

# IEI NEWS

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A CENTURY OF SERVICE TO THE NATION

Volume 30

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## Thirty-eighth National Convention of Mechanical Engineers and National Seminar

### Emerging Trends and Developments on Smart Manufacturing, Renewable Energy and Mechanical Systems Diagnostics/Design

**Nagpur Local Centre**, IEI, in association with Visvesvaraya National Institute of Technology [VNIT] Nagpur organized the 38<sup>th</sup> National Convention of Mechanical Engineers during 08-09 September, 2023 at VNIT Nagpur under the aegis of Mechanical Engineering Division Board [MCDB], IEI. A National Seminar was also organized on the occasion on the theme **Emerging Trends and Developments on Smart Manufacturing, Renewable Energy and Mechanical Systems Diagnostics/Design**. Shri Rajeev Puri, Chairman & Managing Director, Yantra India Limited graced the inaugural function



as Chief Guest. Prof (Dr) P M Padole, Director, VNIT Nagpur was present on the occasion as the Guest of Honour. Special Guest of the event was Dr H O Thakare, Immediate Past President, IEI. Dr Enti Ranga Reddy, the then Chairman, Mechanical Engineering Division Board, IEI presided over the function. The programme started with the welcome address delivered by Er Milind Anant Pathak, the then Chairman, Nagpur Local Centre, IEI. Convener of the event, Dr R L Shrivastava, briefed the audience about the theme of the National Convention and the details of the technical sessions. Chief Guest of the event, Shri Rajiv Puri, in his address discussed at a length the development of defence manufacturing sector, indigenization of defence production, position of the country in defence export, innovations in defence excellence, role and scope of defence startups, import substitutions, etc. He explained the development in the smart manufacturing sector, mechanical diagnostics and application of renewable energy sources. He emphasized more on industry academia interaction and also spoke on the functioning of ordinance factories. Guest of Honour, Prof (Dr) P M Padole opined that, to explore more the advents of industrial automation and digitization, it is important to interact more with the experienced industry professionals.

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## Thirty-fifth National Convention of Marine Engineers and National Conference

### Recent Advances in Marine Engineering and Marine Systems

**Kanchepuram Local Centre**, IEI in association with Tamilnadu State Centre, IEI organized the 35<sup>th</sup> National Convention of Marine Engineers during 11-12 September, 2023 under the aegis of Marine Engineering Division Board [MRDB], IEI in Chennai. A National Conference was also organized on the occasion on the theme **Recent Advances in Marine Engineering and Marine Systems**. Prof (Dr) V Rajendran, Vice Chancellor, AMET University, Chennai graced the inaugural function as the Chief Guest. The inaugural session was presided over by Cdr Dr Bhaskar M Bhandarkar, the then Chairman, Marine Engineering Division Board, IEI. The programme started with invocation and lighting of the lamp. Er S Kannan, the then Chairman, Tamilnadu State Centre, IEI welcomed the dignitaries, eminent engineering personalities, guests and participants. Dr D Elango, the then Chairman, Kanchepuram Local Centre, IEI briefed about the theme of the National Convention. In his address, Dr Elango explained the contribution of Indian coast line and marine transportation for the economic development of the country. Er S Rengaraju, Chairman, Technical Committee spoke about the details of technical sessions and paper presentations. While delivering the presidential address, Cdr Bhandarkar spoke on Indian maritime legacy and its dominations over the world. He opined that human intervention is an integral part for advancement of technology and stressed on more training and development of manpower to face the challenges of resource

crunch and implementation of new technologies. Chairman, MRDB strongly advocated for promoting the best knowledge and professional practices in



marine sector all over the country. A Souvenir was released on the occasion in the august presence of Chief Guest and other dignitaries on the dais. Chief Guest, Prof (Dr) Rajendran in his address opined for development and application of new materials, renewable energy resources, smart technologies and automation for marine applications to achieve a resilient and sustainable future in maritime sector. He mentioned cargo as the best

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# Emerging Trends and Developments on Smart Manufacturing, Renewable Energy and Mechanical Systems Diagnostics/Design

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He stressed on enhanced collaboration with the industries and R&D organizations and explained the importance of development of skills in different industrial domains. Dr Enti Ranga Reddy, the then Chairman, Mechanical Engineering Division Board, IEI, in his presidential address mentioned that mechanical engineers play the pivotal role in shaping the world through design, innovation, and the spirit of insightful thoughts. He emphasized on more applications of latest mechanical system design and exploring the roadmap, how mechanical engineering systems proceed towards a sustainable future, taken into account the future challenges and the collective contribution for the advancements in the field of mechanical engineering. A Souvenir containing the abstract of the papers was released on the occasion.

On the occasion, Er Vijay Agarwal, Chairman & Managing Director, Action Construction Equipment Limited, Palwal, Haryana; Dr N Chikkanna, Professor & Chairman, Department of Aerospace Engineering, Visvesvaraya Technological University, Muddenahalli Campus, Chikkaballapur; Prof (Dr) Milind Atrey, INOX Chair Professor of Cryogenics, Department of Mechanical Engineering, IIT Bombay and Dean (R&D) IIT Bombay and Er Avinash



Gawande, Managing Director, Yantrashilpa Technologies Private Limited, Pune were felicitated as eminent engineering personalities in recognition of their valuable contribution in the field of Mechanical Engineering. The recipients of IEI Young Engineers Award in Mechanical Engineering Division for the year 2023-24 are; Dr Ganesh Shashikant Kadam, Associate Professor, Department of Mechanical Engineering, Bharati Vidyapeeth College of Engineering, Navi Mumbai, Maharashtra; Dr Omkar Kamalakant Kulkarni, Assistant Professor, School of Mechanical Engineering, Dr Vishwanath Karad MIT World Peace University, Kothrud, Pune, Maharashtra and Mr Vikas Antim Pachori, Scientist 'C', Terminal Ballistic Research Laboratory, Chandigarh. At the end of inaugural session, Dr J L Agarwal, the then Honorary Secretary, Nagpur Local Centre extended the vote of thanks.

On the occasion, an Exhibition was inaugurated in the VNIT premises by Shri Rajeev Puri, Chairman and Managing Director of Yantra India Limited, Nagpur. About 60 industries displayed their products and services in the Exhibition.

The Dr S C Bhattacharyya Memorial Lecture was delivered by Prof (Dr) Milind Atrey, INOX Chair Professor of Cryogenics and President of Indian Cryogenics Council, Department of Mechanical Engineering, IIT Bombay and Dean (R&D), IIT Bombay on the topic 'Role of AI and ML in Mechanical Engineering'. The Speaker had started his lecture mentioning the conventional silos of mechanical engineering domain and explained the interface of mechanical engineering with other engineering branches and Artificial Intelligence and Machine Learning. He explained AI, ML and Deep Learning and mentioned that while Machine Learning allows machines to learn from data without being programmed explicitly, Deep Learning, as a subset of

ML, provide algorithms to solve complex problems. Prof Atrey explained the application of AI to solve the CFD problems, condition monitoring, data centre temperature monitoring, supply chain management, liquid nitrogen plant etc. The Dr S P Luthra Memorial Lecture was delivered by Prof (Dr) Bhimaraya Metri, Director, Indian Institute of Management Nagpur on the topic 'Industry 4.0 & 5.0 – Applications for Mechanical Engineers'. In his lecture, Dr Metri mentioned the technological revolution from industrial era to the intellectual era. He also stated the gradually decreasing time span starting from the first industrial revolution to the fourth and said that the speed of technological transformation is much faster. He said that the era of connectivity facilitates productivity, enhance the competency level, intellectual behavior and collaboration between machines and manpower. Dr Metri explained the application of Cyber Physical Systems, IIoT, and Additive Manufacturing in different mechanical engineering interface. He opined that, for all young engineers, along with strong knowledge base and competency level, capability building is mandatory for employability. He emphasized on multidisciplinary engineering with integrated learning approach, digital transformation, product and process redesign, continuous and reverse learning, contextual leadership and so on.

Prof R P Mohanty, Chief Consultant and Former Vice Chancellor, SOA University, Bhubaneswar delivered Keynote Lecture on the topic 'Evolution of Mechanical Engineering'. He discussed at length the digital transformation in the post pandemic period, functioning of remote working platform, advancement in smart manufacturing etc. Dr R Venkatesan, Council Member, IEI and Adjunct Professor, University of Massachusetts, Dartmouth, USA, delivered an Invited Lecture on the topic 'Climate Change Challenges and the Role of Mechanical Engineers'. He stressed on catalyzing mechanical engineering innovations to address the climate change, time management, adaptability etc. Mr A P Acharya, Senior Vice President, Indian Oil Sky Tanking (IOSL), Mumbai delivered an invited lecture on the topic 'Aviation Fuel Management at Airports – A Changing Paradigm'. The speaker explained the jet fuel management services from smart manufacturing system perspective. He explained the predictive maintenance management practices, data integration, application of automation and robotics in fuel distribution and storage, sustainable aviation, application of hydrogen fuel cells, solar and wind power as potential zero emission energy source, application of hydrogen fuel cells to power aircraft and ground support system and thus reducing the associated carbon footprint, that leads to a more effective aviation fuel management. Er Anjani Kumar, World Bank and Er Hemant Choudhary, Founder MD, Circular Economic Alliance, Australia delivered invited lectures on the occasion. Bajaj Steel Industries, MOIL Limited, Yantra India Limited and RC Plasto delivered corporate presentations, briefed about their products and specific industrial cases. A panel discussion was organised on the topic 'Challenges before Entrepreneurs and Start Ups in Mechanical Engineering because of AI, I4.0 and changing Global Digitization'. Lectures by invited speakers included Er Ravindra Kolhe, NBT, Innovative India Private Limited; Er Shashikant Choudhari, Co-founder, Baby Verse, 10x Entrepreneur TED x, Angel and Er Vivek Deshpande, Founder Director, Spacewood Furnishers Private Limited. Dr Manoj Diagavane, Joint Director, Technical Education, Regional Office, Nagpur Moderated the event. During the technical sessions, 40 papers were presented in physical mode and 20 papers in online mode during eight parallel sessions. During the valedictory function, Er Uday Kamat, Director, Ideal Energy Projects Limited, Nagpur and Joint Secretary, Liberal Education Society, Nagpur graced the function as Chief Guest. Shri Prashant M Parlewar, Director, MSME, Nagpur was the Guest of Honour. Er Mahesh Rajaram Shukla, Organizing Secretary proposed the vote of thanks.

## SPACE- Boundless opportunities- Transforming Lives

**Karnataka State Centre** of the Institution organised the Thirty- sixth National Convention of Aerospace Engineers during 01-02 September 2023 in Bangalore, under the aegis of Aerospace Engineering Division Board [ASDB], IEI. A National Seminar was also organised on the theme **SPACE- Boundless Opportunities- Transforming Lives**. The National Convention aimed to provide participants with an atmosphere to delve into the emerging



technologies that reveal and showcase the true potential of Space Technology and its vast applications in the various walks of life improving the nation's economy. The National Convention also focussed to reflect the ongoing enthusiasm in space sector after the new space reforms and unlocking of the space sector to private entrepreneurs. Shri M B Patil, Hon'ble Minister for Large & Medium Industries and Infrastructure Development, Government of Karnataka graced the inaugural function as the Chief Guest and inaugurated the National Convention. Dr S Somanath, Chairman, Indian Space Research Organisation, Bengaluru graced the function as the Guest of Honour with his virtual presence. Dr. P V Venkitakrishnan, the then Chairman, Aerospace Engineering Division Board, IEI, presided over the function.

The program started with the welcome address delivered by Er M Lakshmana, the then Chairman, Karnataka State Centre, IEI. Chief Guest, Shri M B Patil, in his address mentioned that Karnataka is the forerunner of India's R&D Sector in aerospace, accounting for a quarter of the country's aircraft and space industry and one-third of aerospace-related exports and aerospace supplier base. The Government of Karnataka is committed to double the defence production by the year 2025 and increase defence exports considerably; Karnataka is the first State to announce the Aerospace and Defence Policy in 2013 and has announced the Karnataka Aerospace and Defence Policy 2022-2027 to increase investment in aerospace and defence manufacturing along with R & D infrastructure; While India's space programme is among the most advanced, it occupies only a small fraction of the global space economy; Government of Karnataka has recognized the same and has initiated reforms to encourage private participation, foster growth in the space sector and thereby increasing the global market share, Shri Patil opined. In his concluding remarks, Shri Patil stressed the importance of private participation in the space economy, thus ushering in a new era of expansion, innovation, and investment that will undoubtedly propel India to the forefront of the space sector's global innovation.

Guest of Honour, Dr S Somanath in his Message to the Convention, deliberated on the achievements of ISRO and the advancement of space sector of the country. He explained the need of the ground equipment and the scope of space service sector in India and mentioned that many companies in India have come forward to build their own satellites in the applications of services sector for water conservation, infrastructure development, weather forecasting, climate change and disasters warning, installation of solar energy power plants, etc. The inter-connectivity within academic institutions, research laboratories and industries paved the way for the development of the sector. He focussed on more investment in ground stations, terminals and data relay equipment for supporting the

space activities, which will able to generate a significant revenue. Dr P V Venkitakrishnan, in his presidential address highlighted the instrumental role played by Space Technology in all walks of life and its contribution to the economy of the country.

