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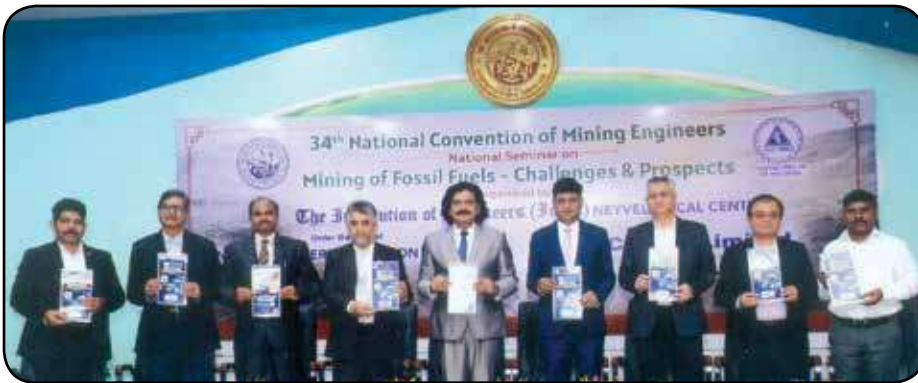
A CENTURY OF SERVICE TO THE NATION

Volume 31

Number 11

Thirty-fourth National Convention of Mining Engineers and National Seminar

Mining of Fossil Fuels-Challenges & Prospects



Fossil fuels have been powering economies for over 150 years and currently about 80 percent of the world's energy requirement is met with fossil fuels. In India's present power generation scenario, the installed capacity of fossil fuel-based generation is 63%. But, the burning of fossil fuels releases the stored carbon and other greenhouse gases into the atmosphere and this excess buildup of greenhouse gases has caused dramatic changes

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Thirty-ninth National Convention of Architectural Engineers and National Seminar

Smart and Intelligent Building Architecture



Jodhpur Local Centre, IEI organised the 39th National Convention of Architectural Engineers during 16-17 November 2024 at Jodhpur under the aegis of Architectural Engineering Division Board, [ARDB], IEI. A National Seminar was also organised concurrently on the theme **Smart and Intelligent Building Architecture**. Er Vikash Kumar, IPS, DIG, Jodhpur Range graced the inaugural function as the Chief Guest. Er Anshu Sehgal, Director, Technical Education, Government of Rajasthan graced the function as the Guest of Honour. Er Mahavir Bhavarilal Chopda, Chairman, Architectural Engineering Division Board, IEI [Session 2023-

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From the President's Desk.....

Education in Present Era: Innovation, Integrity, and Inclusivity



Nelson Mandela's words—"Education is the most powerful weapon which you can use to change the world."—resonate now more than ever as education undergoes a profound transformation. The fusion of technology, evolving policies, and ethical dilemmas is reshaping how knowledge is created, shared, and validated.

Artificial Intelligence (AI) is at the heart of this shift, revolutionizing learning through personalization and automation. However, its growing role in content creation raises fundamental questions: Who owns AI-generated work? Can a machine be credited as an author? Without clear policies, the line between human creativity and algorithmic production blurs, posing challenges to academic integrity. Meanwhile, UGC's dissolution of the UGC CARE list reflects the need for stronger research credibility, as the fight against predatory publishing intensifies in an era of AI-generated content.

At the same time, India's education sector is embracing technology-driven reforms. Initiatives like PM-Vidyalaxmi for student financial aid and ONOS (One Nation One Subscription) for democratizing learning are making education more accessible. Digital twin technology is

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Know-Your-Member (KYM)

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

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

Deputy Director (Membership)

The Institution of Engineers (India)
8 Gokhale Road, Kolkata 700020
Email: datamemb@ieindia.org

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

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



Smart and Intelligent Building Architecture

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24] presided over the function. The event began with a welcome speech delivered by Er M M Agarwal, Chairman, Jodhpur Local Centre [Session 2022-24]. Er Ghanshyam Vaishnav, Convener briefed the audience about the theme of the National Seminar. Chief Guest, Er Vikash Kumar, IPS, in his address, mentioned the role of architects for sustainable development since Vedic age, the future of architectural engineering with AI and so on.



Dr Anoop Bartaria

On the occasion, Dr Anoop Bartaria, CMD, Sincere Architects Engineers Private Limited was felicitated as the Eminent Engineering Personality in recognition of his eminence and contribution in the field of Architectural Engineering. The IEI Young Engineers Award in Architectural Engineering Division for the year 2023-24 was presented to Er Sobhagya Mittal, Senior Architect, SM Design Studio, Sodala, Jaipur, Rajasthan in recognition of his contributions in the field of Architectural Engineering. Er Resham Ram Hooda, Honorary Secretary, Jodhpur Local Centre, IEI [Session 2022-24] proposed the vote of thanks.



Er Sobhagya Mittal

Followed by the inaugural session, the T S Narayana Rao Memorial Lecture was delivered by Er Girishkumar H Shah (Singhai), Consulting Engineer (Civil-Structure-Valuation) on the topic 'Need and Technologies for Intelligent Building and its Future'.

The State-of-Art Lecture was delivered by Dr Anoop Bartaria on the topic 'Future of Architectural Engineers with AI'. Chief Guest, Er Vikash Kumar, IPS, delivered the Keynote Address on the topic 'Role of Vishwakarma to Architects in Civilization, Innovation for Habilitation since Inception of Humans'.

During the Technical Sessions, papers were presented on diversified topics. Er Sanjay Mehta delivered lecture on the topic 'Electro Pollution & its Ill Effects with Respect to Vastu Shashtra' and covered the significant aspects of ancient science required in smart and intelligent building and how to come over the pollution created by electromagnetic field in automation of buildings. Dr Abhishek Arya, Professor of Civil Engineering Department at Jodhpur Institute of Engineering and Technology spoke on 'Need for Smart and Intelligent Building'. Er Anshu Agarwal, Professor of Architectural Engineering, MBM University, Jodhpur, delivered her presentation on 'From Smart to Intelligent Evolution of Building Technology with User Centric Approach' and explained the planning aspects, selection of materials, construction, project execution, advantages, value added features and benefits of intelligent buildings. She also focused on future challenges to be faced in architecture with AI and its effect in designing and need of human being, which is changing day by day with newer technologies. Er Suresh Babu, from Mumbai delivered lecture on 'Redeveloping Kamathipur (Mumbai)- A Case Study of Smart Building Engineering'. Er Abhishek Shah, Ahmedabad, spoke on 'Impacts of Metro Station on Surrounding Land Value in Ahmedabad - a Case Study of Intelligent Building Engineering'. Er H K Mittal, Jaipur delivered his presentation on the topic 'Features of Smart Buildings'. Er Pulkit Gupta, former HoD at MBM University, Jodhpur discussed on the topic 'Concept of Smart Building and its Requirements- How to be Intelligent'. IEI Young Engineer Awardee, Er Sobhagya Mittal delivered his presentation on 'A Case Study on The EDGE Building in Amsterdam, Netherlands'. Er Anju Jangid, Faculty at JIET College Jodhpur, delivered presentation on 'Design and Implementation of a Connected Farm for Smart System'. Er Nausheen Khilji delivered lecture on 'Integrating Data Management System Context Architecture'. Dr Anjali Mathur, Faculty at JIET, Jodhpur delivered lecture on 'Structural Integrity in Traditional & 3D Printing Concrete using Mathematical Modelling'. Prof Prashant Thanvi, Professor and Faculty of Civil Engineering

delivered lecture on 'IoT for Smart Architecture'. Er Smita Jaiswal, NOIDA (Delhi) Director Design, Co-Founder, ASMARCH Private Limited and Visiting Faculty with School of Planning & Architecture, New Delhi delivered lecture on the topic 'Smart Building Material and Technology'. Papers were also delivered on the topics, A Study of Smart Building Technologies in Disaster Response and Emergency Management in India; Smart Building for Net Zero Future – Challenges and Innovations; and Design of Structures subjected to Seismic Effects.

The outcomes of the technical deliberations during the Technical Seminar are as follows.

Knowledge Exchange: The National Convention emphasized the understanding of the role of AI and IoT in revolutionizing building architecture. The participants got exposure to cutting-edge technologies and case studies of successful smart building implementations.

Networking Opportunities: The Convention recommends strengthening connections among professionals, researchers, and industry leaders in architectural engineering.

Innovative Ideas: The Convention generated actionable insights for creating future-ready buildings with intelligent systems and inspired innovative designs integrating AI and IoT for better urban environments.

Actionable Roadmaps: The Convention outlined strategies for adopting smart technologies in both new constructions and retrofitting existing structures. The Convention identified challenges and proposed solutions for implementing AI and IoT at scale.

Increased Awareness: The Convention raised awareness about the potential of smart and intelligent building systems to enhance sustainability and efficiency and recommend to explore interdisciplinary collaboration in shaping the future of architectural engineering.

Commitment to Progress: The commitment in advancing the smart architecture be explored further.

The recommendations emanating from the National Seminar are as follows.

The Convention recommended that both Civil Engineers and Architects need to work in alignment to develop smart and intelligent buildings; The Convention recommended that there should be the integration of emerging technologies like Artificial Intelligence (AI) and Internet of Things (IoT) in the field of real-time monitoring, energy optimization, and predictive maintenance of smart buildings; It is recommended to encourage research on integrating blockchain for secure data handling in intelligent building systems; It is required to develop and implement AI-driven solutions for energy-efficient designs; It is essential to integrate IoT-enabled systems for water conservation and waste management; It is of utmost importance to collaborate with government bodies to formulate policies encouraging smart building technologies; It is recommended to establish standardized frameworks for AI and IoT in building design and construction; It is highly recommended to introduce specialized courses on smart building technologies in architectural and engineering curricula; It is recommended to conduct workshops and training for professionals on AI and IoT applications in architecture; It is recommended to foster partnerships between academia, industry, and technology providers for innovation in smart architecture; It is recommended to create platforms for sharing best practices and advancements in smart building technologies; It is essential to focus on User-Centric Design and develop intelligent systems that prioritize occupant comfort, safety, and convenience; It is advised to use AI-driven simulations to personalize building functionalities based on user behaviour.

