinary General Meeting (EGM) of the Corporate Members of IEI as closed at 1845 hrs.



## Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)  
(IMS [ISO 9001:2015, ISO 14001:2015, ISO 50001:2018, ISO 45001:2018],  
ISO/IEC 17025:2017 Certified, AICTE & CEA Recognized Institution)

### Continuing Professional Development Programmes (CPDPs) for the Month of February 2025

Sl. No.	Name of the Course	Scheduled Dates
1.	IT Tools & Techniques for Office Administration	03 - 05 Feb 25
2.	Robotics for industrial automation	04 - 06 Feb 25
3.	Spring Coiling & Testing	04 - 06 Feb 25
4.	Intellectual Property Rights (IPR) – Patent	04 - 06 Feb 25
5.	Contract Management A Dispute Resolution in Engineering Projects	03 - 07 Feb 25
6.	Planning, Design & Installation of Community Micro Irrigation System	03 - 07 Feb 25
7.	Best Practices in O&M of Coal & Ash Handling Plants	04 - 07 Feb 25
8.	Online Monitoring Industrial Emission Effluent (Technical Guidelines and Demonstration)	05 - 07 Feb 25
9.	Personality Development Programme for Representatives of Workers in Industry	05 - 07 Feb 25
10.	Commercialization	11 - 13 Feb 25
11.	Cyber Forensic Tools & Investigation Process	10 - 14 Feb 25
12.	Engineering Simulation using ANSYS & CFD	10 - 14 Feb 25
13.	Climate Resilient Water Supply System Design for Sustainability	12 - 14 Feb 25
14.	Franchise Models of Distribution Systems - Issues and Challenges	12 - 14 Feb 25
15.	5S for Workplace Excellence	12 - 14 Feb 25
16.	Project Management using MS Project and Primavera Software	17 - 19 Feb 25
17.	Personality Development (An Ordinary to Extraordinary Personality Empowerment)	18 - 20 Feb 25
18.	Desalination Process – Planning, Design & Operation	19 - 21 Feb 25
19.	Mine Geology & Advanced Exploration Techniques	19 - 21 Feb 25
20.	Cyber Security Issues in Power Sector	19 - 21 Feb 25
21.	Satellite based property mapping in Urban Local Bodies	25 - 27 Feb 25
22.	Contract Management and Conflict Resolution in Engineering Projects	25 - 27 Feb 25
23.	Preparation of DPR and Tender Documents for Sewage Treatment Plant.	26 - 28 Feb 25
24.	Boiler Tube Failure Analysis & Preventive Measures	26 - 28 Feb 25
25.	Internal Auditor Training for AS 9100 Rev D	26 - 28 Feb 25

For detail information please contact:

#### Engineering Staff College of India

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**Editor : Maj Gen (Dr) MJS Syali, VSM (Retd)**

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The Institution of Engineers (India) as a body accepts no responsibility for the statements made by individuals. Reprints of any portion of the publication may be made provided reference thereto is quoted.

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