On the occasion, Shri Arun T Ramchandani, Executive Vice President, Defence & Aerospace SBG, L&T MBDA Missile Systems Limited, Mumbai; Prof. Sunil Kr Sarangi, Professional Fellow, IIT Bhubaneswar & Academic Advisor, CV Raman, Global University, Bhubaneswar and Dr Samir V Kamat, Secretary, Department of Defence R&D and Chairman, DRDO, Ministry of Defence, Government of India (in absentia) were felicitated as Eminent Engineering personalities for their valuable contribution in the field of Aerospace Engineering. The IEI Young Engineers Award in Aerospace Engineering Division for the year 2023-24 was presented to Dr Mukesh Kumar, Principal Scientist, Thin Film Coating Facility, CSIR-Central Scientific Instruments Organization (CSIO), Chandigarh and Dr Aswathy Surendran, Assistant Professor, Department of Aerospace Engineering, Indian Institute of Technology Madras. A Souvenir comprising the abstracts of the papers was released on the dais. Dr Enti Ranga Reddy, the then Honorary Secretary, Karnataka State Centre, IEI proposed the vote of thanks.

Followed by the inaugural session, the Dr Vikram Sarabhai Memorial Lecture was delivered by Dr B N Suresh, Honorary Distinguished Professor, ISRO and Chancellor, IIST, Trivandrum on the topic 'Sarabhai's Space Vision and its' Fulfilment by Subsequent Leaders'. Dr. Suresh remembered Dr Vikram A Sarabhai as the father of the Indian Space Programme, who had started the space programme in 1961 under the Indian Committee for Space Research INCOSPAR. Dr Suresh highlighted the contribution of Dr Vikram Sarabhai in space programme including development of launch vehicle, spacecraft, and development of advanced technologies for the benefit of mankind and society. He further elaborated the development of Indian Space programme under the dynamic leadership of Dr Satish Dhawan, Dr APJ Abdul Kalam, Prof U R Rao and Dr K Kasturirangan.

Keynote address were delivered by Prof. Sathyan Subbaiah, Professor, Department of Mechanical Engineering, IIT Madras on the topic 'Extra-



terrestrial Manufacturing, an IoE Research Centre at IIT Madras'; Shri Srinath Ravichandran, CEO, Agnikul Cosmos, Chennai on 'Role of Space Start-ups in India'; Sri Adishesha C Sivaramasastry, Director – Technology & Innovation, Collins Aerospace Limited on 'AI & Autonomous Systems for Aerospace Applications – Current Status and Opportunities'; Prof Jayaram, Chief Research Scientist, Shock Induced Materials Chemistry Lab, Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science (IISc), Bangalore on 'Shock Processing and Theoretical Simulation of TPS Materials for Re-entry of Space Capsule'. The State-of-the-art Lecture was delivered by Shri Sriram Krishnaprasad, M/s Boeing Private Limited, Bangalore on the topic 'Fireside Chat – Role of Testing in Aerospace'.

Six technical sessions were organised on the occasion on the topic 'Design Engineering', 'Materials and Processes', 'Testing, Evaluation and Analysis', 'Modelling and Simulation'. One Poster Exhibition was also organised on the occasion. Papers were presented on different topics, namely;

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# Recent Advances in Marine Engineering and Marine Systems

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mode for bulk transportation in terms of economic growth in shipping and logistics, contributing to the national GDP. He emphasized on bridging the gap between industry and academia and opined to invite eminent industry professionals for sharing their thoughts and views with the young mariners and desired that an agile curriculum be developed. On the occasion, Dr Rajoo Balaji, Pro Vice Chancellor, Indian Maritime University, Chennai; Mr Shyamal Kumar Gupta (Retd), Former Principal Surveyor, Lloyd's Register, Singapore and Rear Admiral GK Harish, AVSM, VSM (Retd), Former Director General, Naval Design (DGND), Indian Navy were felicitated as eminent engineering personalities in recognition of their valuable contribution in the field of Marine Engineering. Er K N Shivaraju, the then Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks. A Souvenir containing the papers was released on the occasion.

The Rear Admiral T B Bose Memorial Lecture was delivered by Rear Admiral R Vijay Sekhar, NM, Admiral Superintendent, Naval Dockyard, Visakhapatnam. In his lecture, Rear Admiral R Vijay Sekhar focussed on harnessing the immense potential of maritime sector. He spoke on Indian maritime legacy, marine innovation, exploration, development in ship building from medieval period to the modern era. He spoke on indigenous



ship building, development of integrated combat management system, self-reliance in warship design and development. He opined that India has embarked upon remarkable progress in Indian maritime sector with foreign collaboration and benchmarking initiatives. He further spoke on application of biofuels, hybrid propulsion system, multiple power system, green propulsion technologies etc to optimize the fuel efficiency. He further stated that the maritime stakeholders be aware of the recent operational advancements, modern maritime practices and sustainable maritime operations. Rear Admiral Vijay Sekhar, in his lecture, strongly advocated for clean marine mission and spoke on construction of lighter ships, application of green propulsion technology, more application of biofuels, hybrid propulsion system, modern maritime practices and sustainable maritime operations. The Keynote Lecture was delivered by Er Ennaru Karunesan, Senior Maritime & Ports Expert and IAPH Regional Director to India on the topic 'Overview of Global Maritime – Future of Indian Ports' and elaborated the scope and functioning of Indian Association for Ports and Harbours. He spoke on global sea borne traffic, cargo capacity in terms of global port system, predominance of dry cargo, blue economy & maritime economy, container handling capacity of different ports, and so on. He discussed on Maritime India Vision 2030, which include technology driven sustainable ports, multimodal connectivity, mega supply chain etc. He discussed further on Smart Shipping, Hyper Loop Freight Corridor, Mega SEZs and Industrial Clusters etc. During the technical session, Er Pramod Kumar, Float Sys, Texas delivered lecture on the topic 'Green Hydrogen –Carriers Ship Design'. Er T S Devanand, Chief Engineer, Marine Tech Hub Training Centre spoke on trouble shooting of machinery in board ship. He explained the effect of LNG, Methane, Ethane in marine propulsion, function of camless engine, fuel booster injection valve, duel-fuelled gas operated engine, interlocked gas injection and so on. Dr R Venketasan, Council Member, IEI delivered an Invited Lecture on the topic 'Sustainable Shipping for a Healthy Ocean and explained sustainable ocean governance to improve ocean climate and ecosystem, autonomous shipping and propulsion, ocean health and marine spatial planning, mandates of IMO, etc.

Further, during the technical sessions, papers were presented on diversified topics, that include; Maritime Education and Training, Coastal Shipping of Petroleum Products and its Future Aspects, Design and Development of Liquefied Green Hydrogen Carrier Ships, Bio inspired Adaptive Marine Platforms with Blue Economy Perspective, Sustainable Ship Cycling, Measures to Minimize Parametric Rolling in Container Ships, Emerging Issues of Marine Ecosystems etc.

During the valedictory function, Shri Vijendra Kumar Jain, President, The Institute of Marine Engineers (India) graced the function as the Chief Guest. In his address, Shri Jain spoke on the strategy to reduce greenhouse gas emission. Dr D Elango, the then Chairman, Kanchepuram Local Centre, IEI presided over and addressed the august audience. Dr G Shanmugasundar, the then Honorary Secretary, Kanchepuram Local Centre, IEI proposed the vote of thanks.

Recommendations emanated from the two-day deliberation are as follows.

*As human intervention is an integral part for technological development, in maritime sector, continuous training and development of manpower is the only way to overcome the resource crunch and subsequent implementation of smart technologies; To achieve a resilient and sustainable future maritime industry, development and application of new materials for shipping, application of renewable energy in marine power sector, implementation of I4.0 technologies for smart ship operations, automation in shipbuilding and ship design are the need of the hour; To bridge the gap between industry and academia, eminent marine engineering professionals be invited to share their thoughts and views with the budding mariners and an agile curriculum need to be developed; More emphasis need to be given to indigenous ship building, development of integrated combat management system, which leads to the self-reliance of warship design and development; Implementation of green initiatives and green propulsion technologies with a sustainable solution be initiated to achieve the clean marine mission; Ships powered with renewable energy, application of bio fuels, application of hybrid propulsion system, optimization of fuel efficiency, solar propulsion system are another significant aspects, that need to be promoted and explored, which leads towards improved operational efficiency, decarbonization and zero emission; Coastal surveillance for national security, implementation of sensors to monitor coastal environment, weather forecasting, implementation of auto navigation system, implementation of Remote and Embedded Support System (RESS) need to be focused; It is the right time to transit from the manual mechanized to fully automated port operation; The Maritime India Vision 2030 need to be addressed, which essentially focused on the mega and transshipment ports, multimodal connected ports, technology driven sustainable ports, mega supply chain etc; The maritime education system requires a paradigm shift with emphasis on the development of soft skills and interdisciplinary knowledge base. It should be characterized with transformation, adaptation and innovation. Moreover, industrial collaboration and partnerships between educational institutions and industry stakeholders facilitate the cocreation of marine engineering curriculum which ensures that the trained workforce is well prepared to meet the industry demand; Sustainability in ship recycling is one of the most crucial aspect for both environment and human welfare. Ship industries should adopt sustainable practices to minimize the negative impact on the environment and also to ensure the safety and health of the workers; As a promising fuel source for energy transition, hydrogen oil production is facing number of challenges, which need to be addressed; The consequences of parametric rolling in ships need to be addressed, taken into account the wave length, wave amplitude and ship characteristics; Plastic to fuel conversion technology is an emerging promising strategy to combat plastic pollution and simultaneously create valuable energy resources; The major threats to the marine ecosystem and its impact on marine ecology need to be addressed.*

## Blockchain Technology for Artificial Intelligence of Things

**Salem Local Centre** of the Institution of Engineers (India) organised the Thirty- Sixth National Convention of Computer Engineers during 16-17 October 2023 at Sona College of Technology [SCT], Salem under the aegis of Computer Engineering Division Board [CPDB], IEI. A National Seminar was also organised on the theme **Blockchain Technology for Artificial Intelligence of Things** that brought together distinguished experts, professionals, and researchers in the field of computer engineering,



blockchain technology, and artificial intelligence (AI). Dr S R R Senthil Kumar, Principal, Sona College of Technology Salem graced the inaugural function as the Chief Guest. Dr G Ranganath, the then President (Elect) and Chairman, CATE and now President, IEI was present on the occasion and addressed the august audience. Prof (Dr) E Balagurusamy, Academic Advisor to the Government of Jharkhand, Former Vice Chancellor, Anna University & Chairman, EBG foundation, Coimbatore graced the occasion.

The National Convention aimed to foster collaboration and knowledge sharing, emphasizing the integration of blockchain technology with the rapidly evolving landscape of the Internet of Things (IoT) and AI. The Convention provided a comprehensive overview of the key discussions, insights, and emerging trends. The Convention was inaugurated by lighting of the lamp followed by an invocation. Er S R Saravanan, the then Chairman, Salem Local Centre, IEI extended a warm welcome to all the dignitaries on and off the dias, participants, faculty and students community. Prof (Dr) Chandrashekara S N, Member in the Chair, Computer Engineering Division Board, IEI presided over the inaugural session and delivered the presidential address. The theme for the Convention was set by Dr J Akilandeswari, Dean Academics & Head/IT, SCT, Organising Secretary of the National Convention, by highlighting the theme that encapsulates the central ideas of combining blockchain technology with artificial intelligence and the Internet of Things. It emphasizes the collaborative potential of these technologies, highlighting their capacity to ensure secure data management and facilitate intelligent connectivity in various industries and sectors. A Technical Proceeding was released on the occasion in the august presence of the dignitaries on the dais. Dr S R R Senthil Kumar, Principal, Sona College of Technology, Salem delivered the special guest speech. On the occasion, Dr G Aghila, Director, NIT Trichy, Dr Deepak Garg, Vice Chancellor, SR University, Warangal and Shri Sairam Veeraswamy, Senior Director, Innovation Programs, VMware were felicitated as eminent engineering personalities for their notable contribution in the field of Computer Engineering.

The Young Engineer Awards for the year 2023-24 in the Computer Engineering Division were presented to Dr Ajay Pratap, Assistant Professor, Department of Computer Science and Engineering, IIT-BHU and Dr Ganesh S Khekare, Associate Professor, Senior Grade I, School of Computer Science and Engineering, Vellore Institute of Technology, Vellore. Er N Senthil Kumar, the then Honorary Secretary, Salem Local Centre, IEI proposed the vote of thanks.