Mining of Fossil Fuels-Challenges & Prospects

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to Earth's climate and resulted in severe environmental impacts. India's policy of climate change mainly insist towards achieving net zero in 2070 by increasing the non – fossil fuels capacity and by decreasing the carbon emission. The pathway for achieving this transition to net zero requires contribution from either end by adopting clean coal technologies and by continually adding green energy in the mix. Sustainable mining is required to ensure a symbiotic relationship between mining and environment. The possible ways for balancing both the Environment and the Energy Demand is to be sorted out in an efficient and effective manner.

Neyveli Local Centre, IEI organized the 34th National Convention of Mining Engineers during 29-30 November 2024 under the aegis of Mining Engineering Division Board [MNDB], IEI at Neyveli. A National Seminar was concurrently organized on the occasion on the theme **Mining of Fossil Fuels: Challenges & Prospects**. The National Convention of Mining Engineers and National Seminar served as a platform for Engineering professionals from related Industries, academic institutions and practicing engineers for exchange of ideas, enlighten themselves on the current technology & developments and propose new concepts & plan for the betterment of the engineering fraternity and the end users. Er Prasanna Kumar Motupalli, Chairman and Managing Director of NLC India Limited graced the occasion



as the Chief Guest. The inaugural session started with the welcome address delivered by Er M Venkatachalam, Chairman, Neyveli Local Centre, IEI. Er Prafulla Chandra Tiwari, Chairman, Mining Engineering Division Board, IEI [Session 2023-24] presided over the inaugural session. In his address, he elaborated the importance of mining industry and the challenges due to environmental issues. He further stated that from the point of development of any industry, mining of fossil fuels is necessary, but clean technology must be ensured for sustainability. Dr G Ranganath, the then President IEI in his address appreciated the sincere effort of Neyveli Local Centre for the way the National Convention is being organized in a meticulous and professional manner.

The Chief Guest, in his inaugural address appreciated the efforts of the Neyveli Local Centre in organizing such events for upgrade and propagation of technical knowledge of its members and Engineers in this locality. He also spoke about the importance of continued dependence of fossil fuel for the production of thermal energy and also emphasized the need for taking care of the consequent environmental issues. He discussed the Government policy for Green Energy and Thermal Energy for sustainable development and to meet the increasing per capita energy requirement. He mentioned the goal to achieve the increase in energy generation and consumption and also to achieve net zero. In this context, he urged the engineering fraternity, related industries, and research organizations to focus on technological innovations and viable alternatives. He expressed hope that the discussions and deliberations in this seminar would serve as a platform for advancing these efforts. He further added that already the thermal power industries are working on this aspects and highlighted the NLCIL's initiatives to implement carbon capturing modalities. He further appreciated NLCIL's efforts in keeping the Air Quality Index in a very comfortable level and Neyveli is the second clean city in India and the greenest township having nearly three crore trees. Shri Samir Swarup, Director (HR), NLCIL, Dr Prasanna Kumar

Acharya, Director (Finance), NLCIL and Thiru Appakannu Govindarajan, CVO NLCIL also graced the occasion with their august presence. A Souvenir was released on the occasion in the august presence of the dignitaries on the dais.

On the occasion, Er Ashok Dattatraya Keote, Executive Director, NLC India Limited, Neyveli was felicitated as Eminent Engineering Personality in recognition of his eminence and contribution to the profession of Mining



Er Ashok Dattatraya Keote

Engineering. Er Ashok Dattatraya Keote delivered an acceptance speech on the topic 'Specialized Mining Equipment – Benchmark for Sustainability and Efficiency' and discussed in detail the applications of specialized mining equipment, its history, erection and operation, service life norms, advantages in the open cast mines with specific reference to NLC Mines and Sustainability by reclamation. Er Appavu Eraniyan, Honorary Secretary, Neyveli Local Centre,

IEI proposed the vote of thanks at the end of the inaugural session.

The Prof S K Bose Memorial Lecture was delivered by Dr Suresh Chandra Suman, Director (Mines), Director (Planning & Projects), (Additional Charge), NLC India Limited, Neyveli on the Topic 'COAL UNBOUND: Revolutionizing India's Energy Future through Commercial Coal Block Auction'. He mentioned that India, though endowed with the fifth-largest coal reserves globally and positioned as the second largest producer and consumer of coal, remains



Dr Harshit Agrawal

heavily reliant on imports, exceeding 200 million tons annually, due to inadequate mining capacities; To address this challenge and meet the country's growing energy needs, the government initiated commercial coal block auctions under the Aatma Nirbhar Bharat Abhiyan, marking a paradigm shift from monopoly driven coal mining to a competitive and inclusive framework. He further detailed that the impact of these transformative policies, including the introduction of a revenue-sharing auction model, 100% FDI allowance and the establishment of the National Coal Index for market driven pricing need to be addressed. He highlighted the achievements of commercial coal auctions, such as the allocation of coal blocks, consequent increase in coal production and opportunities for stakeholders, from job creation and skill development to technological advancements in mining practices, alongside benefits like reduced import dependency and enhanced energy security. He further added that despite the progress, challenges persist, including environmental concerns, regulatory hurdles and the need for infrastructure upgrades. Dr Suman recommended expediting environmental clearances, rationalizing coal linkages, promoting clean coal technologies like gasification and enhancing private sector participation in underground mining.



Dr Santosh Kumar Behera



Mr Ayan Giri

Er K Mohan Reddy, Past Chairman, Neyveli Local Centre, IEI delivered State-of-Art Lecture on the topic, 'Strategies for Sustainability of the Coal Mining Industry During the Decarbonization Era'. In his address, he explained the energy consumption pattern, strategy for sustainable coal mining and the impact of social, economical, technological, legal an environmental factors. Shri D V S Narayana Murthy, Executive Director- Legal, NLC India Limited delivered an Invited Lecture on the topic, 'A Bird's Eye View on Digital Contracts' (E-Contracts & E-Bank Guarantees). Shri K Manimaran, Advisor-Geology, NLC India Limited delivered Invited Lecture on the topic, 'Integrated Mine Water Management, Utilization and Augmentation in Opencast Lignite Mines, Neyveli Hydrogeological Basin'. Er

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Sreekumar N, AGM- YASKAWA Indias delivered Invited Lecture on 'Variable Frequency Drives (VFDs) and its Applications in Mining Equipment'.

Further, papers were presented on relevant sub theme during the technical sessions. Er Kumar Rajesh Singh, Global MD, ReVal Consulting Private Limited, Ahmadabad delivered lecture on 'Operational Mine Planning in Coal Mining: Balancing Long-Term Strategy with Short-Term Realities'. Er V Saravana Nagarajan GM, Er Velpula Rajkumar & Er M Sandeep Kumar from NLC India Limited on 'Mine Developer and Operator – Trend Then , Practice Now';. Er N Suresh, Mahanadi Coalfields Limited (MCL), Sambalpur elaborated on 'Innovative Technologies for Sustainable Mining'. Shri Binod Kumar, General Manager Exploration and Mining Geologist, M/S Mining Tech Consultancy Services Limited, Ahmadabad discussed on 'Leveraging Advanced Predictive Technologies to Mitigate Geological Uncertainties in Coal Mining'. Shri S K Behera, CIMFR Dhanbad on 'Fly Ash Paste Backfilling in Underground Coal Mines in India'. Er N Senthil Kumar and Dr P Dhanasekaran, Global Lab and Consultancy Services LLP, Salem on 'IoT-Enabled Air Quality Monitoring System (IAQMS) for Ambient Air Quality (AAQ) Monitoring at Mines and Mineral Processing Units'. Er Mallesh Ballina, EDS Technologies Private Limited on 'Sustainable Mining with ESR Geospatial Solutions'. Ms. Priya Dharshini KN, Business Development Specialist, Seewise.ai presented paper on the topic 'Artificial Intelligence for Mining'. Shri M S Sathyanarayanan, R S Consulting Services, Chennai presented paper on 'Intelligent Cyber Security Solutions for Industries'. Er R Sanjeevi CGM, Er S Sankaran & Er L Hemsingh, NLC India Limited delivered presentation on 'Smart Monitoring and Control of Gate End Box from Remote and Portable Mining Machineries in Opencast Mines'. Er Arivumani, GM (Transport), NLC India Limited spoke on 'Transportation in Mines: The Rise of Automation in Haulage'. Er Dinesh Singh Kolar, Shri Balakrishna Prasana &

Dr C Sendil Kumar NLC India Limited delivered lecture on 'Geosynthetics: An Innovative Solution for Mining Applications'. Er Lokeswara Rao CH, Deputy Manager (Excavation), Mahanadi Coalfields Limited (MCL) on 'Automation of Diesel Dispensing in Coal Mining'.

During the valedictory function, Prof (Dr) S P Kumarsh Babu, Department of Metallurgical and Materials Engineering, National Institute of Technology, Tiruchirappalli graced the function as the Chief Guest. The IEI Young Engineers Award in Mining Engineering Division for the year 2023-24 were presented to Dr Harshit Agrawal, Visiting Researcher, Imperial College London, UK [In absentia], Dr Santosh Kumar Behera, Senior Scientist, Mine back Filling Research Group, CSIR-CIMFR, Dhanbad, Jharkhand and Mr Ayan Giri, Head Geotech, Hindustan Zinc Limited, Zawar Group of Mines, Udaipur Rajasthan.

Er Ashok Dattatraya Keote, Chairman, Technical Committee summed up the proceedings of deliberation and placed the recommendations of the National Convention as follows.

The challenges to maintain the zero carbon emission norms in mining sector need to be addressed and the subsequent mitigation plan to be explored for implementation; More diversification towards generation of renewable energy is required to substantiate land degradation due to mining; Sustainable mining practices need to be explored with more use of electric vehicles and battery operated mining equipment; Also for sustainable mining practices, mine closure practices including establishing eco parks need to be ensured; AI based services and applications in mining industry need to be applied more to obtain sustainable solution of mining related issues and mining safety related issues; Er Appavu Eraniyan proposed the vote of thanks at the end of valedictory function. The National Convention was well attended by the industry professionals, academicians, researchers in the relevant field.