The M S Ramanujan Memorial Lecture was delivered by Dr Sudip Misra, Professor, Department of Computer Science and Engineering, IIT Kharagpur, on the topic 'IoT based Health Care'. The speaker elaborated on research, internship and project opportunities and said that rapid advancements in IoT have significantly transformed the healthcare landscape, enabling the development of innovative solutions that improve patient care, streamline operational efficiencies, and enhance disease management. This session

mainly delved into the multifaceted implications of IoT in healthcare, including its applications, benefits, challenges, and potential future developments. The talk also covered applications in the field of IoT in Healthcare including Remote Patient Monitoring, Asset and Inventory Management, Smart Medical Devices, Telemedicine and Virtual Consultations.

Dr Deepak Garg in his Keynote address, focussed on the complex and interconnected discipline of Explainable AI, the collaboration between human intelligence and artificial intelligence, and the pervasive issue of data bias in the context of contemporary AI systems. The domains of Explainable AI, human-AI collaboration, and data bias in AI are intrinsically interconnected, shaping the trajectory of responsible and ethical AI development, he mentioned. Dr Garg further emphasized the need for transparency, ethical considerations, and interdisciplinary collaborations, underscore the significance of fostering a human-centric approach to AI that prioritizes fairness, accountability, and societal well-being. Dr Ajay Prathap, delivered Keynote address on 'IoT enabled 5G Network' and said that the IoT-enabled 5G network, characterized by its high data transfer speeds, ultra-low latency, and massive connectivity, serves as the backbone for a myriad of interconnected devices, applications, and services across various sectors. Optimization models, including mathematical programming, machine learning, and artificial intelligence algorithms, which play the central role in maximizing resource efficiency and addressing complex operational challenges within the IoT-enabled 5G network. By leveraging these models, we can address a spectrum of optimization problems, including resource allocation, network routing, traffic management, and energy consumption,



etc, he added. Dr Ganesh S Khekare, delivered Keynote address on 'Artificial Intelligence and Machine Learning' and discussed on how AI and Machine Learning are reshaping the technological landscape, revolutionizing industries, and redefining the possibilities of human-machine interactions. By fostering responsible development, ethical considerations, and continuous innovation, there is a possibility to harness the full potential of AI and Machine Learning to address complex challenges, drive societal progress, and enhance human experiences, the speaker opined. Dr Shriram K Vasudevan, Software Innovator, Intel delivered Keynote lecture on 'Intel OneAPI- The Evolution'. Prof. David Samuel Azariya, Assistant Professor, IT, Sona College of Technology delivered Keynote lecture on 'Deep Learning'. A panel discussion was organised on the occasion on the topic 'Applications of Blockchain, IoT and AI in Various Engineering Domain'. The panel members discussed on the transformative applications of blockchain, IoT, and AI in diverse engineering domains. The panel members further opined that the notion that the transformative impact of these technologies emphasizes the need for continued collaboration, innovation, and responsible implementation within engineering sectors.

The National Convention witnessed presentation of technical papers during the technical sessions on relevant topics, which include; Flight Delay Analysis; Silent Speech Recognition: Lip Reading Model; Empowering Healthcare through IoT-enabled Remote Health Monitoring System; Autism Spectrum Disorder (ASD) Characterization and Intervention using Brain Computer Interface (BCI) Data and Deep Learning; Music Recommendation System based on Facial Expression; An Improved Block Chain System for Security of Painting Authority; Crime Prediction And Hotspot Mapping;

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## HVACR – Sustainable Way Forward

West Bengal State Centre, IEI has organised One Day Seminar on the theme **HVACR – Sustainable Way Forward** in Kolkata on 06 October 2023 under the aegis of Mechanical Engineering Division Board, [MCDB] IEI. Er Alope Mookherjea, Director, Globsyn Skills Development (P) Ltd. and Chairman-Emeritus, Flaktwoods graced the function as the Chief Guest. The programme was started with the welcome address delivered by Er Sujit Kumar Banerji, the then Member, MCDB, IEI. Mr Shankha Bhattacharyya, President, ISHRAE Kolkata Chapter elaborated about the theme of the Seminar. Er Santanu Sengupta, Former MD, Britannia



Engineering and Westinghouse Saxby Farmer briefed about the activities of Mechanical Engineering Division of WBSC, IEI. Er Bhaskar Dutta, Former Vice-President, Thyssenkrupp Industries focused upon the significance of HVACR with respect to climate change. Chief Guest, Er Alope Mookherjea in his address thrust upon the technological innovation and emerging technologies for HVACR. Mr Ashoke Kumar Sarkar, President-Elect, ISHRAE Kolkata Chapter delivered the Keynote address, and focused on the need of training & skill development for engineers and technicians in HVACR sector. Er Anirban Datta, CTO, MESCIA Engineers conducted the entire programme and proposed the Vote of Thanks at the Inaugural Session. Er Dipta Sundar Mallick, Director, Development Consultants Private Limited chaired the Technical Session. Mr Manoj Chakravorti, President Emeritus & National Refrigeration Chair, ISHRAE and Owner, Engineering Consultancy Services presented an insightful lecture on 'Air Conditioning & Ventilation for Healthcare Facilities'; Mr Jayanta Kumar Das, National Treasurer, ISHRAE, Director - MEHO-HCP Air Systems Private Limited and BEE Certified Energy Auditor gave a presentation on 'Maintenance of HVAC Systems & Energy Savings', and Mr Supratim Mukherjee, Zonal Manager - East India & SAARC Markets - Trane Technologies India delivered a lecture on the topic 'Latest Trend in Chilled Water Systems'. In Valedictory Session, Mr Shyamal Barman, Secretary - ISHRAE Kolkata Chapter summed up the deliberation. Dr Nirmal Das, the then Chairman, WBSC, IEI delivered address at the Valedictory Session. Dr Raju Basak, the then Honorary Secretary, WBSC, IEI proposed the Vote of Thanks.

The Seminar principally focussed on creating a sustainable way forward for Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) systems, which is crucial for reducing the environmental impact and contributing to a more sustainable future. The strategies and approaches to achieve this goal are as follows.

- ❖ More emphasis should be given in energy efficiency and optimization, energy-efficient HVACR equipment, scheduled maintenance, and advanced controls and automation.
- ❖ Renewable energy integration including installation of solar panels and geothermal systems be prioritized to reduce reliance on fossil fuels.
- ❖ Transition from synthetic refrigerants to natural Refrigerants with lower environmental impacts be focussed more.
- ❖ Implementation of Passive Design and Building Envelope, such as well-insulated buildings, proper orientation, and shading to minimize the need for mechanical heating and cooling be stressed more.
- ❖ Smart HVACR Systems that respond dynamically to the changing conditions and occupant needs be explored, by utilizing Internet of Things (IoT), sensors, data analytics, and predictive algorithms.
- ❖ Demand-Side Management be emphasized by responding to reduce peak energy demand during high-load periods.
- ❖ Lifecycle Approach and Circular Economy with focus on longevity, reparability, and upgradability to extend their lifespan, and promoting the recycling and responsible disposal of HVACR components to minimize waste be practiced more.
- ❖ Education and Training of personnel with sustainable practices and technologies to ensure proper installation, maintenance, and operation of the systems be ensured.
- ❖ Government Regulations and Incentives for compliance with energy-efficient and environmentally friendly HVACR systems should be taken into account to get better results.
- ❖ Investment in research and innovation to create more energy-efficient and environmentally friendly and innovative HVACR technologies be initiated, and fostering collaboration between industries, researchers, and policymakers to drive advancements in the field should be focused more.

By combining these strategies and approaches, a sustainable roadmap for HVACR can be achieved that leads to significant reduction in energy consumption, greenhouse gas emission, and overall environmental impact of these systems.

## SPACE- Boundless opportunities- Transforming Lives

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Determination of Contact Force on Bogie Wheel Flange during movement of Launch Vehicle, Augmentation and Performance of Thermal Vacuum Chamber for conducting Test on Scientific Mission Payloads, Effect of varying L/D of Pintle Head of a Pintle Injector on the Performance of a Hybrid Rocket, Computational analysis on Tensile Behaviour of Collapsible Tubular Composite Boom, Effect of Helix Port Grain on Performance of a Hybrid Rocket Motor etc.

During the Valedictory Function, Smt Gunjan Krishna, IAS, Commissioner for Industrial Development & Director, Department of Industries & Commerce, Government of Karnataka graced the occasion as the Chief Guest and addressed the audience. About 200 delegates comprising of executives from HAL, ISRO, Bharat Forge Ltd, NMIT, Captronic Systems, Collins Aerospace,

Kaynes Technology, faculty/students from various Engineering Colleges in the country were participated in the Convention. As part of the National Convention, a Drone Competition was organised at Global Academy of Technology for the students on 31 August 2023. Recommendations arising out of the deliberations were presented by Dr P V Venkitakrishnan during the Valedictory Session are as follows.

*The Aerospace Clusters need to be established; The facilities of the Laboratories and Establishments and Educational Institutions have to be shared among each other for research activities for outsiders. A policy framework for this need to be formulated; An Aerospace start-up Park need to be created; A triangular connectivity corridor needs to be established between Bangalore Hyderabad and Chennai; An Utilization strategy need to be evolved and formulated to share the expertise of the senior, superannuated experienced aerospace professionals.*

## Sustainable and Green Technology for Industries

**Bokaro Steel City Local Centre**, IEI has organized All India Seminar on the theme **Sustainable and Green Technology for Industries** in Bokaro during 26-27 August 2023 under the aegis of Environmental Engineering Division Board [ENDB], IEI. The event served as a platform for professionals, experts, and academia to engage in meaningful discussion about the integration of environmentally conscious practices within industrial processes. Shri B K Tiwari, ED(Works), Bokaro Steel Plant graced the function as the Chief Guest and Shri Aninda Das, CEO, Bokaro Power Supply Company Pvt Ltd (BPSCL) graced the function as the Guest of Honour. The event was started with



the welcome address delivered by Er Navin Prakash Srivastava, the then Chairman, Bokaro Steel City Local Centre, IEI. Chief Guest, Shri B K Tiwari, ED (Works), Bokaro Steel Plant in his inaugural address said that such programmes are the need of the hour where the current scenario demands immediate attention to tackle the issues of climate change. The global warming caused by the increase in Green House Gas (GHG) emission, that has resulted in severe consequences including rising sea levels, extreme weather condition, loss of biodiversity etc; It has become imperative for all of us to contribute towards a sustainable future by reducing our carbon footprint, he opined. Guest of Honour, Shri Aninda Das, CEO, BPSCL emphasized the importance of sustainable technology adoption.

During the technical sessions, fifteen papers were presented by professionals, experts, and academicians. Topics included Sustainable & Green Technology, Responsible Steel Certification, An Approach towards Sustainable and Safe Iron Ore Mining in Saranda Forest of West Singhbhum District, Jharkhand, Decarbonizing Traditional Iron making – A Thermochemical Approach, Introduction of Artificial Water Fog System in Sinter Plant for Improving Sinter Bed Permeability, Uses of Hydrogen in Steel making, Carbon Capture use and Storage (CCUS), Bio-Energy and Direct Electrification, Additive Manufacturing, Molten Oxide Electrolysis, all constituting avenues for achieving deep emission reduction in steelmaking. Other subjects covered Improving Wastewater Treatment Through Application of Industry 4.0, Sustainable Solutions for Slime Recovery and Utilization in Iron Making, Hydrogen Production Using Scrap Aluminum from Municipal Waste, BOF Slag Characteristics and its Utilization for Civil Construction, Modelling and Assessment of Carbon Sequestration Potential in Industrial Environment using Aermod, Facile Synthesis, Characterization, and Performance Study of Low-Cost Structure Adsorbent for CO<sub>2</sub> Capture,

Changing Paradigm in Energy Sector, Transportation Sector, Agriculture Sector, and Water Management, Affordable and Convenient Solar Power System for Rural Areas, Government Initiative for Green Technology Adoption, etc.

Technical sessions were followed by panel discussion by eminent panelists. The Chief Guest of the Valedictory Function was Sri C R Mohapatra, E D ( Projects) SAIL, Bokaro and Guest of Honour was Sri P K Rath, E D (SRU) SAIL. The All India Seminar on "Sustainable and Green Technology for Industries" concluded with a roadmap for sustainable transition of Industries, fostering valuable insights and collaborations that contribute to the advancement of sustainable practices within the industrial landscape. Er Sunil Kumar, the then Honorary Secretary, Bokaro Steel City Local Centre, IEI proposed the vote of thanks.

The Recommendations emanating from the two-day deliberation are summarized as follows.

*The changing regulatory environment, specifically related to CO<sub>2</sub> emission and ever-increasing expectations of stakeholders from business to act responsibly, create a challenging environment for steel products in the world. Hence, the Steel manufacturers should upgrade themselves to face the challenge by adopting the best available practices in steel making; Sustainable and safe mining in Forest area requires synergy between mining & conservation of forest; Humidification of Sinter bed with atomized water needs to be explored more. In the later half of the Sinter Machines, it improves the heat transfer rate, reduces the thickness of the high-temperature zone, and increases permeability of beds. This improves the productivity of the Sinter Plant and thus reduces Energy Consumption at the Sinter Plant; Uses of Hydrogen in Steel making, Carbon Capture use and Storage (CCUS), Bio-Energy, and direct electrification, molten oxide electrolysis should be explored further, as these constitute avenues for achieving deep emission reduction in steelmaking; Automation of chemical dozing is another emerging domain, using advanced ways of wastewater treatment through the intervention of Industry 4.0. This improves the treatment quality, optimizes the consumption of chemicals, reduces sludge generation & provides unmatched biological treatment; Proper characterization of BOF Slag from the Steel Industry and its utilization in Civil construction should be focused upon. It can help in solving the issue of land pollution due to Steel Plant Waste. BOF Slag- Fly Ash bricks are also one of the applications for low-load bearing civil construction; The integration of ESG (Environmental, Social & Governance) factors with company strategy needs to be emphasized. This creates a more holistic view of a company's performance and transforms the way business operates, interacts with stakeholders, and creates value. It encourages business to consider their broader impact on the world and align their strategies with a more sustainable and responsible future.*

### Certificate of Practice for Practising 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 **Practising Chartered Engineers Certification**. The Institution will issue **Practising Registration No.** for practising Chartered Engineers, which is valid for **five years**.

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

The hard copy of application should reach to:-

**The 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.



# 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 2024

Sl. No.	Name of the Course	Scheduled Dates
1.	Suspension Bridges and Structural Analysis	05 - 09 Feb 24
2.	Web Application Penetration Testing and Web Security	05 - 07 Feb 24
3.	Weldability of Special Steels and NDE Methods for Engineers	05 - 07 Feb 24
4.	Networking and use of sensors for on farm Irrigation Water Management	05 - 07 Feb 24
5.	Online Monitoring Industrial Emission Effluent (Technical Guidelines and Demonstration)	07 - 09 Feb 24
6.	Optimization of Resources in Limestone & Other Quarries	07 - 09 Feb 24
7.	Cyber Security Issues in Power Sector	07 - 09 Feb 24
8.	Intellectual Property Rights (IPR) - Patent	07 - 09 Feb 24
9.	Kinematics & Dynamics of Robots	12 - 14 Feb 24
10.	Build Dynamic Dashboard in Excel & Power BI (Online)	12 - 16 Feb 24
11.	Latest techniques in Control & Instrumentation in Power Plants and process industries applications	13 - 16 Feb 24
12.	Management of Training for Training & HR Managers at Goa	13 - 15 Feb 24
13.	Climate resilient water supply system design for sustainability	14 - 16 Feb 24
14.	5S for Workplace Excellence	14 - 16 Feb 24
15.	Software used in Civil Engineering Structures (BIM, ETAB, REVIT, HDM-4, TEKLA)	19 - 23 Feb 24
16.	Heat Treatment - Furnaces, Processes and Innovations	19 - 21 Feb 24
17.	Communication and Presentation skills to Succeed in Interviews and Discussions (Communicating Assertively with Confidence)	19 - 21 Feb 24
18.	Structural Safety of Existing Dams - Evaluation and Impacts	19 - 23 Feb 24
19.	Customer Relationship Management- Modernization of Metering, Billing & Collection (MBC) in Distribution Utilities (Online)	20 - 23 Feb 24
20.	Desalination Process - Planning, Design & Operation	21 - 23 Feb 24
21.	Principles & Practices of Sustainable Mining: Corporate Social Responsibility, Social Impact Assessment, Dump Management, Controlled Blasting Techniques, Sewage Treatment, Bio-Medical Waste Management, Conservation and Recycling of Resources, Conversion of Wastes to Resources, Water-Body in Mined out Areas	21 - 23 Feb 24
22.	Internal Auditor Training for AS 9100 Rev D	26 - 28 Feb 24
23.	Training on Cyber Security & Block chain Technology for Engineers, Managers and Scientists at Hampi	26 - 29 Feb 24
24.	Best Practices in O&M and Performance of Optimization of Super Critical Units	27 - 29 Feb 24

For detail information please contact:

### Engineering Staff College of India

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## Blockchain Technology for Artificial Intelligence of Things

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Supervised Machine Learning Approach to predict the Location of PFI in Gasoline Engine etc.

The recommendations emanating from the two-day deliberation are as follows.

The supply chain management with blockchain-enabled transparency and traceability be optimized; IoT-driven predictive maintenance be prioritized

to enhance operational efficiency and minimizing downtime; AI-powered Quality Control and defect detection should be focussed to ensure high precision and product reliability; The blockchain platform be utilized more for secure and interoperable health data management and patient privacy protection; The AI-driven automation and optimization in circuit design be explored further, with the objective to accelerate product development and innovation.



# IEI Celebrates World Habitat Day

## Theme

### Resilient Urban Economies. Cities as Drivers of Growth and Recovery

The World Habitat Day was celebrated by the Institution on October 2, 2023. Brief accounts of celebration as received from various Centres are reported hereunder.

#### STATE CENTRE

##### Tripura

Tripura State Centre, IEI observed World Habitat Day 2023 on 02 October 2023 in Agartala and organized a Seminar on the theme 'Resilient Urban Economies: Cities as Drivers of Growth and Recovery'. The day focused



on how towns and cities can make their economies benefitting for its residents, uphold the basic human right to adequate shelter, employment creation, innovation and cultural

exchange. Dr Shailesh Kumar Yadav, IAS, Municipal Commissioner, Agartala Municipal Corporation graced the occasion as Chief Guest and spoke about the contribution of urban areas to the economy, issues with population density and emphasized on urban planning. Shri Bhaskar Dasgupta, TCS, Principal, Regional Survey Training Institute, A D Nagar and OSD to Mata Tripura Sundari Temple Trust graced the occasion as Special Guest. He highlighted the pivotal role played by cities which include innovation and diversity to power our nation forwarded. Special Speakers of the event, Prof (Dr) Indraneel Bhowmik, Professor, Department of Economics, Tripura University (a Central University) discussed the dimensions of urban economic resilience and issues in Indian urbanization. Special Speaker, Er Kapil Baran Bhowmik, Former Deputy General Manager (Projects), Housing and Urban Development Corporation (HUDCO) Ltd opined the goal of sustainable urban development to balance human development and environmental protection. The programme was presided over by Dr Subhadeep Bhattacharjee, Chairman, Tripura State Centre, IEI. Earlier, Dr Mrinal Kanti Deb Barma, Honorary Secretary, Tripura State Centre, IEI delivered the welcome address.

#### LOCAL CENTRES

##### Bareilly

Bareilly Local Centre, IEI observed the World Habitat Day 2023 on 03 October 2023 in Bareilly. Er Pradeep Kumar Madhwar, Honorary Secretary, Bareilly Local Centre, IEI delivered the welcome address. Er Suresh Sundrani, Past Chairman, Bareilly Local Centre, IEI introduced the theme for the event and



spoke on resilient urban economies pertaining to cities, robust infrastructure, innovation hubs, sustainable policies, fostering diverse industries, empowering local businesses and to adopt changes in cities as it

involves societal well-being and prosperity of the inhabitants. Speaker of the session, Er D N Yadav, General Manager, Vadilal Ice Cream Limited, Bareilly shared his valuable insights on the topic 'Resilient Urban Economies are Pivotal in Propelling Growth and Recovery'. He stressed the vital role played by cities that have dynamic hubs, adapt to take challenges, foster innovation and diversity and in shaping a resilient economic landscape, crucial for navigating uncertainties and collective prosperity. He mentioned that

investing in robust infrastructure and local businesses ensures sustainable development. Er H C Gupta, Former VC, Tata Chemicals' Babrala Plant, UP emphasized on resilient urban economies for future security and said that the cities become vital drivers of sustained growth and recovery through adaptive strategies, innovation, etc. He highlighted the importance of local businesses and infrastructure to ensure a secure foundation, positioning cities as dynamic engines poised to navigate. Er Sudhir Gupta, Immediate Past Chairman, Bareilly Local Centre, IEI stressed on resilient urban economies as indispensable catalysts for growth and recovery, shaping prosperous future and their role in fostering local businesses and robust infrastructure underscores their capacity to withstand challenges. Er P K Madhwar proposed the vote of thanks at the end of the event.

##### Coimbatore

Coimbatore Local Centre, IEI, in association with the Department of Civil Engineering, PSG College of Technology, Coimbatore observed the World Habitat Day 2023 on 13 October 2023 in Coimbatore and organized a technical lecture on 'Present Scenario in Solid Waste Management in Coimbatore City Municipal Corporation'. Dr S P Ravi Kannan, Assistant Engineer, Solid Waste Management & Fleet Management, Coimbatore City Municipal Corporation, Coimbatore graced the occasion as Guest Speaker. Dr Kannan explained the present scenario in solid waste management in Coimbatore City Municipal Corporation. He mentioned various sources and



characteristics of waste generation in Coimbatore city. He suggested for collection, transportation, processing of wastes in a scientific way and focused on the challenges faced during various stages

of handling, transporting and processing of wastes. He spoke about implementation of integrated MSW project through PPP mode under JNNURM scheme. He advised the students to think over the economical safe means of solid waste disposal. Earlier, Prof (Dr) S Shanmugam, the then Chairman, Coimbatore Local Centre, IEI welcomed the Guest Speaker, participants and explained about World Habitat Day. Prof (Dr) J Krishnamoorthi, the then Honorary Secretary, Coimbatore Local Centre, IEI proposed the vote of thanks at the end of the event.

##### Gorakhpur

Gorakhpur Local Centre, IEI observed the World Habitat Day 2023 on 02 October 2023 through virtual mode. Er Pawan Kumar Mishra, Chairman, Gorakhpur Local Centre, IEI welcomed the Chief Guest of the session, Dr Deepti Pande Rana, Associate Professor, Amity School of Architecture and Planning, Amity University, Lucknow. Er Mishra discussed the challenges and opportunities that are presently being faced in urban areas and stressed the need to educate people about the importance of sustainable urbanization & housing and explained its impacts on our lives, communities and the planet. He opined that urbanisation demands innovative solutions and technologies that can transform urban spaces and housing into more sustainable inclusive efficient environments. He recommended to engage with local policymakers to advocate policies that support sustainable

urban development, contribute to organization working to address housing and habitats both locally and globally and to use social media and other platforms to raise awareness about the day. Dr Rana shared her valuable insights on the topic 'The Role of Cities and Urban Migrants in Shaping Our Collective Future: Urban Economies' and emphasized the pivotal role played by the cities in shaping the economic growth, innovation, cultural diversity and highlighted the role of urban migrants in contributing to this system by way of labour, entrepreneurship, etc, and explained how migrants brings diverse perspectives & skills to foster innovation. She spoke of economic challenges faced by migrants and proposed various solutions. She emphasized the role of urban planning and policies in accommodating growing urban populations including migrants, sustainable practices and the need for affordable housing, healthcare and education. She concluded with the emphasis on collaborative efforts from various stakeholders to create innovative and sustainable cities and addressed the gathering to embrace diversity towards building welcoming, economically vibrant and socially cohesive urban environments. Earlier, Er Ramesh Chandra Pandey, Honorary Secretary, Gorakhpur Local Centre, IEI addressed the theme of the event and stressed on collective responsibility for liveable habitats and for future generations and proposed the vote of thanks at the end of the event.

### Kadapa

Kadapa Local Centre, IEI observed the World Habitat Day 2023 on 02 October 2023 in Kadapa and organized a Technical Seminar. Dr I Satyanarayana Raju, Council Member, IEI graced the occasion as Chief Guest and Speaker and delivered lecture on the theme of the day. He said that World Habitat



Day serves as a global platform to contemplate the state of our habitats and emphasize the fundamental right of every individual to access to adequate shelter. He opined that resilient urban economies are built up on strong foundations

inclusively sustainability and adaptability. He mentioned issues like housing related to societal needs like poverty drives homelessness, achieving goals towards streets homeless by implementing UN Sustainable Development Goals, safe health of citizens, etc. Earlier, Er N Bramhananda Reddy, the then Chairman, Kadapa Local Centre, IEI delivered the welcome address. At the end of the event, Er R Narendra Rao, the then Honorary Secretary, Kadapa Local Centre, IEI proposed the vote of thanks.

### Kalaburagi

Kalaburagi Local Centre, IEI observed the World Habitat Day 2023 on 13 October 2023 in Kalaburagi. Speaker of the session, Dr Narendra



Badashashi, Former Principal, MSI College explained about resilient urbanization and its effect on the country and life of citizens. Earlier, Er Subhash Sugoora, the then Chairman, Kalaburagi Local Centre, IEI

welcomed the guest and others. Er Hanmayya Belure, the then Honorary Secretary, Kalaburagi Local Centre, IEI proposed the vote of thanks at the end of the event.

### Kanpur

Kanpur Local Centre, IEI observed the World Habitat Day 2023 on 01 October 2023 in Kanpur. Er Vivek Asthana, the then Chairman, Kanpur Local Centre, IEI welcomed the theme Speaker, Er N B Singh, Ex General Manager, British India Corporation Limited, Kanpur. Er N B Singh delivered keynote lecture on the theme 'Resilient Urban Economics: Cities as Drivers of Growth and Recovery' and discussed the need of urban living, affordable housing,

sustainability, resilience, community participation and by addressing these issues we can create cities not only thriving but also equitable and environmentally sustainable.