Certificate of Practice for Practicing Chartered Engineers

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

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

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

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

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

Upgradation of Membership

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

For details, please contact

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

✉ dd.membership@ieindia.org

Technical Textiles: A Transformative Force for the Challenges in Agriculture, Healthcare, and Construction Sectors

Odisha State Centre, IEI, in association with Department of Textile Engineering, Odisha University of Technology and Research (OUTR), Bhubaneswar organized an All India Seminar on the theme **Technical Textiles: A Transformative force for the Challenges in Agriculture, Healthcare, and Construction Sectors** during 24-25 August, 2024, under the aegis of



Textile Engineering Division Board (TXDB), IEI at Bhubaneswar. The seminar provided a platform for engineers, academicians, researchers, industry professionals and students to explore the potential of technical textiles in addressing critical challenges across various sectors. Shri Suryabanshi Suraj, Minister of State (Ind) for Higher Education, Sports & Youth Services, and Odia Language, Literature & Culture, graced the inaugural function as the Chief Guest. Prof B K Behera, Emeritus Professor, Department of Textile and Fibre Engineering, IIT Delhi, graced the occasion as the Chief Speaker.

The inaugural session commenced with a warm welcome address by Prof (Dr) Sudhansu Sekhar Dash, Chairman, Odisha State Centre, IEI. He highlighted the importance of the seminar in exploring transformative technologies for sustainable development. Er Sangram Keshari Pattanayak, Honorary Secretary, Odisha State Centre, IEI, provided an insightful overview of the seminar's objectives, while Er Kedar Nath Das, Convener, expressed gratitude to all stakeholders for their contributions, elaborating on the Seminar's key sub themes and its' relevance in today's rapidly evolving technological landscape.

The Chief Guest, Shri Suryabanshi Suraj, delivered an engaging speech, emphasizing the significance of technical textiles in agriculture, healthcare and construction. The Chief Speaker, Prof B K Behera, delivered the Expert Lecture on the transformative potential of technical textiles and their applications. Prof. Behera focussed on the importance of technical textiles in addressing emerging global challenges. His talk also emphasized sustainable practices and innovation in material science. A Seminar Proceedings was released on the occasion by the dignitaries on the dais. Er

Sangram Keshari Pattanayak proposed the vote of thanks at the end of the inaugural session.

Followed by the inaugural session, the first technical session explored the latest innovations in technical textiles, with presentations on new materials, technologies, and their potential applications in various sectors. Experts shared their research findings and discussed the future direction of the industry. The second technical session delved into the specific challenges faced in agriculture, healthcare, and construction, and how technical textiles can address these issues. The session highlighted case studies and practical examples, providing valuable insights into real-world applications. The third technical session focused on the future of technical textiles, discussing emerging trends and the role of industry academia collaboration in driving innovation. The session emphasized the importance of sustainable practices and the potential for technical textiles to contribute to global development goals.

Er Debjit Nandy, Joint Director (Textiles) and Managing Director, SPINFED, Directorate of Textiles, Bhubaneswar, Government of Odisha delivered Invited Lecture on the topic 'Feel the Gap and Fill the Gap in Textile Value Chain'. Prof B K Behera delivered Invited Lecture on the topic 'Advanced Multifunctional Textile Composite Materials'.

A panel discussion was organised on the occasion on the topic 'Innovation in Natural Fibres: Pioneering Sustainable Solution in Technical Textiles'.

Papers were also presented on emerging topics, namely New Natural Geosynthetic Products Infrastructure Development; Review of Filtration Industry; Development of Indigenous Bi-Component Fibers for Technical Textiles; Odisha Apparel and Technical Textiles Policy: 2022, A Boosting Factor for Growth of Technical Textiles In Odisha In Coming Future; An Experimental Analyzation of 3d Woven Hybrid Composites' Mechanical Behavior; Prediction of In-Service Weather Ability of Coated Textiles used in 'Aerostats': A Lighter-Than-Air Technical Textile; A Review Article on Surgical Gown and its Evaluation; Evaluation of Reinforcement Architecture and Surface Treatment for Jute-epoxy Composites; A Review of Natural Fibre Geocell for Soil Reinforcement etc.

During the valedictory function, Prof Bibhu Prasad Dash from Odisha University of Technology and Research delivered the valedictory address.. He summarized the key insights from the seminar and emphasized the need for continued research and collaboration in technical textiles. Er Sangram Keshari Pattanayak, Honorary Secretary, Odisha State Centre, IEI delivered the vote of thanks, expressing gratitude to all dignitaries, speakers and participants for their contributions.

From the President's Desk.....

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bringing theoretical concepts to life, while blockchain ensures transparency in student records. The hybrid learning model continues to evolve, making education more inclusive. With India's National Digital University (NDU) set to expand online degree opportunities and foreign universities opening Indian campuses, global integration is accelerating.

However, challenges persist. Rising food inflation is straining midday meal

programs, impacting millions of students in government schools and underscoring the need for stronger, more inclusive policies.

With NEP 2020 prioritizing multidisciplinary learning, sustainability, and skill development, the shift is clear: education is moving beyond rote learning to foster real-world skills. As we embrace the new era, the goal is not just to integrate technology but to do so ethically and effectively, ensuring that education remains a tool for empowerment, not mere automation.

Unlocking the Potential: Exploring Blockchain Beyond Crypto Currencies

Salem Local Centre, IEI, in association with the Department of Information Technology, Sona College of Technology, Salem organized an All India Workshop on the theme **Unlocking the Potential: Exploring Blockchain Beyond Crypto Currencies** during 18-19 July, 2024, under the aegis of Computer Engineering Division Board (CPDB), IEI at Salem. The workshop aimed to explore blockchain technology applications, opportunities and future beyond crypto currencies and brought together academia, industry professionals and students for insightful lectures, hands-on sessions, and discussions. Dr K Thangaraj, Chairman, Salem Local Centre, IEI delivered the welcome address and emphasized the importance of blockchain technology in modern engineering disciplines. Dr S Ganesh Kumar, Professor, Department of Data Science and Business Systems, School of Computing, Program Coordinator in Blockchain Technology, College of Engineering and Technology, SRM Institute of Science and Technology, Chennai graced the inaugural session as the Chief Guest. In his address, Dr Kumar discussed technical issues and opportunities in Blockchain Technology and career opportunities for the engineers. He emphasized the transformative potential of Blockchain and its role in shaping future technologies. Dr SRR Senthil Kumar, Principal, Sona College of Technology, addressed the audience, highlighting the importance of Blockchain, its applications and the functions and scope of incubation centers at Sona College of Technology, Salem. Dr A Syed Ismail, Mentor, SRM Blockchain Club, SRM Institute of Science and Technology, delivered the Keynote address on the topic 'Introduction to Blockchain'. He elaborated the fundamentals, techniques and benefits of blockchain



technology, setting the tone for the workshop. He further coordinated the session on Blockchain Applications beyond Crypto Currencies”, discussing the rapid adoption of Blockchain in various domains. The workshop covered the Blockchain basics, Blockchain in Supply Chain Management and Healthcare, Smart Contracts and Decentralized Applications, Blockchain in Finance, Government and Energy, Blockchain in Intellectual Property, Real Estate and Education, Legal, Regulatory Aspects and Blockchain Security, consensus mechanisms and the advanced topics, namely Hyper ledger, Ethereum, development of decentralised applications etc. The resource persons also explained the industry applications of Blockchain with case studies and examples.

During the valedictory function, Dr P Shanmugaraja, Associate Professor, IT Department, Sona College of Technology, Salem summed up the proceedings of deliberations by the resource persons during the workshop.

Disaster Mitigation Strategies - Adopting National Building Code

Salem Local Centre, IEI, organized a One Day Seminar on the theme **Disaster Mitigation Strategies - Adopting National Building Code** on 20 August 2024, at Sengunthar Engineering College, Tiruchengode, under the aegis of Civil Engineering Division Board [CVDB], IEI. The event brought together leading academicians, scientists, research scholars and industrialists in the field of engineering to exchange ideas and explore developments in disaster mitigation strategies.

The seminar commenced with a welcome address by Dr A Kumaravel, Committee Member, Salem Local Centre, IEI who highlighted the vital role of civil and architectural engineers in providing innovative solutions for disaster mitigation. Dr M Seenirajan, Head, Civil Engineering Department, Sengunthar Engineering College and Organizing Secretary spoke on the theme and highlighted NBC specified building codes that address disaster risk mitigation and retrofitting and upgrading existing structure to meet the safety standards.

The Inaugural Address was delivered by Prof A Baladhandapani, Secretary & Correspondent, Sengunthar Group of Institutions. He emphasized the need for proactive disaster preparedness and community engagement to mitigate the impact of natural disasters. Dr R Satishkumar, Principal, Sengunthar Engineering College, acknowledged the efforts of professionals in disaster mitigation. The Keynote address delivered by Dr G S Thirugnanam, Former Principal, IRTT, Erode, focused on comprehensive disaster mitigation



strategies, including Investing in early warning systems; Building resilient infrastructure; Community engagement and education; Strengthening policy frameworks” and “Leveraging technology for disaster preparedness etc..

The seminar featured five technical sessions covering various topics related to disaster mitigation, namely ‘Land Slide Disaster: Causes and Prevention’ by Dr G S Thirugnanam, Former Principal - IRTT, Erode; ‘Importance of National Building Code’ by Dr J Abdul Bari, Associate Professor, KSRCT, Tiruchengode; ‘Effects of Disaster on Structures’ by Dr M Soundar Rajan, Assistant Professor, Sengunthar Engineering College; ‘Basic Concepts in Disaster Management’ by Mrs N Kiruthika, Assistant Professor, Civil Engineering Department, Sengunthar Engineering College and ‘Do’s and Don’ts for Prevention of Life and Property due to Disasters’ by Mr S Anand Kumar, Assistant Professor, Sengunthar Engineering College.

The seminar highlighted innovative ideas and research through technical papers and lectures, providing participants with insights into the latest disaster risk reduction strategies and safety standards. The seminar concluded successfully, leaving participants with valuable knowledge and practical insights to apply in their fields. It emphasized collective responsibility, innovative approaches and resilient infrastructure development for effective disaster mitigation.

Hydrogen Fuel Cell Technologies towards Green Transportation

Kattankulathur Local Centre, IEI, organized an All India Workshop on the theme **Hydrogen Fuel Cell Technologies towards Green Transportation** during 30 September – 01 October, 2024, under the aegis of Electrical Engineering Division Board (ELDB), IEI at Kattankulathur. The workshop served as a platform for academics, industry professionals and researchers to discuss hydrogen fuel cell technologies and their application in promoting sustainable and green transportation. The event featured in-depth discussions, hands-on demonstrations and case studies, fostering knowledge-sharing among the participants.