He mentioned that cities are the drivers of growth and economy inspires us to work together towards urban environments and emphasized in ensuring

a brighter and more sustainable future for the generations to come. He highlighted several challenges in human habitat development like limited resources, environment sustainability, infrastructural deficits, social inequality, natural disaster and other deficiencies. He furthermore added that we can adopt green building designs, urban planning, affordable housing programmes, community engagement, resilient infrastructure, effective regulations, etc and deploy safe development practices such as locating structures outside of flood regions, preserving natural lands as buffers, etc. Er Rama Kant Yadav, the then Honorary Secretary, Kanpur Local Centre, IEI proposed the vote of thanks at the end of the event.

### Ranipet

Ranipet Local Centre, IEI observed the World Habitat Day 2023 on 11 October 2023 through online mode. Er M Salai Manalan, the then Chairman, Ranipet Local Centre, IEI delivered the welcome address. During the technical session, Dr N Vaani, Assistant Professor (Sr), VIT, Vellore delivered lecture on the theme. Topics discussed in the session were habitat and its basic right, aspect of urban growth like development & contribution to the economy, issues of exclusion & consequence to exclusions, effects of unsustainable growth, Critical areas to be address like economic & social inequity across cities, deteriorating quality of life conditions, climate change & sustainability, Concept of Next Gen Cities, etc. Er Vivek S, the then Honorary Secretary, Ranipet Local Centre, IEI proposed the vote of thanks at the end of the event.

### Saurashtra

Saurashtra Local Centre, IEI, in association with Atmiya University, Rajkot observed World Habitat Day 2023 on 04 October 2023 in Rajkot and a Seminar was organized on the theme. Mr Khemendra R Dattani, HoD, Civil Engineering Department and Ms Freny D Maru, M E Transportation Engineering of FoET, SoDS, Atmiya University, Rajkot graced the occasion as the Speakers of the event. Earlier, Er B V Harsoda, the then Honorary



Secretary, Saurashtra Local Centre, IEI welcomed the participants and introduced the Speakers. Mr Dattani and Ms Maru delivered lectures on the theme and discussed on the definition

& importance of resilient urban economies, cities as growth recovery drivers, urban landscape pre-Covid, pandemic shock, challenges in urban economic resilience, climate change, strategies for building resilience. Dr Ghanshyam D Acharya, Professor Emeritus of Atmiya University, Rajkot also spoke on the occasion.

### Tirunelveli

Tirunelveli Local Centre, IEI observed the World Habitat Day 2023 on 07 October 2023 through virtual mode. Prof (Dr) R Velayutham, the then Chairman, Tirunelveli Local Centre, IEI inaugurated the session and delivered the welcome address. Dr I Jessy Mol, HoD, Department of Civil Engineering, St Xavier Catholic College of Engineering discussed about Civil Engineering Sustainability and Future, which deals with need, principle, elements of sustainable development and highlighted the approaches for sustainable construction. She further explained 17 Sustainable Development Goals (SDGs). Er Jimmi Carten M, the then Honorary Secretary, Tirunelveli Local Centre, IEI proposed the vote of thanks at the end of the event.

# IEI Celebrates

# World Standards Day

## Theme

## Shared Vision for a Better World: Incorporating SDG 3

The World Standards Day was celebrated by the Institution on October 14, 2023. Brief accounts of celebration as received from various Centres are reported hereunder.

### STATE CENTRE

#### Uttar Pradesh

Uttar Pradesh State Centre, IEI observed World Standards Day 2023 on 14 October 2023 in Lucknow. Chief Guest of the event, Shri Ashit Kumar Maharana, Director and Head, Bureau of Indian Standards graced the occasion as the Chief Guest and discussed the role of standards for



economic and technological development, ensuring consumer safety, trade and environmental protection due to rapid growth of development is creating varied challenges, which is affecting the ecology and hence require standards for sustainable development.

He said that Bureau of Indian Standards (BIS) has developed 22 thousand voluntarily sustainability standards for reducing the adverse environmental, social impacts and to meet the demands of consumers. He highlighted that BIS has incorporating sustainability into Indian Standards like steel standards, standards on consumption of green hydrogen, green steel, reduction of carbon di oxide emissions, judicious coal utilization, measurement of carbon foot print, use of fly ash, etc. Er V B Singh, former Vice President, IEI and Coordinator of the Program said that from the next year, the Government of India has made it mandatory to have certification from BIS on 115 items like electric fans, stainless steel, aluminium utensils, cans used beverages, ply boards, etc to ensure the quality of these items in our daily use and introduced a provision for the offenders. Earlier, Er Masarat Noor Khan, the then Chairman, Uttar Pradesh State Centre, IEI welcomed the guests and explained the aim and activities of IEI. Dr Jaswant, Singh, the then Honorary Secretary, Uttar Pradesh State Centre, IEI proposed the vote of thanks at the end of the event.

### LOCAL CENTRES

#### Agra

Agra Local Centre, IEI, in association with Faculty of Engineering and Technology, Agra College, Agra, Uttar Pradesh observed World Standards Day 2023 on 18 October 2023 in Agra. The event witnessed the presence of Dr Anurag, Vice Chairman, UP State Council of Higher Education; Dr Arun Pratap Sikarwar, Assistant Professor, DEI, Agra; Dr Ashish Kumar, Professor,



Department of Chemistry, Agra College and Dr Tanveer Qamar, HoD, Electrical Engineering Department, FET, Agra College, Agra. Er Rajnesh Kumar Yadav, Honorary Secretary, Agra

Local Centre, IEI shared his valuable insights on the theme 'Share Vision for a Better World: Incorporating SDG 3'. He opined that by adopting SDG 3,

we can make a world fairer and more sustainable that will focus on health and well-being for all. Dr Ashish Kumar graced the occasion as Keynote Speaker and stressed to harmonize the core elements like Sustainable Development Goals for prosperity, welfare of both people and planet. Dr Arun Pratap Sikarwar mentioned that SDG is a call for action which can be achieved through collective effort only and highlighted developers of world are leading International Standards Organizations: IEC, ISO and ITU to call on global community. Er Rajnesh Kumar Yadav proposed the vote of thanks at the end of the event.

#### Bareilly

Bareilly Local Centre, IEI observed the World Standards Day 2023 on 14 October 2023 in Bareilly and a Seminar was organized on the theme. Er Raj Goel, Chairman, Bareilly Local Centre, IEI delivered the welcome Address by explaining the theme of the event 'Shared Vision for a Better World: Incorporating SDG 3', focuses on good health and well-being adhering to international standards that plays a crucial role in reaching the targets of SDG 3 by providing a global framework that facilitate adoption of digital



healthcare services, disease prevention, mental health support and make the world more equitable, where everyone can contribute for a bright future. Er B S Bajwa, Past Honorary Secretary, Bareilly Local Centre, IEI

briefed on the theme. Er D N Yadav, GM, Vadilal Industry, Bareilly explained that a vision means inspiring picture of the future that you want to create together and a mission is a concise and compelling statement of the purpose and value of your work. Er Sudhir Gupta, Immediate Past Chairman, Bareilly Local Centre, IEI shared his valuable insights on the theme and focused on sustainable world for health and well-being and achieving SDGs. Emphasis was given in enhancing peace and prosperity, welfare of both people and planet and collective commitment of national and individuals. Er Pradeep Kumar Madhwar, Honorary Secretary, Bareilly Local Centre, IEI proposed the vote of thanks at the end of the event.

#### Ghaziabad

Ghaziabad Local Centre, IEI observed World Standards Day 2023 on 14



October 2023 in Ghaziabad. Dr Nidhi Sisodia, Senior Scientific Officer, Northern India Textile Research Association (NITRA) graced the occasion as Guest of Honour & Keynote Speaker of the session. Er Rajendra Kumar Gaur, Assistant

Director, NITRA graced the occasion as Convener & Speaker of the event. Er Raghunandan Prasad Sharma, the then Chairman, Ghaziabad Local Centre,

IEI welcomed the dignitaries, Corporate Members, Guests and others. He shared his valuable insights about the importance of standard in our daily life. Dr Sisodia spoke about the necessity of using standard for better quality of life. Er Gaur discussed about the use of standards for betterment of life. Er Ashok Kumar, the then Honorary Secretary, Ghaziabad Local Centre, IEI proposed the vote of thanks at the end of the event.

### Jodhpur

Jodhpur Local Centre, IEI observed World Standards Day 2023 on 14 October 2023 in Jodhpur on the theme. Dr B R Panwar, Technical Expert Member, S.E.A.C Rajasthan, M.O.E.F and CC Government of India and Former Regional Officer, R.S.P.C.B. Rajasthan graced the occasion as the Keynote Speaker. He mentioned the role of Sustainable Development



Goals 3 for ensuring healthy life and development for all and discussed that standards setting up various bodies like The Agricultural Organization, World Health Organization International.

He further added that Food Code is the vision of World Standard Day. Earlier, Er M M Agarwal, Chairman, Jodhpur Local Centre, IEI welcomed the Speaker and all the guests present on this occasion. Er Resham Ram Hooda, Honorary Secretary, Jodhpur Local Centre, IEI proposed the vote of thanks at the end of the event.

### Kanpur

Kanpur Local Centre, IEI, in association with Textile Association (India), Uttar Pradesh observed World Standards Day 2023 on 15 October 2023 in Kanpur. Er Vivek Asthana, the then Chairman, Kanpur Local Centre, IEI welcomed the Theme Speaker, Er Arunabh Chowdhury, Former Additional Controller of Quality Assurance, Department of Defence Production, Ministry of Defence, Kanpur.



Er Mahendra Uttam, Honorary Secretary, Textile Association (India), UP Unit

introduced the Theme Speaker. Er Arunabh Chowdhury delivered Keynote Lecture on the theme and explained the objective of sustainable development for better understanding of standardization along with a commitment to the established standards. He said that support of cutting-edge technology provides the momentum of development in civil life and acceptance of elementary fundamentals and methodical application of basic principles that strengthens the current era of socio-economic environment. He stressed that standards should set at every level covering towards progress and development for futuristic world and establishes for better world. Er Rama Kant Yadav, the then Honorary Secretary, Kanpur Local Centre, IEI proposed the vote of thanks at the end of the event.

### Meerut

Meerut Local Centre, IEI observed World Standards Day 2023 on 14 October 2023 through virtual mode. Er Rajneesh Kumar, Past Chairman, Meerut Local Centre, IEI welcomed the guests and dignitaries. Er Hariom Meena, Scientist B and Assistant Director, BIS, Ghaziabad graced the occasion as the Keynote Speaker. The speaker in his address mentioned that sustainable development is an organizing principle to meet human development goals, that enables systems to provide natural resources and eco-system services on which economy depends. He further spoke on UN SDG to achieve better and sustainable future for all. He spoke of importance of ISO in global level and BIS at national level that are leading transformation by involving and aligning themselves with SDG and setting long term strategies for transformation and expects. The individuals come up with innovative ideas to implement the concept of the theme. He mentioned the leading international standards setting bodies like ISO, IEC

and ITO towards formulating standards for best practices and stressed on wide acceptability of the standards and highlighted the role of BIS in achieving SDGs for formulating standards in diverse sectors like food and agriculture, environment, information technology, medical devices, etc. Er Raj Pal Agarwal, the then Honorary Secretary, Meerut Local Centre, IEI proposed the vote of thanks at the end of the event.

### Palghat

Palghat Local Centre, IEI observed World Standards Day 2023 on 14 October 2023 in Palakkad. Er Rino John, Scientist-D, Joint Director, Bureau of Indian Standards (BIS), Kochi Branch graced the occasion as Keynote Speaker. Er Madhana Mohan K, the then Chairman, Palghat Local



Centre, IEI presided over the function and delivered the welcome address. Prof (Dr) Pradip C, the then Honorary Secretary, Palghat Local Centre, IEI introduced the Keynote Speaker to the

august gathering. Er John, in his address explained UN. SDG 3, that ensure for healthy live, promote well-being for all ages, strengthen the prevention, treatment of substance abuse, achieving universal health coverage, strengthen the implementation of WHO Framework Convention on Tobacco control in all countries, support the research and development of vaccines, strengthen capacity of countries to manage global health risks, etc. Prof (Dr) Pradip C proposed the vote of thanks at the end of the event.

### Saurashtra

Saurashtra Local Centre, IEI observed World Standards Day 2023 on 14



October 2023 in Rajkot and organized a Seminar on the theme. Speakers of the event were, Dr Hitesh R Ashani, and Prof Bhargav Gokani, Assistant Professors, Department

of Civil Engineering, VVP Engineering College, Rajkot. Prof (Dr) Sarang Sadashiv Rao Pande, the then Chairman, Saurashtra Local Centre, IEI welcomed the participants and introduced the Speakers. Dr Hitesh R Ashani delivered lecture on the theme 'Nanotechnology: Future Aspects with Shared Vision for a Better World: Incorporating SDG 3'. Prof Bhargav Gokani delivered his presentation on the topic 'Advancement in Concrete Technology with Sustainable Development Goals'. Er Amiyl Ahmed Badi, Past Honorary Secretary, Saurashtra Local Centre, IEI delivered lecture on the topic 'Value Added Concrete'. Speakers of the event explained the history of World Standards Day and discussed in details about Sustainable Development Goals on Nanotechnology: Er Deepak V Suchde, Saurashtra Local Centre, IEI proposed the vote of thanks at the end of the event.