The inaugural session began with the welcome speech, delivered by Dr S Dhanalakshmi, Chairman, Kattankulathur Local Centre, IEI who spoke about the pivotal role of IEI in fostering technological advancements. Dr R Narayanamoorthi, Committee Member, Kattankulathur Local Centre, IEI, highlighted the significance of the workshop's theme. He provided insights into the objectives of the event and emphasized the role of hydrogen fuel cells in advancing green transportation. The Keynote address was delivered by Mr Sathish, Technical Lead, ESAB and Founder of Anu Electronics, on the topic 'Overview of Hydrogen EV Technology – IoT and Cloud Storage for Safe Handling of Hydrogen'. He discussed the integration of digital solutions like IoT and cloud storage in hydrogen storage, transport and usage, showcasing how these technologies enhance efficiency and safety. The Workshop included technical sessions by several resource persons. Dr Phani Teja Bankupalli, Assistant Professor, SRMIST delivered presentation on the topic 'Integration of Fuel Cell in Electric Vehicle Technology', detailing the benefits of incorporating hydrogen fuel cells into EVs. Mr Madhavan, Senior Engineer, Sharda Motors delivered lecture on 'Electrolyzer Design and Hydrogen Production Technologies' and showcased a hands-on demonstration of electrolyzers and fuel cell integration. Mr Prakash Suman, Co-Founder, Sri Vidhyut Eco Tech India Private Limited spoke on 'Power Electronics for Fuel Cell Powered EV', emphasizing the optimization of power electronics for improved FCEV performance. Mr Venkadasubramani, EV Engineer, Valeocovered 'Electric Power train for Fuel Cell EV', discussing the integration of hydrogen fuel cells with electric powertrains. Dr C Balaji, Assistant Professor, SRMIST presented lecture on 'Power Converters for Fuel Cell EV', addressing the role of advanced



power converters in enhancing EV efficiency. Dr K Vijayakumar, Associate Professor, IITDM Kancheepuram spoke on 'Energy Storage Technologies and Case Studies on Hydrogen-Powered Vehicles', providing real-world insights into challenges and solutions in the field.

The All India Workshop brought together leading experts, academics, and industry professionals to discuss the future of hydrogen fuel cell technologies and their role in promoting green transportation solutions. The event aimed to explore cutting-edge advancements in hydrogen electric vehicle (EV) technology and the integration of these systems into the broader energy and transportation sectors. A comprehensive overview of hydrogen electric vehicle technology was presented, focusing on the essential role of IoT and cloud storage in ensuring the safe

handling and monitoring of hydrogen. The Keynote session highlighted the importance of digital solutions for enhancing hydrogen storage, transport, and usage. The workshop also explored the integration of fuel cells in EV technology, detailing how hydrogen fuel cells can be incorporated into electric vehicles to improve efficiency and reduce emissions. The topic of electrolysis and hydrogen production technologies was a major highlight, with detailed insights into the latest developments in the field. Participants gained a deeper understanding of how electrolysis can be employed to produce hydrogen sustainably, using renewable energy sources. The hands-on demonstration provided practical insights into the operation of electrolyzers and fuel cells, allowing attendees to observe these systems in action. Power electronics, a critical component in the functionality of fuel cell-powered electric vehicles (FCEVs), was another focal area. Experts discussed the design and optimization of power electronics systems to enhance the performance and efficiency of FCEVs. Similarly, the electric powertrain for FCEVs and energy storage technologies were explored in depth, with a particular focus on the integration of hydrogen fuel cells into electric powertrains and the role of energy storage systems in improving vehicle range and reliability. The workshop concluded with real-world case studies on hydrogen-powered vehicles, providing valuable insights into the challenges and opportunities faced by the industry. These case studies underscored the potential of hydrogen fuel cell technology to revolutionize transportation and contribute to a more sustainable and eco-friendly future.

Perspectives of Microbial Concrete & Other Sustainable Construction Materials

Tamilnadu State Centre, IEI, in association with Department of Civil Engineering, SRM Valliammai Engineering College, Kattankulathur, organized an All India Workshop on the theme **Perspectives of Microbial Concrete & Other Sustainable Construction Materials** during 30– 31 July, 2024, under the aegis of Civil Engineering Division Board [CVDB], IEI at Kattankulathur. The event aimed to provide insights into sustainable construction materials and their practical applications, fostering collaboration among students, professionals and academics.

The event commenced with the welcome address delivered by Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI. Er S Janakumaran, Project Director, National Highway Authority of India (NHA), graced the inaugural function as the Chief Guest and delivered the inaugural address. He emphasized



the importance of sustainable construction practices. Dr M Murugan, Principal, SRM Valliammai Engineering College and Dr S Visalakshi, Vice Principal, SRM Valliammai Engineering College delivered special addresses highlighting the significance of the seminar's themes. Dr D Elango, Immediate Past Chairman, Kattankulathur Local Centre, IEI briefed about the theme. Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI delivered the presidential address, underscoring the need for innovative approaches in construction. Dr D Elango, the seminar convener, provided a thematic address, emphasizing the practical implementation of microbial concrete.

The first technical session focussed on the sub theme 'Challenges in Construction over Complex Soils'. Er C K Vignesh, Registered Engineer, Gr-1

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Calibration of Measuring Instruments and Form Measurement

Coimbatore Local Centre, IEI, in association with Department of Production Engineering, PSG College of Technology Coimbatore organized a One Day Seminar on the theme **Calibration of Measuring Instruments and Form Measurement** on 19 July 2024, under the aegis of Mechanical Engineering Division Board [MCDB], IEI at PSG College of Technology, Coimbatore. The seminar aimed to foster awareness of quality control, metrology and calibration techniques in manufacturing and industrial applications.

The event started with the welcome address delivered by Dr J Krishnamoorthi, Chairman, Coimbatore Local Centre, IEI. In his address, Dr Krishnamoorthi emphasized the importance of quality and precision in manufacturing. Mr S M Dheeran Chinnamalai, Senior Engineer - Operations, Craftsman Automation, Coimbatore, graced the inaugural function as the Chief Guest and addressed the audience on the significance of quality in manufacturing industries. He highlighted how poor quality affects production costs and customer satisfaction, urging the adoption of quality by design.

Dr M Senthilkumar, Professor and Head, Department of Production Engineering, PSG Tech, delivered lecture on the occasion. Dr R Rajamani, Assistant Professor [Selection Grade], PSG College of Technology, Coimbatore presented the seminar's theme, focusing on the integration of IoT-based measurement systems and advanced metrology techniques in manufacturing.



Chief Guest, Mr S M Dheeran Chinnamalai, delivered an Invited Lecture on the topic 'A View on Quality in Current Manufacturing Industry', explained the perception of quality by different people and the importance of quality by design. Mr P Suresh Kumar and Mrs Sindhuja from Lakshmi Machine Works, Textile Machinery Division, Coimbatore delivered Invited Lecture on the topic 'Quality and Calibration Standards', focusing on calibration processes, traceability and the role of standards in ensuring measurement accuracy. The speakers lucidly explained eight principle dimensions of Quality, namely Performance, Reliability, Durability, Serviceability, Aesthetics, Features, Perceived Quality and Conformance. Mrs Sindhuja explained the importance of calibration, traceability and the standards to be used for the calibration of basic instruments. Mr N Paramaguru, Senior Engineer, AQUASUB Engineering, Coimbatore delivered Invited Lecture on 'Basic Metrology and Calibration of Measuring Instruments', detailing calibration procedures and industrial standards and terminologies of industrial metrology. Dr R Rajamani, Assistant Professor, Department of Production Engineering, PSG College of Technology, Coimbatore delivered an Invited Lecture on 'IoT-based Measurement System and GD&T', highlighted the application of connected factories, Wi-Fi-enabled gauges and real-time process monitoring. He explained the concepts of Geometric Dimension and Tolerancing and the features were demonstrated using Coordinate Measuring Machine [CMM].

CNT-Based Composite Structure and their Nonlinear Dynamic Analyses

Rourkela Local Centre, IEI, organized a One Day Seminar on **CNT-Based Composite Structure and their Nonlinear Dynamic Analyses** on 22 September 2024, at NIT Rourkela, under the aegis of Mechanical Engineering Division Board [MCDB], IEI. The seminar aimed to explore the potential of carbon nanotube (CNT)-based composites and their applications in nonlinear dynamics. The seminar commenced with a welcome address delivered by Er Santosh Kumar Polaki, Chairman, Rourkela Local Centre, IEI. He emphasized the importance of CNTs in material science and their role in structural sensing. Er Hiralal Mohapatra, Chief General Manager (Utility and Environment), SAIL, Rourkela Steel Plant graced the inaugural session as the Chief Guest. In his address, Er Mohapatra highlighted the advancements in CNT-based composites and their significance in various industrial applications. Prof Kalipada Maity, Department of Mechanical Engineering, NIT Rourkela graced the function as the Guest of Honour. Prof Maity shared insights into the mechanical properties and preparation methods of CNT composites. A Souvenir was released on the occasion. At the end of inaugural session, Dr Ajit Behra, Honorary Secretary, Rourkela Local Centre, IEI proposed the vote of thanks.

The first Keynote address was delivered by Dr Gaurav Kumar, Assistant Professor, Department of Mechanical Engineering, NIT Rourkela, on the topic 'Tribological Performance of CNT Reinforced Polymers Composite', discussing friction and wear characteristics. Dr Jaswant Hirwani, Project Scientist, Department of Mechanical Engineering, IIT Delhi, presented the

second Keynote address on 'Biotribological Studies of CNT-Based UHMWPE Composites', highlighting biomedical applications. Dr Asish Kumar Panda, Assistant Professor, Department of Aerospace Engineering, KIIT Bhubaneswar, delivered the third Keynote address on the topic 'Overview of CNT-Based Polymer Composite and Nonlinear Dynamics', covering theoretical and practical aspects.



Other technical presentations include, 'Synthesis and Characterization of Tungsten-Based High Entropy Alloys' by Naveen Kumar Mindi and Krishna Dutta, Department of Metallurgical and Materials Engineering, NIT Rourkela and 'Carbon Nanotubes (CNTs)-Based Composite Structures' by Arka Ghosh and Syed Nasimul Alam, Department of Metallurgical and Materials Engineering, NIT Rourkela.