### Vallabh Vidyanagar

Vallabh Vidyanagar Local Centre, IEI observed World Standards Day 2023 on 19 October 2023 in Vallabh Vidyanagar. Speaker of the event, Mr Yogesh



Kulkarni, Deputy General Manager, L&T Energy Hydro Carbon, Vadodara, Gujarat discussed several standards used in mechanical engineering and civil engineering fields,

benefits of using standards, sources of referring standards and mentioned design of products, which varies according to the application of client. Dr Kaushik Nath, Principal, GCET also spoke on the occasion. Earlier, Prof (Dr) Sanjaykumar Kanubhai Dave, Chairman, Vallabh Vidyanagar Local Centre, IEI welcomed all. Prof Sunilkumar Subhahchandra Shah, Honorary Secretary, Vallabh Vidyanagar Local Centre, IEI proposed the vote of thanks.

IEI Celebrates

# 56<sup>th</sup> Engineers' Day 2023

Theme : Engineering a Resilient Future: Building Stronger, Smarter, Safer

The 56<sup>th</sup> Engineers' Day was celebrated by the Institution all over the country on September 15, 2023 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 highlighted hereunder

## STATE CENTRES

### Haryana

Haryana State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Sonapat. Chief Guest of the event, Er Balraj Ahlawat, Chief Engineer, Haryana State Pollution Control Board, Haryana mentioned that the world are undergoing reformation and the economy is modernized. He opined that pollution is the greatest threat to human beings caused by the industrial sector, aged vehicles and advocated to adopt latest technology in industry for reducing pollution to the extent possible. He further advised to use public transport as far as possible instead of personal vehicles. Dr Mamata Sachdeva, Director, South Point Institute of Technology & Management, Sonapat briefed the bio-data of the Chief Guest. Er K C Sethi, Former Vice President, IEI presented the life sketch of Bharat Ratna Sir M Visvesvaraya, described him as a man of extra ordinary intelligence and opined that his life achievements gives great inspiration to our young engineers. Dr Manoj Kumar Duhan, Professor, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonapat delivered the Keynote address of the theme of the day and said that engineers play a vital role in all sphere of life and are responsible for solving problems by the use of machines, devices, systems, materials and processes and convert knowledge of basic sciences into products with high efficiency. Er Virender Singh, Honorary Secretary, Haryana State Centre, IEI proposed the vote of thanks at the end of the event.



### Karnataka

Karnataka State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Bengaluru. Shri Siddaramaiah, Hon'ble Chief Minister, Government of Karnataka; Dr M C Sudhakar, Cabinet Minister for Higher Education, Government of Karnataka; Shri Nazir Ahmed, Political Advisor to Chief Minister and Shri A S Ponnanna, Legal Advisor to the Chief Minister graced the function, followed by invocation, lightning of the lamp and paying tribute to Sir M Visvesvaraya. On the occasion, Dr Dinesh M, Principal Engineer, Microchip India delivered presentation on the topic 'Engineering with Secure AI and Intelligence for Better Future'. Dr Sanjeev K Nayak, Engineering Department Unit, Alstom delivered lecture on 'safety in EV Technology'. Dr Aloknath De, Council Member, IEI & Chair, AgriEnclos, MeitY, Gol & Former CVP & CTO, Samsung delivered lecture on 'Resilience in Engineering: Smarter, Safer'. Dr S Satyanarayana, Council Member, IEI & Director, AP LMEC Systems,



Hyderabad delivered lecture on 'Biography and Acheivements of Bharat Rathna Sir M Visvesvaraya'. A Technical Talk Ideathon Competition for Engineering College Students on the theme was also organised. Earlier, Dr Enti Ranga Reddy, the then Honorary Secretary, Karnataka State Centre, IEI delivered the inaugural address and welcomed the august gathering. Er M Lakshmana, the then Chairman, Karnataka State Centre, IEI proposed the vote of thanks at the end of the event.

### Kerala



Kerala State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Thiruvananthapuram. Prof (Dr) M Jayaraju, the then Chairman, Kerala State Centre, IEI welcomed the gathering. Chief Guest of the event, Er Padmakumar

E S, Distinguished Scientist, Director, IISU, ISRO delivered lecture on the topic 'Strategies for Interplanetary Missions'. Er P Balakrishnan Nair, Committee Member, Kerala State Centre, IEI depicted the life sketch of Sir M Visvesvaraya. Er Roy Mathew, the then Honorary Secretary, Kerala State Centre, IEI proposed the vote of thanks at the end of the event.

### Manipur

Manipur State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Manipur. Chief Guest of the event was Er M Lokendra Singh, Former Chief Engineer, PWD Manipur & Past Chairman, Manipur State Centre, IEI. Guests of Honour of the function were Er R K Nando Singh, Controller of Technical Education, Government of Manipur and Er Ng Basantakumar Singh, Principal, Government Polytechnic, Imphal. The Theme Speaker of the event was Dr Ngangbam Romeji Singh, Associate Professor, Department of Civil Engineering, National Institute of Technology Manipur. Er Wangkheimayum Homendro Singh, the then Chairman, Manipur State Centre, IEI presided over the function. Er Achom Roudrajit Moirang, Past Honorary Secretary, Manipur State Centre, IEI welcomed all. Dr Ngangbam Romeji Singh highlighted the importance of integrating proper technologies in building for a stronger, smarter and safer structures. He presented various case studies on the relevant area. Mr M Lokendro Singh mentioned various topics related to latest technologies to be incorporated during construction for creating stronger and safer buildings. He spoke about usage of IoT for creating a smarter and resilient future. Dr Thokchom Subhaschandra Singh, Manipur State Centre, IEI proposed the vote of thanks at the end of the event.



## Puducherry



Puducherry State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 and 163<sup>rd</sup> birth anniversary of Sir M Visvesvaraya on 29 September 2023 in Puducherry. Er G C Chokkanathan, Plant Manager, FOSECO India Limited, Mettupalayam, Pondicherry graced the occasion as the Chief Guest and delivered lecture on the theme. Prof (Dr) B Radjaram, the then Chairman, Puducherry State Centre, IEI delivered the welcome address. Dr S Thirougnaname, the then Honorary Secretary, Puducherry State Centre, IEI proposed the vote of thanks at the end of the event.

## Tamilnadu

Tamilnadu State Centre, IEI observed 56<sup>th</sup> Engineers' Day 2023 and 163<sup>rd</sup> birth anniversary of Sir M Visvesvaraya on 17 September 2023 in Chennai. Er S Kannan, the then Chairman, Tamilnadu State Centre, IEI delivered the welcome address and expressed his gratitude to the Chief Guest of the



event, Thiru E R Eswaran, Hon'ble Member of Legislative Assembly, Thiruchengode, Tamilnadu and Guest of Honour of the event, Er R Sundar, Former Director of Boilers,

Government of Tamilnadu. Dr G Ranganath, the then President (Elect) & Chairman, CATE and now President, IEI delivered the glimpse from the life sketch of Bharat Ratna Dr Sir M Visvesvaraya. Guest Speaker of the event, Er K P Sathyamurthy, Engineer-in-Chief and Chief Engineer (General), PWD stressed on team building, and briefed on encouraging his teammates to achieve goals and accomplish the given tasks. He opined that a successful engineer has to develop a strong team with good working skills to ensure smooth workflow. Er R Sundar in his address underscored the role of engineers in nation's progress by way of innovation, problem solving, technological advancements and serving as architects of the future. Dr K Pandian, Committee Member, Tamilnadu State Centre, IEI said that engineers are the problem solvers and innovators of national infrastructure, build environment and supporting systems on society and economy depend including digital, mobility and healthcare. Er K N Sivaraju, the then Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks at the end of the event.

## Telangana

Telangana State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Hyderabad and a Seminar was organized on the theme.



Dr G Satheesh Reddy, President, Aeronautical Society of India graced the occasion as the Chief Guest and Dr G A Srinivasa Murthy, Director, DRDL, Kanchanbagh, Hyderabad graced the occasion as the

Guest of Honour. Earlier, Er B Brahma Reddy, the then Chairman, Telangana State Centre, IEI welcomed the august gathering and presided over the function. Er M Shyam Prasad Reddy, Council Member, IEI delivered lecture on 'Life and Achievement of Sir M Visvesvaraya.'

## Uttar Pradesh

Uttar Pradesh State Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Lucknow. A Seminar was organised on the topic

'Engineering a Resilient Future: Strong, Smart, and Safe Construction'. Chief Guest of the event was Shri Rakesh Sachan, Hon'ble Cabinet Minister



of Micro Small and Medium Enterprises, Khadi and Villages Industries, Sericulture Industries, Handloom and Textile, Government of Uttar Pradesh. Special Guest of the event was Prof Sanjay

Singh, Vice Chancellor, Babasaheb Bhimrao Ambedkar Central University and Keynote Speaker of the event was Mr Shyam Krishna Pandey, Senior Scientist, ISRO. Shri Rakesh Sachan inaugurated the event and said that engineers are making successful efforts to bring the country into developed countries by building towers, massive bridges, skyscraper, and roads for safe travel. Prof Singh highlighted that our engineers are making valuable contribution towards the development of the country and advocated to adopt latest technology to perform high quality work at low cost within the stipulated period of time. Shri Pandey shared valuable insights on the topic and suggested to maintain a dependable and reliable performance by assimilating changes through technology in adverse circumstances and through this we can ensure protection on disastrous situations. He explained the advanced space technology and his application on successful landing of Chandayaan-3, an important scientific work by the land-rover have made the country proud and the development of navigation system 'NAVIC'. He highlighted on satellite communication, tele-education, etc with ISRO's development journey. Er V B Singh, Former Vice President, IEI was present on the occasion. Er Masarrat Noor Khan, the then Chairman, Uttar Pradesh State Centre, IEI explained the objectives of celebrating the birthday of Sir M Visvesvaraya and discussed the theme of the event. Dr Jaswant Singh, the then Honorary Secretary, Uttar Pradesh State Centre, IEI proposed the vote of thanks at the end of the event.

## LOCAL CENTRES

### Alwar

Alwar Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Alwar. Shri Tika Ram Jolly, Minister of Social Justice, Government of Rajasthan graced the occasion as the Chief Guest. Shri Yogesh Mishra, District Vice President Implementation of 20 Points Programs,



Government of Rajasthan and Col Sunil Chouhan, Indian Army graced the occasion as Guests of Honour. Er Sajjan Singh Yadav, Council Member, IEI graced the occasion as Special Guest of Honour.

Er Ashok Kumar Gupta, Chairman, Alwar Local Centre, IEI presided over the function and delivered the welcome address. Er Sajjan Singh Yadav shared his valuable insights on the theme and focused on better quality construction. Shri Yogesh Mishra shared his views on quality construction for better world through latest technology. Col Chouhan shared his valuable insights on best use of cement and quality of sand at present scenario. Mr Tika Ram Jolly highlighted various activities undertaken by IEI and advised careful adoption of newer technologies and also assured assistance from the Government of Rajasthan for implementation of better and high quality infrastructure in Alwar. Er R C Sharma, Honorary Secretary, Alwar Local Centre, IEI proposed the vote of thanks at the end of the event.

### Jabalpur

Jabalpur Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Jabalpur. Dr P K Jhinge, Principal, Jabalpur Engineering College, Jabalpur graced the occasion as Chief Guest & Keynote Speaker.



Dr R C Pandey, Principal, Kalaniketan Polytechnic College, Jabalpur graced the occasion as Guest of Honour. Earlier, Er Prakash Chandra Dubey, the then Chairman, Jabalpur Local

Centre, IEI delivered the welcome address. Brigadier Vipin Kumar Trivedi, Convener of the event explained the theme of the event. Dr Jhinge highlighted that engineers are at the forefront for the progress of the society and are working tirelessly to build the infrastructures, lead the charge, embracing eco-friendly materials, renewable energy solutions and sustainable practices. He suggested for sustainable and inclusive solution to meet this problems. Dr Pandey mentioned that in today's world, engineers play a vital role in the development of the country. Dr Rajeev Jain, Organising Secretary, Jabalpur Local Centre, IEI proposed the vote of thanks at the end of the event.

### Madurai

Madurai Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Madurai. Er T Archunan, Director (Projects), Chennai Metro Rail Limited, Chennai



graced the occasion as the Chief Guest. Dr N Sivasubramanian, the then Chairman, Madurai Local Centre, IEI delivered the welcome address and explained about the

Engineers' Day celebration, the role of engineers played in yester years and their recent achievements including Chandrayan-3 and Athithya- L1 Projects. He highlighted the contribution of Sir M Visvesvaraya in the development and advancements made in various engineering fields. Prof (Dr) P Udhaya Kumar, the then Honorary Secretary, Madurai Local Centre, IEI introduced the Chief Guest and also proposed the vote of thanks at the end of the event.