The concluding session summarized the discussions and highlighted the key outcomes from the seminar as follows.

This workshop covered the finite element dynamic analyses of carbon nanotubes/fiber/ polymer composites with various geometries. The effects of carbon nanotubes (CNTs) on the nonlinear transient responses of doubly curved shells for various cutout sizes and curvatures will be covered.

The nonlinear dynamic responses of functionally graded carbon nanotube-reinforced composite with smooth finite element method is used to enhance the accuracy and avoid shear locking without any shear correction factors.

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High Performance Concrete

Salem Local Centre, IEI, organized a One Day Seminar on the theme **High-Performance Concrete** on 19 June 2024, at Sengunthar Engineering College, Tiruchengode, under the aegis of Civil Engineering Division Board [CVDB], IEI. The event brought together professionals, researchers and students from civil engineering and related disciplines to discuss advancements in high-performance concrete (HPC) and its applications in engineering and construction.

The seminar commenced with a warm welcome by Dr K Thangaraj, Chairman, Salem Local Centre, IEI. He emphasized the importance of integrating civil engineering innovations into sustainable construction practices. Dr R Satishkumar, Principal, Sengunthar Engineering College, delivered the inaugural address, highlighting the significance of high-performance concrete in improving material durability and environmental resilience. Dr Satishkumar explained the applications of Ultra High Performance Concrete, its material composition and the stress strain characteristics. Dr M Seenirajan, Head, Civil Engineering Department, Sengunthar Engineering College and Organizing Secretary spoke on the theme and highlighted the properties of high performance concrete in different load conditions.

The Keynote address was delivered by Dr E K Mohanraj, Professor and Dean, Civil Engineering, Nandha Engineering College, Erode. He provided insights into recent trends in high performance concrete [HPC], its enhanced durability and applications in infrastructure projects, comparison

with normal concrete, application of superplasticizers in the production of high-workability concrete and so on.

During the technical session, Er R Vadivu, Consultant, spoke on 'Current Challenges in Agriculture,' linking sustainable practices to engineering solutions. Dr K Vidya, Professor, Civil Engineering Department, Mahendra Engineering College, Namakkal elaborated on 'Application of Sustainable Materials in HPC'. Dr V Pavalan, Assistant Professor, Civil Engineering Department, Sengunthar Engineering College, presented his research on 'Investigation on High Performance Concrete Slabs reinforced with Basalt Fiber Reinforced Polymer Rods'. Dr M Seenirajan, explained the 'Applications of Ultra High-Performance Concrete in Bridge Engineering'.



The seminar featured detailed discussions on HPC's properties, including durability, tensile strength and economic feasibility, supported by experimental findings and case studies. The event successfully imparted valuable knowledge and fostered collaboration among attendees and concluded with a vote of thanks by Dr C Dhavamani, the organizing secretary and Honorary Secretary, Salem Local Centre, IEI at the end of valedictory function.

The seminar provided in-depth technical insights into high-performance concrete, inspiring participants to explore innovative solutions for sustainable construction. Fifty-five participants from various institutions actively engaged in the sessions, making the event a resounding success.

Green Electronics for Sustainable Environment

Tiruchirappalli Local Centre, IEI, organized an All India Workshop on the theme **Green Electronics for Sustainable Environment** during 29-30 April, 2024, under the aegis of Electronics and Telecommunication Engineering Division Board (ETDB), IEI at Tiruchirappalli. The workshop brought together participants from various institutions, including academicians, researchers, industry professionals and students. The event aimed to explore the role of green electronics in promoting sustainability and mitigating environmental challenges.



The workshop started with the inaugural address delivered by Dr S Senthil Kumar, Assistant Professor, University College of Engineering, Anna University, Ariyalur Campus. He delivered lecture during the first technical session on the topic 'Green Electronics for Sustainable Environment'. He

explained the principles of green technology and its potential to reduce environmental impact. Dr R Arun Prakash, Anna University, BIT Campus delivered a lecture titled 'A Probabilistic Perspective on Environmental Impact and Challenges', focusing on assessing and addressing environmental risks. Prof Megaladevi, HoD/Electrical and Electronics Engineering, MA M College of Engineering, Tiruchirappalli delivered presentation on the topic 'Recent Trends in Green Electronics', highlighting advancements and innovations in this domain. Dr M Shanmugapriya, Principal, MAM College of Engineering, delivered lecture on 'Green Technology and Sustainability: Nuts and Bolts', emphasizing the practical applications of sustainable technologies. Dr V Rajagopalan, Assistant Professor [Sr Gr], Department of Civil Engineering, Anna University, BIT Campus, Trichy discussed on the topic "Solid Waste Management to Achieve Sustainable Management", focusing on strategies for effective waste reduction.

During the valedictory session, Dr S Ravimaran, Chairman, Tiruchirappalli Local Centre, IEI and HOD, Artificial Intelligence and Data Science, Saranathan College of Engineering, delivered an engaging address. He discussed the growing significance of sustainability in electronics and encouraged participants to pursue innovative solutions in this field. In his address, Dr Ravimaran encouraged continued efforts in research and innovation to address the environmental challenges through green electronics.

Corporate Air Ticketing for IEI Members

Corporate Members may book Corporate Air Ticket through M/s EBIX Travels Private Ltd. For details please visit <https://www.ieindia.org/webui/IEI-AirTickets.html>

Ambient and Assistive Technology

Durgapur Local Centre, IEI, in collaboration with the Department of Computer Science and Engineering, Durgapur Institute of Advanced Technology & Management (DIATM) organized a One Day Seminar on the theme **Ambient and Assistive Technology** on 24 July 2024, at Durgapur, under the aegis of Computer Engineering Division Board [CPDB], IEI. The event aimed to explore innovative solutions to aid individuals with disabilities and enhance

quality of life through advanced technologies. Dr Dakshina Ranjan Kisku, Associate Professor, NIT Durgapur and Convener of the Seminar, welcomed the attendees, including dignitaries, faculty and students. He provided an overview of the evolution of ambient and assistive technology, emphasizing its role in aiding the elderly and individuals with mobility challenges. Dr Kisku praised the advancements in wearable devices and robotics, highlighting their potential to create responsive and independent living environments.

The Chief Guest, Dr D N Ray, Senior Principal Scientist, CSIR-CMERI Durgapur, explained ambient and assistive technology with relatable examples, detailing its components and applications for individuals with disabilities. He showcased several projects developed at CSIR-CMERI, emphasizing their impact on improving lives. The Guest of Honour, Dr Sabyasachi Sarkar, Principal, DIATM, discussed the transformative impact of assistive technologies on society. He encouraged students to develop solutions that cater to the needs of marginalized communities, fostering innovation and sustainability. The Guest of Honour and Keynote speaker, Dr Mamata Dalui Chakraborty, Assistant Professor, NIT Durgapur, delivered a Keynote address titled 'Transforming Healthcare: Non-invasive Anaemia Detection Using Ambient Assistive Technology'. She commenced her address by defining ambient and assistive technology, then delved into innovative healthcare solutions, highlighting the revolutionary potential of Ambient Assistive Technology (AAT) in non-invasive anaemia detection. She discussed the application of AAT in monitoring and diagnosing anaemia, combining cutting-edge computational approaches with traditional methods to develop non-invasive detection systems. Her speech also covered ongoing research and demonstrated the transformative impact of AAT on anaemia care, stressing the need for integrating smart technologies into healthcare to enhance patient outcomes and streamline clinical processes. Finally, she envisioned a future where healthcare is more accessible, efficient, and patient-centric, thanks to the innovative synergy of ambient intelligence and assistive technology.

Guest speaker, Dr Aman Arora, Principal Scientist, CSIR-CMERI Durgapur, spoke about 'Low-pressure Pneumatic Artificial Muscle for Soft Lower Limb Exoskeleton'. He initiated his speech by highlighting the growing interest in pneumatic artificial muscles (PAMs) over the past two decades due to their similarity to biological muscles. He showcased various types of

PAMs and their applications in human-assistive and rehabilitative devices. To meet specific actuator needs, he introduced a customizable fabrication process for developing low-pressure actuated PAMs, called pSTAMs. He discussed methodologies for designing and optimizing pSTAMs for assistive robotic applications, involving thorough characterization, dataset generation, and modeling. This comprehensive approach aimed to establish

a design guide for pSTAMs. He concluded by sharing the extensive characterization of custom-fabricated pSTAMs, revealing their static and dynamic behaviours. Using artificial neural network structures, eight models were developed to represent pSTAM behaviour.

Guest speaker, Dr Tushar Kanti Bera, Assistant Professor, Department of Electrical Engineering, NIT Durgapur, delivered lecture on 'Recent Developments and

Future Trends in Assistive Technology: A Journey Towards Assisting the Specially abled People'. Dr Bera's talk focused on the benefits of assistive technologies for individuals with disabilities, who often face challenges in daily activities. He highlighted the role of advanced sensing and actuation technologies, combined with computational power and internet connectivity, in solving real-life problems. The application of wireless communication, IoT, and AI has motivated engineers and researchers to develop innovative technologies that improve daily life. Assistive technologies have been enhanced with smart sensors, actuators, and portable electronics, leading to devices like smart sticks, electronic Braille, automated wheelchairs, prosthetic limbs, and artificial pacemakers. Brain-computer interfaces have also shown promise for individuals with muscular disabilities. Dr. Bera discussed instrumentation, sensing, actuation, and imaging technologies in assistive technology, as well as design and development procedures for various devices. He also covered the application of smart sensors, wearable devices, IoT, and AI, and addressed recent trends, challenges, and limitations in electrical impedance-based assistive technology. The talk concluded with a discussion on the future of sensors, computers, and AI in assistive technology and its impact on society.

The Seminar concluded with vote of thanks from Dr Bimal Das, Honorary Secretary, Durgapur Local Centre, IEI, who extended gratitude to the participants, speakers and organizers for their efforts in making the event successful. Certificates were distributed to all attendees and Dr Das emphasized the need for continued collaboration and innovation in the field of assistive technology.

The seminar successfully highlighted the advancements in ambient and assistive technologies, fostering dialogue among researchers, professionals and students. The event inspired participants to pursue innovative solutions that address the challenges faced by individuals with disabilities, paving the way for a more inclusive and sustainable future.