### Mangalore

Mangalore Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Mangalore. Er Ujwal D'Souza, Managing Partner, Marian Infrastructure, Mangalore



graced the occasion as the Chief Guest. He outlined the life sketch of Sir M Visvesvaraya and

called on young engineers to emulate his ideals. Er S N Bhat, President, IOV, Mangalore Branch and Er Sudhindra Chitrapura, Secretary, IOV, Mangalore Branch also attended the event. Earlier, Dr Manu B, the then Honorary Secretary, Mangalore Local Centre, IEI welcomed the gathering. Dr Sunil B Malegole, the then Chairman, Mangalore Local Centre, IEI presided over the function. Dr Manu B proposed the vote of thanks at the end of the event.

### Navi Mumbai

Navi Mumbai Local Centre, IEI, in association with Fr C Rodrigues Institute of Technology observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Navi Mumbai. Er Kishanrao M Godbole, the then Chairman, Navi Mumbai Local Centre, IEI welcomed the guests and dignitaries. Mr Rajesh Narvekar, IAS, Municipal



Commissioner, Navi Mumbai Municipal Corporation graced the occasion as the Chief Guest. He informed about the relevance of Engineers' Day and various activities undertaken by the Navi Mumbai Municipal Corporation. Er Vijay Chandrakant Kamble, the then Honorary Secretary, Maharashtra State Centre, IEI, outlined the life sketch of Sir M Visvesvaraya. Er Sanjay Raghunath Bagul, the then Honorary Secretary, Navi Mumbai Local Centre, IEI proposed the vote of thanks.

### Palghat

Palghat Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Palakkad. Er Nagraj K V, General Manager & Unit Head, ITI Limited, Palakkad



graced the occasion as the Chief Guest and delivered lecture on the theme. He spoke about Innovation in India, industry academia collaboration, start up challenges like business

sustainability of companies, commercial viability, Innovation atmosphere like fearless mind social taboo of failure, cross migration between industry academia, etc. Er Madhana Mohan K, the then Chairman, Palghat Local Centre, IEI presided over the function. Er A Kesavan, Past Chairman, Palghat Local Centre, IEI explained the life sketch of Bharat Ratna M Visvesvaraya. Earlier, Prof (Dr) Pradip C, the then Honorary Secretary, Palghat Local Centre, IEI welcomed the dignitaries, guests and members of the event. Dr B Rajesh Menon, Honorary Secretary (Elect), Palghat Local Centre, IEI proposed the vote of thanks at the end of the event.

### Pune

Pune Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Pune. Er Atul Gadgil, Director (Works), Maharashtra Metro Rail Corporation, Pune graced the occasion as Chief Guest and Er Ravi Shankar Joshi, President of Jaswant Shikshan Prasarak Mandal University, Pune



graced the occasion as the Guest of Honour and Keynote Speaker. Prof (Dr) Girish Shrikisan Mundada, Council Member, IEI and presently Chairman, CATE,

IEI welcomed the guests and participants. Er Atul Gadgil highlighted the crucial role of engineers, serving as architects of the future in nation's progress like innovation, problem solving and technological advancements. He emphasized that engineers innovation and cutting edge advancements to create smarter systems and their role in developing cities, revolutionary transportation solutions towards a future where intelligence prevails. Er Joshi emphasized that engineers are the architects of progress and their role in crafting a resilient future for making building stronger. He suggested for well-designed, strong foundation to keep the building standing during natural calamities like earthquake, flood and strong winds and explained a smart building by using automated processes to control the building's operations including heating, ventilation, air conditioning, lighting, security, etc and maximizing user comfort with lesser energy consumption and to avoid wastage, creating a space more efficiently, sustainable, etc. Er Munot Vipin Vasantlal, the then Honorary Secretary, Pune Local Centre, IEI proposed the vote of thanks at the end of the event.

### Ranipet

Ranipet Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 27 September 2023 in Vellore. Er P S Dasarathy, Executive Director, Turbo Energy Limited, Chennai graced the function as the Chief Guest. Dr C Dhandapani, Principal, Rajagopal Polytechnic College, Gudiyattam graced



the occasion as the Guest of Honour. Er P S Dasarathy highlighted the role of engineers in the society, smart and safe technologies in automobiles and case studies of Turbo Energy Limited including brief profile of the organization, industry presence, products, societal responsibility endeavours etc. Dr Dhandapani explained the definition and aspects of resilience, smartness, paradigm shift in engineering and case study on Tri-glide parallel manipulator for aircraft applications. Earlier, Er M Salai Manalan, the then Chairman, Ranipet Local Centre, IEI delivered the welcome address and explained about Engineers' Day celebrations and the activities undertaken by Ranipet Local Centre, IEI. Er M K Vinodhkumar, Committee Member, Ranipet Local Centre, IEI proposed the vote of thanks at the end of the event.

#### Roorkee

Roorkee Local Centre, IEI observed 56<sup>th</sup> Engineers' Day 2023 on 15 September in Roorkee. Prof Ramancharla Pradeep Kumar, Director, CSIR-Central Building Research Institute (CBRI), Roorkee graced the occasion as the Chief Guest & Keynote Speaker. Prof Ramesh Narain Misra, Professor of Practice, IIT Roorkee graced



the occasion as Guest of Honour. He discussed the role of engineers in nation building and briefed them that engineers have extra responsibility while discharging their duty. Prof M L Kansal, IIT Roorkee explained the life sketch of Sir M Visvesvaraya and advised the engineers to imbibe his character. Prof (Dr) Ashish Pandey, the then Chairman, Roorkee Local Centre, IEI delivered the welcome address. In his speech, Prof Ramancharla emphasized that academia should focus on training students to innovate smarter and more resilient technologies and the students should be encouraged to acquire cross-disciplinary learning by integrating fields such as engineering, environmental science, finance, etc to provide holistic understanding of systems in their real life. He stressed on fostering team and collaboration skills often requires multidisciplinary and cross-functional approaches for innovation.

#### Vadodara

Vadodara Local Centre, IEI observed the 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Vadodara. Mr S S Rathore, Padmashree Awardee and Advisor to Hon'ble Chief Minister, Gujarat inaugurated the event by unveiling the statue of Bharat Ratna Sir M Visvesvaraya. Er Sandeep Vasava, Council

Member, IEI and Housing Commissioner, Gujarat graced the occasion as the Chief Guest. Er Ambikesh Natvarlal Padhya, the then Chairman, Vadodara Local Centre, IEI welcomed all and said that engineers can do miracle in the fields of medicine by designing equipments for Medicos for safer life to mankind and appreciated their works in worst environmental situation to make a life for more safer, smarter and stronger. Speaker of the session, Er Samir Shah, Lecturer, Mechanical Engineering Department, The Maharaja Sayajirao University of Baroda deliberated lecture on the theme. Er Keyurkant Manibhai Thakkar, the then Honorary Secretary, Vadodara Local Centre, IEI proposed the vote of thanks at the end of the event.

#### Visakhapatnam

Visakhapatnam Local Centre, IEI observed 56<sup>th</sup> Engineers' Day 2023 on 15 September 2023 in Visakhapatnam. Shri Ratan Raj V, Executive Director (Incharge), Visakh Refinery, HPCL, Visakhapatnam graced the occasion as the Chief Guest and said that engineers should play the vital role in future with their creation and serving the society. He further explained the importance of primary education, health and moral values. Dr I S N Raju, Former Chief Engineer, Irrigation Department, GoAP and Er K Poleswara Rao, Former Chief Engineer, WRD, AP graced the occasion as Speakers. Dr Raju delivered lecture on the topic 'Engineering Resilience, Disaster Risk Reduction (DRR) – A Way Forward for Natural Disaster Management and



Mitigation'. He highlighted the importance of resilience, key components of engineering resilience, role of disaster risk reduction, case studies, monitoring and evaluation, etc. He emphasized engineering resilience, coupled with effective disaster risk reduction, offers a promising path forward in managing and mitigating the impacts of natural disasters, safeguarding lives, eco systems, etc. Er K Poleswara Rao delivered lecture on 'Retrofitting of Existing Reinforced Concrete Buildings for Seismic Loads' and highlighted on seismic retrofitting making structural involvements of older building to remain unaffected by the forces generated during earthquake and suggested the key points to consider seismic analysis, strengthening techniques, cost considerations, disruption management, etc. Er Venkata Satya G Pakki, Chairman, Visakhapatnam Local Centre, IEI presided over the function. Earlier, Er Rapeti Nageswara Rao, Honorary Secretary, Visakhapatnam Local Centre, IEI welcomed the gathering. Dr Ch Sambasiva Rao, Committee Member, Visakhapatnam Local Centre, IEI proposed the vote of thanks at the end of the event.

## Empanelment as Advocate/ Attorneys & Chartered Accountant for 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 **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>.



# IEI DIARY



## Computer Engineering Division

### All India Workshop on "High Performance Computing in Health Care and Big Data Analytics"

Kattankulathur, February 05-06, 2024

The Honorary Secretary, IEI, Kattankulathur Local Centre, SRM Institute of Science and Technology, Mahatma Gandhi Road, Potheri, SRM Nagar, Dist Chengalpattu, Kattankulathur, Tamilnadu 603203 [☎: 044-2745 2270]

### All India Workshop on "Advanced Code Wizardry Uncovering Secrets for Designing and Architecting Impactful Applications"

Kattankulathur, March 04-05, 2024

The Honorary Secretary, IEI, Kattankulathur Local Centre, SRM Institute of Science and Technology, Mahatma Gandhi Road, Potheri, SRM Nagar, Dist Chengalpattu, Kattankulathur, Tamilnadu 603203 [☎: 044-2745 2270]

## Electrical Engineering Division

### International Conference on "Green Hydrogen and Clean Energy"

Nagpur, February 10-11, 2024

The Honorary Secretary, IEI, Nagpur Local Centre,

North Ambazari Road, Nagpur 440010, [☎: 0712-2525617, E-mail : nagpurlc@ieindia.org]

### Thirty-ninth National Convention of Electrical Engineers on "Green Hydrogen, Electric Vehicle and Energy Storage System"

Chennai, May 24-25, 2024

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

## Mechanical Engineering Division

### All India Seminar on "Emerging Trends of Digital Manufacturing using 3D Printing and Flexible Manufacturing System"

Ranchi, January 27-28, 2024

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-ninth National Convention of Mechanical Engineers on "Innovations in Mechanical

### Engineering, Sustainable Manufacturing Technologies, Design and Energy Systems"

Chandigarh, September 06-07, 2024

The Honorary Secretary, IEI, Punjab and Chandigarh State Centre, Sector 19A Madhya Marg, Chandigarh 160 019 [☎: 0172-2775418, Fax: 0172-2540133, Email: pcsc@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/>]

## Production Engineering Division

### Thirty-eighth National Convention of Production Engineers on "Green and Bio-inspired Manufacturing – The Way Forward"

Bareilly, May 02-03, 2024

The Honorary Secretary, IEI, Bareilly Local Centre, 44, Camphor Estate Colony, Near Champhor Hospital, Rampur Road, C B Ganj, Bareilly 243502, Uttar Pradesh [Mobile: 9634953691, Email: bareillylc@ieindia.org]

## 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:  
The PE Cell, 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

## STATE CENTRES

### Jammu & Kashmir

Organized a Workshop on '50 Years of Urban Planning in Srinagar' on 04 July 2023 in Srinagar. The event witnessed the presence of esteemed Speakers, Er Iftikhar Ahmad Drabu, Consulting Civil Engineer, Er Rafiq Ahmad Rafiq, Chief Engineer, PW (R&B) Department, Kashmir, Er Mohammad Ashraf Fazili, Retired Chief Engineer (Civil) & Past Chairman, Jammu & Kashmir State Centre, IEI, Mr Jan Haenraets, Landscape Architect & Mughal Gardens Expert and Er Iftikhar Ahmad Hakeem, Former Chief Town Planner, Kashmir shared their valuable insights including sustainable development, infrastructure planning, transportation networks, cultural heritage preservation and inclusive planning. This workshop provided a platform for discussions, exchange of ideas and insights, best practices and the future of urban planning in Srinagar. The event emphasized the significance of sustainable practices, community development, infrastructure planning and resilience in urban development.

Organized Round Table Discussion on 'Issues of Conservation & Protection of Historical Cities with References to Srinagar' on 08 July 2023 in Srinagar. The event witnessed the presence of esteemed Speakers, namely Ms Lynn Meskell, Anthropologist & Archaeologist, Ms Claudia Liuzza, Anthropologist & Archaeologist, Mr Jan Haenraets, Landscape Architect & Mughal Gardens Expert, Mr Iftikhar Hakeem, Former Chief Town Planner, Kashmir, Mr Hakim Shaukat Ali, Former Chief Engineer of Jal Shakti (I&FC) Department, Jammu, Mr Basharat Jeelani Kawoosa, Former Chief Engineer, Jal Shakti (PHE) Department, Kashmir shared their valuable insights pertaining to heritage conservation. This discussion served as a platform for exchange of knowledge, ideas and perspective on conservation and protection of historical cities, especially on Srinagar and highlighted the need for preserving Srinagar's historical heritage for future generations and ensuring sustainable development.