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

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

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

Prototype Process Design and Development

Gwalior Local Centre, IEI, organized a One Day Seminar on the theme **Prototype Process Design and Development** on 24 July 2024 at Gwalior, under the aegis of Electronics & Telecommunication Engineering Division Board [ETDB], IEI. The event aimed to shed light on the stages, methods and importance of prototyping in product development.

The seminar commenced with a welcome address by Er Radha Kishan Khetan, Chairman, Gwalior Local Centre, IEI [Session 2022-24]. He introduced the theme, emphasizing the iterative nature of prototyping and its role in testing ideas, verifying user experience strategies and refining the final product.

The Keynote Speaker, Dr P K Singhal, Professor, MITS, Gwalior and former Chairman of Gwalior Local Centre, IEI explained different stages of prototyping, from defining features to testing and presenting the final product. He also elaborated on the different fidelity levels of prototypes namely low, medium, high and their applications.

Prof (Dr) C S Malvi, MITS, Gwalior, discussed the 'Golden Rules of Prototyping' and stressed the importance of prototypes in conveying product ideas, validating concepts with stakeholders and ensuring user comprehension.

Dr (Ms) Chhavi Saxena, presently Honorary Secretary, Gwalior Local Centre & Director of GEC Overseas, Gwalior, spoke on the topic 'How to Create a Startup Prototype'. She outlined the steps for creating prototypes, from concept sketches to production-ready models and emphasized the choice of methods based on the desired outcome. PE V K Shukla, Organizing Secretary, Gwalior Local Centre & Former Manager, NFL, delivered a lecture on 'How to Build a Prototype' and highlighted the practical aspects of turning ideas into products, including research, design and proof-of-concept development and Dr Sanjeev Sharma, Professor, MITS, Gwalior, explored 'Prototyping Techniques', explaining the stages of software prototyping (low, mid and high-fidelity) and methods like incremental, throwaway, extreme and evolutionary prototyping.



The seminar included interactive technical sessions featuring various presentations namely Advantages of Prototype Models by Er Vijay Saxena, Joint Commissioner, CGST, Gwalior. He highlighted flexibility in design, error detection, customer satisfaction and reusability. The disadvantages of prototype models were discussed by Er Anshuman Khetan, He discussed the challenges like cost, documentation issues, varying requirements and the risk of suboptimal solutions. Four major prototyping methods were presented by Dr Sanjeev Sharma, Prof, MITS, Gwalior focusing on methods and their applications in refining software and product designs. He explained four major software prototyping methods, namely Incremental Prototyping, Throwaway Prototyping, Extreme Prototyping and Evolutionary Prototyping.

The seminar concluded with a vote of thanks by Er Vivek Khandelwal, Committee Member, Gwalior Local Centre, IEI expressing gratitude to the organizers, speakers and participants. Discussions during the sessions led to actionable insights and recommendations for improving prototyping practices.

The seminar successfully provided a comprehensive understanding of prototype process design and development, engaging participants from academia and industry. The event emphasized the strategic importance of prototyping in reducing development risks and improving product quality.

Discount at the Samsung e-store for IEI Corporate Members

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

Perspectives of Microbial Concrete & Other Sustainable Construction Materials

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and Managing Director, Classic Kreators, Chennai discussed on 'Sustainable Construction Materials'. Dr K Nandhini, Assistant Professor, Department of Civil Engineering, Anna University deliberated on the topic 'Practical Implementation of Sustainable Concrete'. Er K Gokula Pandiyan, Assistant General Manager, Sobha Limited discussed on 'Benefits of Bio Concrete & Applications of Microbial Concrete'. Dr P Sangeetha, Associate Professor, Department of Civil Engineering, SSN College of Engineering delivered presentation on 'Innovative Construction Materials and their Applications'. Er M Sathishraja, Quantity Surveyor, MAG Property Development LLC, Dubai elaborated on 'Applications of Microbial Concrete'. Dr J Revathi, Dean of Research, BS Abdur Rahman Crescent University provided insights on 'Impact of the Construction Industry on the Environment'. Dr R Mourougane, Professor, Department of Civil Engineering, MS Ramaiah Institute of Technology, Bengaluru delivered an online presentation on the topic

'Future Directions and Research on Sustainable Construction'. Engineering students presented papers on various sub-themes related to sustainable construction. Technical sessions featured expert-led discussions and paper presentations by students from various institutions. Topics ranged from microbial concrete applications to innovative construction materials. These sessions provided participants with hands-on knowledge and opportunities to engage with industry professionals.

The valedictory session was presided over by Dr D Elango. Participant feedback was collected, highlighting the seminar's success in enhancing understanding and fostering innovation in sustainable construction. Dr A Leema Rose, Professor and Head, Agricultural Engineering Department delivered the concluding remarks. The All India Workshop was a resounding success, inspiring future endeavours in sustainable construction.

Smart Mining Technologies under Man and Machine Interface

A Technical Webinar was organized on the theme **Smart Mining Technologies under Man and Machine Interface** on 15 October 2024 under the aegis of Mining Engineering Division Board [MNDB], IEI. Panelists of the session were Prof (Dr) Netai Chandra Dey, HoD, Department of Mining Engineering, IEST Shibpur and presently Chairman, MNDB, IEI; Dr. Arindam Biswas, Associate Professor, Centre for IoT and AI Integration with Education-Industry-Agriculture, Department of Mining Engineering, School of Mines and Metallurgy, Kazi Nazrul University, Asansol and Mr Darshan Deep Bhardwaj, Deputy Controller of Mines & Officer Incharge, Indian Bureau of Mines. The webinar session was moderated by Dr Arka Jyoti Das, Senior Scientist & Head Geomechanics & Numerical Simulation Section, CSIR-Central Institute of Mining and Fuel Research, Dhanbad and Member MNDB, IEI.

The session was started with the welcome address delivered by Er Prafulla Chandra Tiwari, Chairman, MNDB, IEI [Session 2023-24]. Prof Netai Chandra Dey in his opening remarks highlighted the global implication of smart mining and sustainability. He explained application of digitization in mine operation and to improve the safety standards. Moderator of the session, Dr Arka Jyoti Das introduced the panelists of the session and focused on the application of cutting edge technologies towards transformation of man-machine relationship in mining. Moreover, Autonomous Vehicles, AI powered decision making, predictive maintenance with technological advancement create new opportunities and challenges for mining professionals, he opined.



Prof Netai Chandra Dey

Prof Netai Chandra Dey delivered presentation on the topic 'Smart Mining and Human Factors'. In his address he explained the concept, principle, scope and application of ergonomics to improve human safety, health, comfort and performance. He explained the ergonomic principle for workplace design, current status of ergonomic applications in Mining, and explained the assessment of work processes from ergonomic point

of view, which include stress free working, assessment of posture, assessment of tools cardiovascular assessment. He explained cardiac stress index, application of mobile heart rate monitors, computation of stress indices, impact of fatigue and so on. He further discussed the determination of work-rest scheduling for mine workers under a given set of environmental conditions, The speaker in his concluding remarks recommended underground workstation design and open cast mines with ergonomic considerations. Further he opined that the workload and workrest for mine workers in different working conditions and work environment need to be monitored with the view to augment production, productivity and safety.



Prof Arindam Biswas

Prof Arindam Biswas delivered his presentation on the topic 'Digital Mining towards Industry 4.0: Mining Safety and Productivity'. In his address, he focused on how IoT and AI can change the mining industry. He demonstrated, how to monitor and control firedamp explosions, IoT enabled Methane Monitoring system etc.



Mr Darshan Deep Bharadwaj

Mr Darshan Deep Bharadwaj delivered his presentation on the topic 'Mining Surveillance System' and focused on the methodology to determine and prevent unauthorized mining outside the lease boundary by using space technology, known as temporal imagery. He said that the surveillance system integrates information from multiple sources, satellite imagery, cadastral plan etc. He further discussed on Mining Tenement system, a flagship project of Indian Bureau of Mines.



Dr Arka Jyoti Das

At the end of the session, the Moderator summed up the proceedings of deliberation. A brief question and answer session was organized at the end of the session.

CNT-Based Composite Structure and their Nonlinear Dynamic Analyses

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Various method results with accurate findout even if the element exhibits a concave quadrilateral shape and reduces the error when the element meshing is rough.

The motion equation of the FG-CNTRC is discussed to resolve by adapting the Newmark method combined with various algorithms. Subsequently, the calculation program using MATLAB software are included to compare with other published solutions. Finally, the effects of the input parameters on the nonlinear vibration are extensively focused.

The incorporation of fillers such as CNTs has proven effective in improving the tribological behaviour of polymer composites due to their exceptional mechanical strength, high aspect ratio, and friction-reducing properties. This talk discussed about wear mechanisms in polymers and the role of CNTs on the tribological behaviour of composites.

UHMWPE composites reinforced with talc, graphite (GRP), and multi-walled carbon nanotubes (MWCNTs) were evaluated for their physical, mechanical, and bio-tribological performances for their application as acetabular liner material for prosthetic hip implant.

By integrating CNTs into polymer matrices, composites exhibit enhanced performance characteristics, making them suitable for a wide range of applications, from aerospace to electronics. Nonlinear dynamics is critical for understanding the response of these materials under varying loads and environmental conditions.

The unique morphology of CNTs introduces complexities in the material response, leading to phenomena such as hysteresis, energy dissipation, and time-dependent behavior.

This workshop explains the gap between material science and nonlinear dynamics, offering a comprehensive perspective on the behavior of CNT-based polymer composites and their potential in advanced engineering applications.

The incorporation of CNTs into various matrix materials such as polymers, metals, and ceramics enhances the overall performance of composites, making them suitable for advanced engineering applications, including aerospace, automotive, and electronics.

This workshop discussed the synthesis methods, characterization techniques, and various applications of CNT-based composites.

Participants, including researchers, faculty members and students, gained a deeper understanding of CNT-based composites and nonlinear dynamic analyses. Dr Ajit Behera, Honorary Secretary, Rourkela Local Centre, IEI delivered the vote of thanks, acknowledging the contributions of organizers, speakers and participants.

The one-day seminar concluded successfully, with participants gaining practical knowledge and exchanging innovative ideas on CNT-based composite structures. This seminar served as a platform for fostering collaboration among academia, industry and research institutions.

IEI Celebrates Energy Conservation Day

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

STATE CENTRES

Goa



Goa State Centre, IEI, observed Energy Conservation Day 2024 on 13 December 2024 at Goa. Speaker of the session, Shri Mahesh Prabhu, President, ASHRAE Mumbai Chapter,

highlighted sustainable engineering practices in HVAC & R. The Chief Guest, Shri Vivek Kamat, Director of Directorate of Technical Education, Goa, outlined the evolving landscape of technical education. Other key speakers included Shri. Anish Sousa, CEO, Zesso Ventures Private Limited and Shri Rupesh Umtol, Co-Founder and COO, Qi Square Pte Ltd, Singapore. Shri Umtol shared his expertise on Digital Twins and their potential to revolutionize the engineering practices.

Punjab & Chandigarh



Punjab & Chandigarh State Centre, IEI celebrated Energy Conservation Day on 14 December 2024, at Chandigarh. Dr Tejinder Singh Saggi, Assistant Professor, Punjab Engineering College,

delivered a Keynote lecture on energy efficiency across various sectors.. The event, attended by around 35 engineers, guests and students, successfully raised awareness on sustainable energy practices.

Sikkim

Sikkim State Centre, IEI in collaboration with the Centre for Distance and Online Education (CDOE), Sikkim Manipal University (SMU), organized a technical seminar on 'National Energy Conservation' on 14 December 2024 at Sikkim.



The event was graced by Chief Guest Prof (Dr) Ajaeya Jha, Director In-Charge, SMIT, SMU and Guest of Honor, Prof (Dr) Sourav Dhar, Director, CDOE, SMU & Member, Sikkim State Centre, IEI. Speaker of the session,

Dr Manish Kumar Ray, Assistant Professor (SG), Department of Mechanical Engineering, SMIT spoke on 'Importance of Energy Conservation'. Er Lochan Kumar Adhikari, Chairman, Sikkim State Centre deliberated on 'Conservation of Energy – The Technical Aspect' and elaborated on energy conservation techniques and renewable energy adoption. The program concluded with an engaging discussion. Dr Ishwer Shivakoti, Assistant Director, CDOE, SMU delivered the concluding remarks. The event successfully raised awareness on energy efficiency and sustainable practices.

Telangana



Telangana State Centre, IEI in association with Telangana Renewable Energy Development Corporation Limited (TGREDCO Limited), conducted Energy Conservation Awareness

Walk on the eve of National Energy Conservation Week Celebrations 2024, on 15 December 2024 at Hyderabad. Smt Anila Vavilla, Vice Chairman and

Managing Director, TGREDCO, graced the event as the Chief Guest, while Shri Anantha Sriram, Lyricist, Telugu Film Industry and Shri Sri Harsha, Hero-LYF were the Guests of Honour.

LOCAL CENTRES

Agra

Agra Local Centre, IEI, in association with the Department of Electrical Engineering, IET, Dr Bhimrao Ambedkar University, observed Energy Conservation Day 2024 on 14 December 2024 at Agra. The event featured insightful talks by Dr Rajat Kumar, Dayalbagh Educational Institute, Agra, Dr Tanveer Qamar, Agra College and Dr Aseem Chandel,



Rajkiya Engineering College, Mainpuri, emphasizing the importance of energy conservation, renewable energy, and efficient energy use. A debate competition was also conducted to raise awareness among students. The event witnessed active participation from faculty, corporate members and students.

Aligarh

Aligarh Local Centre, IEI, observed Energy Conservation Day 2024 on 14 December 2024 at Aligarh. Chief Guest of the session, Prof B H Khan, Former Dean, Faculty of Engineering & Technology, AMU, Aligarh emphasized collective efforts in energy conservation. The event featured insightful presentations by Dr Sameera, Associate Professor at the Polytechnic, AMU, Aligarh and Er Chandan Sharma, Director, Camel Electric Energy Solution who discussed energy-saving techniques and the role of solar energy in sustainability. The event not only highlighted the importance of energy conservation, but also provided a platform for sharing knowledge and fostering dialogue on sustainable energy practices.

Anpara

Anpara Local Centre, IEI, in collaboration with MEIL Anpara Energy Limited, observed Energy Conservation Day 2024 at Anpara on 14 December 2024. The event was inaugurated by the Chief Guest, Er Nikhil Chaturvedi, GM (Admin),



ATP, Anpara, UPRVUNL, who emphasized the importance of energy conservation and urged engineers to spread awareness. Er Santosh Dubey, Plant Head, MEIL, Anpara, also addressed the

gathering. Er Vikas Kumar Singh from MIEL delivered a presentation on energy conservation. The event saw participation from engineers of NTPC, MIEL, NCL, Hindalco, and UPRVUNL.

Bareilly



Bareilly Local Centre, IEI, observed Energy Conservation Day 2024 on 14 December 2024 with a Lecture Series featuring eminent speakers. Er Sudhir Gupta, Past Chairman, Bareilly

Local Centre, IEI stressed the shift to renewable energy, while Er Sumit Kumar from Vadilal Industries highlighted sustainable practices in energy conservation.

Bathinda

Bathinda Local Centre, IEI, observed Energy Conservation Day on 14 December 2024, through online mode, highlighting the importance of sustainable energy

practices. Prof (Dr) Tara Singh Kamal, Former Vice President, IEI, graced the event as Chief Guest, emphasizing innovative energy conservation approaches. Dr Arvind Dhingra, Chairman, Ludhiana Local Centre, IEI delivered the Keynote address on energy efficiency challenges and engineers' responsibilities. The session saw active participation from engineers, professionals and students.

Bokaro Steel City



Bokaro Steel City Local Centre, IEI, observed Energy Conservation Day 2024 on 14 December 2024 at Bokaro. Shri P K Bhui, General Manager (Energy Management Dept), SAIL,

Bokaro Steel Plant graced the function as the Chief Guest and Keynote Speaker. During the technical session, paper was presented by Shri Nitesh Ranjan, AGM (Environment Conservation & Sustainability), SAIL, Bokaro Steel Plant.

Coimbatore



Coimbatore Local Centre, IEI, in association with the Department of Electronics and Communication Engineering, Karpagam College of Engineering, Coimbatore observed

Energy Conservation Day 2024 on 14 December 2024 at Coimbatore. Dr S M Swamynathan, Associate Professor, Department of Electronics and Communication Engineering, Karpagam College of Engineering introduced the Guest Speaker, Er A Selvakumar, Senior Manager - Maintenance, ELGI Equipments Limited, Coimbatore, who delivered a technical lecture on the topic 'Awareness on Energy Conservation', emphasizing energy efficiency, renewable sources and ISO 50001 Energy Management Systems. Dr V Kumar Chinnaiyan, Principal, Karpagam College of Engineering also spoke on the occasion. Dr R Sarankumar, Professor & Head, Department of Electronics and Communication Engineering, Karpagam College of Engineering summed up the deliberation. The event highlighted the importance of sustainable energy practices.

Faridabad

Faridabad Local Centre, IEI, observed Energy Conservation Day on 14 December



2024, in association with the Electronics Engineering Department, J C Bose University of Science & Technology, YMCA, Faridabad at Faridabad. The event featured Keynote speaker,

Prof (Dr) Sushil Kumar Tomar, Vice Chancellor, J C Bose University and Expert speaker, Dr Rakesh Jain, CEO, Best Plant & Ex GM, Indian Oil Corporation Ltd.

Ghaziabad



Ghaziabad Local Centre, IEI, observed Energy Conservation Day 2024 on 14 December 2024 at Ghaziabad. Dr Sanjay Bharti, Associate Vice President, Technical Department, DS Group, was

the Chief Guest and Dr Vivek Kumar, Professor, Centre for Rural Development & Technology, IIT Delhi, was the Guest of Honour. The speakers emphasized energy conservation, sustainability, clean carbon neutrality etc.

Gorakhpur

Gorakhpur Local Centre, IEI, in collaboration with the Institute of Technology and Management, GIDA, observed Energy Conservation Day 2024 on 14 December 2024, at Gorakhpur. The event was inaugurated by the Chief Guest of the program, Er Rajesh Gupta, Chief Electrical Engineer, N E Railway, Gorakhpur. Er K P Singh, Superintending Engineer, UP Irrigation Department, Er J B Rai,



President, Malaviya Alumni Association and Dr Pawan Kumar Mishra, Sr Director, CIDC, New Delhi, graced the function as the Guests of Honor. Er Rajesh Gupta elaborated the applications

of renewable energy in Indian Railways to optimize the use of energy, energy savings etc. Speaker of the session, Er M W Beg, Former Chief Plant manager, Refinery Division, Indian Oil Corporation presented the ways of use of energy in the refineries and the reforms obtained in energy savings.

Jodhpur

Jodhpur Local Centre, IEI, observed Energy Conservation Day 2024 on 14 December 2024 at Jodhpur and organized a technical session on the topic 'Use



of Solar Energy and 'Energy Harvesting - An AI/ML Approach'. Keynote speakers of the session were Er Ankur Sethia, Rooftop Solar Expert, VXL Solar Enterprises and

Prof Amit Rathi, Assistant Professor, IIT Jodhpur. Er Sethia discussed the growing adoption of solar energy, while Prof Rathi highlighted AI-driven energy conservation at the production level.

Kadapa

Kadapa Local Centre, IEI, in collaboration with SV College of Engineering, Kadapa, organized a lecture on the occasion of National Energy Conservation



Day on 19 December 2024 at Kadapa. The Keynote speaker, Er C Sreerama Chandra Murthy, Executive Engineer, APTRANSCO, 400 KV Construction Division & Past Chairman, Kadapa Local

Centre, IEI, delivered an insightful lecture on energy efficiency, conservation practices and the role of industries in reducing energy consumption.

Kozhikode



Kozhikode Local Centre, IEI observed Energy Conservation Day on 17 December 2024. Speaker of the session, Er Shaju K, Former Honorary Secretary of Kozhikode Local Centre

delivered an insightful talk on "Innovating Sustainability: The Role of Energy-Efficient Buildings", highlighting key aspects of sustainable design.

Meerut

Meerut Local Centre, IEI observed Energy Conservation Day on 14 December 2024 through online platform. A webinar was organised on the occasion. Keynote speaker of the webinar session, Er S C Mittal, Former Chief General manager, UPSEB [Now UPPCL] delivered presentation on the topic 'Powering Sustainability - Every Action Counts', highlighting energy conservation challenges and solutions, including LED usage, solar energy and sustainable transport.