### Maharashtra

Organized Water Resources Day in association with Ahmednagar Local Centre, IEI, Pune Local Centre, IEI, Navi Mumbai Local Centre, IEI and Kolhapur Local Centre, IEI on the theme 'Water Resource Governance for Sustainable Development' on 06 May 2023 through online mode. Chief Speaker of the session was Mr Vidyanand M Ranade, Ex-Secretary, Irrigation Department, Government of Maharashtra. Mr Rajendrakumar V Saraf, Convener, Environment Engineering Division, Maharashtra State Centre, IEI explained about Water Resources Day and spoke about how the water resources get polluted by human being and animal wastes. He informed that Sustainable Development Goal No.6 implemented by United Nations for clean water and sanitation for transforming our world. Mr Ranade mentioned that rivers are life supporting systems, agricultural and industrialisation are the causes of air pollution and hence regulation mechanism is needed if governance is inadequate.

### West Bengal

Organized National Technology Day on 11 May 2023 in Kolkata to mark the successful nuclear test in Pokhran 1998 and achieving remarkable success in technology since independence by India sending Aaryabhata Satellite in 1975, Chandrayaan-2 in 2019. Guest Speaker of the event was Prof Asoke Kumar Paul, Professor, Electrical Engineering Department, Techno India University. Prof Paul explained about Atal Innovation Mission (AIM), the Government of India's flagship to create and promote a culture of innovation and entrepreneurship across the country and the objective is to develop new programmes & policies, fostering innovation in different sectors of the

economy, provide platforms and collaboration opportunities for different stakeholders and create a structure to see the innovation & entrepreneurship ecosystem of the country. He spoke about Atal tinkering lab with a vision to cultivate one million children in India as Neoteric Innovators' and Atal Tinkering Laboratories in schools across India to foster curiosity, creativity, and imagination in young minds, inculcate skills such as design mindset, computational thinking, adaptive learning, etc

## LOCAL CENTRES

### Aligarh

Arranged Industrial visit to the Centre of Advanced Research in Electrified Transportation (CARET), AMU, Aligarh on 28 April 2023 in Aligarh. The purpose of this visit was to acquaint the members about the technology used for electrified transportation.

### Coimbatore

Organized a technical webinar in association with Department of Computer Applications, Hindusthan College of engineering and Technology (HICET), Coimbatore on 'Virtual Reality and Augmented Reality' on 15 May 2023. Speaker of the session was Mr Nallaperumal T, Software Architect, Appville Softwares, Caniter Systems, AR/VR/MR Specialist, Coimbatore. The speaker discussed on AR and VR, types of AR technology and applications and devices along with companies competing in this field and explained various tools required to build AR solutions such as blender, unity, visual studio and also discussed on basic creation, model formats. This insightful webinar had educated, inspired and empowered participants with knowledge and insights into these immersive technologies and their applications.

### Kanpur

Organized Lecture on 'Renewable Energy Resources' on 24 June 2023 in Kanpur. Guest Speaker, Mr Jitendra Kumar Gautam, Assistant Professor, UPTTI, Kanpur delivered informative lecture and explained that renewable energy comes from natural sources and to replace them quickly than they used up such as sun, wind as these sources are continuously replenished. He focused on solar energy in the applications of heat, cooling, natural lighting, etc, solar technologies for photovoltaic panels or solar radiation-concentrating mirrors in the form of electrical energy. He told about large wind turbines, which are used to capture kinetic energy of moving air and wind energy has been used thousands of years and currently advanced wind energy technology has been used to maximize the electricity production by using higher turbines and bigger rotor diameters including geothermal energy, hydropower.

### Rourkela

Organized a Technical Paper Meeting on the topic 'Catalytic Removal of Nitric Oxides and Unburnt Hydrocarbons from the Exhaust of Automobiles and Stationary Engines' on 29 June 2023 through hybrid mode. Speaker of the session was Dr Prateek Khatri, Assistant Professor, Department of Chemical Engineering, National Institute of Technology Rourkela. Dr Khatri explained the harmful emissions of NO<sub>x</sub>, CO<sub>x</sub>, unburnt hydrocarbons (HCs), SO<sub>x</sub> particulate matter, etc from coal power plants, automobile manufacturers and other chemical-based industries, which should be controlled in accordance with the stringent emission standards introduced from time to time. He highlighted two noxious pollutants like NO<sub>x</sub> and unburnt methane emissions that have attracted the researchers across the globe and NO<sub>x</sub> is one of the green house gases has a negative impact on environment as well as human health and CH<sub>4</sub> emissions also causes global warming.

## Tiruchirappalli

Organized a Lecture in association with the Computer Society of India, Tiruchirappalli Chapter, Safety & Quality Forum, IEI, Indian Institute of Welding, Tiruchirappalli Branch, Indian Welding Society, Southern Zone, Indian Institute of Metals, Tiruchirappalli Chapter, Indian Institution of Industrial Engineering Tiruchirappalli, Kumari Arival Peravai Kanyakumari and Indian Society for Non-destructive Testing Trichy Chapter on Career Opportunities for Young India – Part-II on 02 May 2023 through online mode. Speaker of the event was Dr K Rajkumar, Associate Professor, Saranathan College of Engineering, Trichy.

Organized a Lecture in association with G20 India, Meity Government of India, Computer Society of India, Tiruchirappalli Chapter, Safety Quality Forum – IEI, New Delhi, Indian Institute of Welding Tiruchirappalli Branch, Indian Welding Society Southern Zone, Indian Institute of Metals Tiruchirappalli Chapter, Indian Institution of Industrial Engineering Tiruchirappalli, Kumari Arival Peravai Kanyakumari and Indian Society for Non-destructive Testing Trichy Chapter on ‘Stay Safe Online: Understanding Cyber Laws & Best Practices’ on 09 May 2023 through online mode. Speaker of the event was Mr Na Vijayashankar Chairman, Foundation of Data Protection Professionals, Bangalore.

## Tuticorin

Organized a Lecture Meeting on ‘Best O&M Practices to Boost Productivity’ on 26 January 2023 at Tuticorin. Er A Sivakumar, Chairman, Tuticorin Local Centre, IEI stressed the need for innovation in operation and maintenance strategies to sustain production, improve morale and boost productivity. Chief Guest of the event was Er Justin Jagadeep Kumar, Chief Engineer, Tuticorin Thermal Power Station delivered lecture on tools, strategies and practices for boosting the productivity in industries. He suggested updating knowledge, skills and industrial relations for sustained production and regular assessment of equipment with appropriate maintenance is mandatory to avoid sudden outages and loss of productivity. He opined on encouraging employees to propose suggestions for enhancing productivity and they must be periodically reviewed and updated incorporating latest advancements based on past experiences.

Organized a Lecture Meeting in association with Grace College of Engineering on National Science Day on 28 February 2023 in Tuticorin. Er I Maria Michael Raj, Past Chairman, Tuticorin Local Centre, IEI shared his

valuable insight regarding the contributions made by scientists worldwide to improve our standards of living, eradicate many harmful diseases and congratulated scientific community for removing many myths. He introduced the resource person of the event, Mr Mujibhur Rahman, Senior Engineer, Tuticorin Thermal Power Station. Mr Rahman delivered lecture on long road of development over the past centuries and mentioned how science has helped in improving the productivity of thermal power plants. He highlighted on several advancements in science & engineering towards controlling lesser pollution such as liquid & gaseous effluents from power plant and solid waste like ash generated for making bricks, road to up etc. He appealed to the participants to fulfil the dream Dr Abdul Kalam to explore newer products, technologies for a better world.

Organized a Lecture Meeting on ‘Behavioural Safety Approaches’ on 28 March 2023 in Tuticorin. Guest of Honour Mr Manappa Talwar, Senior Scientific Officer, Department of Atomic Energy, Heavy Water Plant invited all the participants to follow the safety rules in every walk of life. Er I Maria Michael Raj, Past Chairman, Tuticorin Local Centre, IEI emphasized the importance of safety in homes, roads, work place and added that no industry can aim for complete safety culture unless every individual focuses on behavioural aspect since attitude decides altitude or success. He spoke that every organization has implemented several rules & procedures for safe execution of work but employees must ensure the attitude through their behaviour for compliance towards safety culture.

## Vallabh Vidyanagar

Organized Workshop on ‘Sustainable Development in Civil Engineering’ on 15 July 2023 in Vallabh Vidyanagar. Speakers of the event, Prof Nandan H Dawda, Assistant Professor, Faculty of Planning, CEPT University, Ahmedabad explained urban transport system planning, public transport planning, evaluation and design of multimodal transport systems and discrete choice modelling. He motivated research scholars in the field of civil and transportation engineering. Er Chetankumar Chauhan, Deputy General Manager, Zydu Life Science Limited, Ahmedabad explained fundamentals in Energy and Environment Management, Project Management, Operations and Maintenance of Plant and Utilities, Energy Audit, Water, Energy and Water Conservation Projects. He motivated the research scholars towards the field of energy auditing. Dr Rajesh Gujar, Professor, PDEU, Gandhinagar explained the fundamentals of transportation engineering, sustainable development of civil engineering branch and motivated the research scholars towards transportation engineering.

## Know-Your- Member (KYM)

The Institution of Engineers (India) is updating the database of all its Corporate Members along with their achievements for which a Know-Your-Member (KYM) form has been introduced.

Every Corporate Member is requested to kindly fill up the form and forward it along with the self-attested copy of photo ID proof to the address given below:-

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The form is available in IEI Website:

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## PUBLICATION BY THE WFEO COMMITTEE ON INFORMATION AND COMMUNICATION (CIC) HOSTED BY IEI

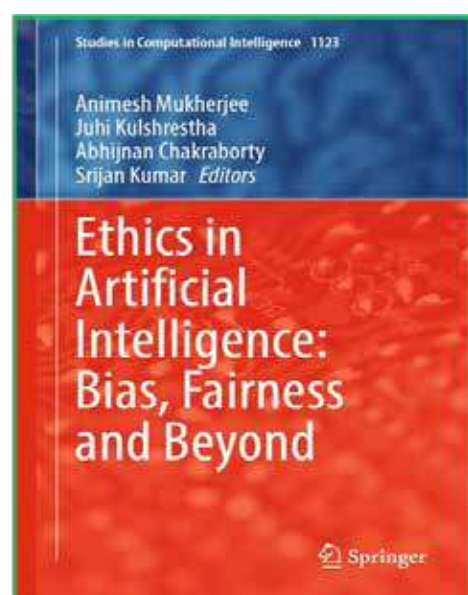
### Book

#### Ethics in Artificial Intelligence: Bias, Fairness and Beyond

Part of the book series: **Studies in Computational Intelligence (SCI, volume 1123)**

**Abridged Foreword by Shri S S Rathore, Past President, IEI & Chair, WFEO-CIC**

The Institution of Engineers (India), under the aegis of the WFEO Committee on Information and Communication (WFEO-CIC), is proud to bring you this book. It serves as a testament to our commitment to the ethical progression of AI. As we usher in an age where AI's influence on society is undeniable, it becomes imperative to equip ourselves with the critical thinking skills necessary to discern the ethical nuances that permeate this technology. The book delves into the pivotal role of Artificial Intelligence (AI) in the contemporary era, placing a strong emphasis on the ethical considerations enveloping its advancements. Titled "Ethics in Artificial Intelligence: Bias, Fairness and Beyond," this work serves as a comprehensive exploration of the intricate ethical landscape within AI, skillfully crafted by seasoned experts in the field. It meticulously addresses pressing questions and challenges concerning bias, discrimination, fairness, and accountability in AI systems.



Far beyond a mere examination of AI ethics, the book is presented as a guide and intellectual compass, offering valuable navigation through the intricate terrain of the AI landscape. It stands as a poignant reminder that the trajectory of AI's future must be firmly anchored in ethical principles. Readers are not only invited but encouraged to embark on an enlightening journey through the book, where they can glean insights and perspectives that illuminate the ever-evolving realm of AI and its far-reaching

societal implications.

#### About this book

This book is a collection of chapters in the newly developing area of ethics in artificial intelligence. The book comprises chapters written by leading experts in this area which makes it a one of its kind collections. Some key features of the book are its unique combination of chapters on both theoretical and practical aspects of integrating ethics into artificial

intelligence. The book touches upon all the important concepts in this area including bias, discrimination, fairness, and interpretability. Integral components can be broadly divided into two segments – the first segment includes empirical identification of biases, discrimination, and the ethical concerns thereof in impact assessment, advertising and personalization, computational social science, and information retrieval. The second segment includes operationalizing the notions of fairness, identifying the importance of fairness in allocation, clustering and time series problems, and applications of fairness in software testing/debugging and in multi stakeholder platforms. This segment ends with a chapter on interpretability of machine learning models which is another very important and emerging topic in this area.

**Keywords:** Fairness, Bias, Discrimination, Interpretability, Ethics, Philosophy of Artificial Intelligence

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