Navi Mumbai

Navi Mumbai Local Centre, IEI observed Energy Conservation Day on 13



December 2024, with a series of insightful activities. Mr Praphullachandra Ohol, Managing Director, Pinnacle Engineering Solutions (India) Private Limited delivered

lecture on 'Driving Energy Conservation in Industry 4.0 - Towards Net Zero with Renewable Energy Innovations'. The event observed the presence of Corporate Members of IEI, delegates and participants from CIDCO & NMMC representatives.



World Water Day 2025

Theme: Glacier Preservation

March 22, 2025

World Water Day is observed on 22nd March every year by The United Nations. The theme for the year 2025 is "**Glacier Preservation**", emphasizing the critical role glaciers play in sustaining the global water supply. Glaciers are melting rapidly, disrupting water flows and affecting millions through floods, droughts, and rising sea levels. Mitigating climate change and adapting to the loss of glaciers is essential to protect communities and ecosystems.

The theme emphasizes the need for global action to manage melt-water sustainably and reduce emissions, securing vital water resources for the future.

The theme highlights the essential role glaciers play in providing freshwater to millions of people. Glaciers store roughly 70% of the world's fresh water, serving as critical sources for drinking water, agriculture, and hydropower. However, the rapid retreat of glaciers, driven by climate change, threatens these vital resources. The theme urges global action to protect glaciers, which are not only crucial for water supply but also for sustaining the ecosystems dependent on glacial melt-water.

Efforts to preserve glaciers require a multifaceted approach, including reducing greenhouse gas emissions, promoting sustainable energy, and implementing policies aimed at conserving these natural resources. Technological advancements, such as satellite monitoring and climate models, are essential in assessing glacier health and predicting future changes. Conservation initiatives in glacier-rich regions are also vital in mitigating human impact and ensuring the continued flow of glacial water. By prioritizing glacier preservation, we secure vital freshwater, protect biodiversity, and enhance the resilience of vulnerable communities against climate change.

The Institution of Engineers (India) earnestly urges all the IEI State & Local Centres, as well as its affiliated entities, to observe the World Water Day-2025, actively participating in the associated activities.



The Institution of Engineers (India)

Notification for

R&D Grant-in-Aid

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

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

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

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

Deputy Director (Technical)

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

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

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

News-in-Brief

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

STATE CENTRES

Jharkhand

In association with Faculty of Electrical and Electronics Engineering and Mechanical Engineering, University Polytechnic, BIT Mesra organized a workshop on the topic 'General Functioning of CAG' on 09 April 2024 at Ranchi. Chief Speaker, Shri Adarsh Agarwal, Director, CAG, in his address shedding light on the scope and activities of the Comptroller and Auditor General (CAG). He shared valuable insights on how students can pursue successful careers, particularly in the Indian Administrative Service (IAS). Several faculty members from University Polytechnic, BIT Mesra along with students, actively participated in the workshop. The workshop provided valuable insights into the workings of CAG and inspired students toward public service careers.

Kerala

Organized a Technical Talk titled 'Development of Vizhinjam Port: Its Features and Benefits' on 08 May 2024, supported by IEEE, INSARM, ASI, SSI, ISTD, SAME, IITArb, PMI and IETE. The session featured Dr Jayakumar, Former Managing Director and CEO, Vizhinjam International Seaport Limited, as the speaker. Dr Jayakumar shared insights into the development, unique features and strategic benefits of the Vizhinjam Port, highlighting its role in enhancing maritime trade and regional growth.

In collaboration with IEEE, INSARM, ASI, SSI, ISTD, SAME, IITArb, PMI and IETE, organized a technical talk on 'History of Human Space Flight' on 10 July 2024 at Thruvananthapuram. Speaker of the session, Dr P Sasikumar, Scientist/Engineer SG at VSSC, ISRO delivered an insightful presentation on the milestones of human space flight, covering key historical events, technological advancements and the future of space exploration. The event was a valuable opportunity for participants to gain knowledge on the evolution of human space exploration.

Puducherry

In collaboration with the National Institute of Technology Puducherry and the IEI Students Chapter-EEE, observed World Environment Day on 10 July 2024 at Puducherry. A Seminar was organised on the topic 'Our Land Our Future'. The event was graced by Shri K K Vimal Kumar, Executive Engineer, Electricity Department Puducherry, as the Chief Guest. Shri Kumar, in his address highlighted the importance of using solar energy for generating electricity and its impact on the environment. Dr Makarand Madhao Ghangrekar, Director, NIT Puducherry, delivered an invited talk, addressing critical environmental challenges and urging students to adopt sustainable practices and innovate green technologies. Dr A Hemachander, Faculty Advisor, IEI EEE Student Chapter, NIT, Puducherry delivered the concluding remarks.

Telangana

Organized the Er Matur Gopal Rao 27th Endowment Lecture on 10 September 2024 through online mode. The event featured an insightful lecture by Dr P Srinivas Rao, Chief Engineer (Retd), I&CAD Department and Former Member, TSPCB, on the topic 'Dams are Modern Temples: Their Sustenance a National Priority'. The lecture emphasized the critical role of dams in national development and the necessity of their sustained maintenance, fostering an engaging discussion among participants.

Tripura

Organized a seminar on the topic 'The Role of IT in Elderly Care' on 01 October 2024, in connection with the celebration of International Day for Older Persons 2024 at Agartala. The event aligned with this year's theme, 'Aging with Dignity: The Importance of Strengthening Care and Support Systems for Older Persons Worldwide'. The seminar highlighted the growing demand for healthcare and social support systems as global populations age, emphasizing the transformative role of technology in elderly care. Key speakers, Dr Swapan Sarkar, Professor of Medicine, Tripura Santiniketan Medical College and Dr Ashim Saha, Associate Professor, Computer Science & Engineering, NIT Agartala, discussed advancements in geriatric care and technological solutions like telehealth, fall detection systems and cognitive health tools.

LOCAL CENTRES

Ahilyanagar

Organized a visit to Siddhivinayak Polytechnic, Siddhatek Berdi, Taluka Karjat, on 05 October 2024, as part of its membership drive and IEI-Engineering Institutes interaction campaign. Er Abhay K Raje, Honorary Secretary and Dr D B Karanjule, Joint Honorary Secretary, Ahmednagar Local Centre, IEI engaged with Prof Netke, Principal of the Polytechnic, to promote IEI membership among faculty members and highlighted its benefits. Er Abhay Raje delivered a presentation on 'Indian Automobile-Car Segment' and covered the history, classification and features of various car segments in the Indian market, including mini cars, sedans, SUVs, luxury cars and more. He elaborated on technical specifications like power, torque, transmission types and crash protection features and presented a comparative case study of diesel versus petrol cars, offering insights into cost, service and mileage. The session concluded with interactive discussions, where Er Raje addressed students' queries.

Amaravati

In association with the Department of Electronics and Telecommunication Engineering of Prof Ram Meghe Institute of Technology and Research (PRMIT&R), Badnera, organized 'Techno Eagles 2024', a multidisciplinary quiz competition aimed at enhancing students' technical skills and awareness of current trends on 01 October 2024 at Badnera. The event observed the presence of Dr G R Bamnote, Principal, PRMIT&R and Dr S V Pattalwar, Head, Electronics and Telecommunication Engineering Department, PRMIT&R.

Belagavi

In collaboration with Karnataka State Highways Improvement Project (KSHIP) and Public Works Department (PWD), organized a workshop on the topic 'Road Safety Engineering & Innovative Construction Technology' during 26-27 August 2024 at Belagavi. The workshop was inaugurated by Er SF Patil, Chief Project Officer, KSHIP, Government of Karnataka. In his address, he stressed the importance of managing the quality of roads across the state. In his welcome address, Mr Kundargi Shivappa Yallappa, Chairman, Belagavi Local Centre, IEI discussed how the workshop would educate participants about the use of new materials in road construction and advanced technologies in traffic management. The Honorary Secretary, Mr Venkatesh B expressed gratitude to KSHIP, PWD and other departments for their support and for delegating newly recruited engineers to attend the workshop. He also thanked Er SF Patil and Er Suresh, Chief Engineer, PWD North, Dharwad, for their valuable contributions to the event. The workshop provided key insights into the latest advancements in road safety and construction techniques.

Bhimavaram

In collaboration with the Department of Computer Science and Design, SRKR Engineering College, Bhimavaram, celebrated National Technology Day on 11 May 2024 at Bhimavaram. Chief Guest, Dr M Suresh Babu, Professor & Founder of MCR Web Solutions, delivered lecture on the topic 'National Technology Day', highlighting the importance of continuous technological advancements. Dr K Brahma Raju, Council Member, IEI delivered a Keynote address emphasizing the necessity of updating technology for future progress. The event served as a platform to discuss emerging technological trends and the role of innovation in shaping the future.

Ghaziabad

Organized a lecture on 'Solar Energy' on 10 August 2024 at Ghaziabad. Speaker of the session was Er Vinesh Gupta, President, Solar Promotion Society and CEO of Emerging Technologies. Er Vinesh Gupta discussed the numerous advantages of solar energy over conventional energy sources, stressing the importance of carbon-free energy for environmental sustainability. The session concluded with an exhibition of solar panels and accessories.

In association with Disaster Awareness & Management Forum (DAMF), organized a lecture on 'Global Warming – A Man-Made Disaster' on 07 September 2024. The guest speaker, Er O S Maurya, Former GM & HoD, THDC India Limited and Professor of Practice, MMMUT Gorakhpur, highlighted the critical impact of human activities on global warming. Er Maurya detailed the consequences of climate change, including floods, landslides and shifting seasons, caused by deforestation, unregulated mining, construction in vulnerable areas and excessive greenhouse gas emissions. He stressed the importance of renewable energy, rainwater harvesting and sustainable development to mitigate environmental damage.

Organized a lecture on 'Flood Control, Catchment Area Treatment, and R&R Issues – A Case Study of Tehri Dam Project' under the Disaster Awareness & Management Forum (DAMF) on 09 September 2024 at the Northern India Textile Research Association (NITRA), Ghaziabad. The Speaker of the session was Er Sabha Kant Shukla, Former Director (Technical), THDC India Limited. During the lecture, Er Shukla discussed the technical aspects of dams, catchment areas and their significance, especially during the rainy season.

Jamshedpur

Organised a webinar on 'Online Monitoring of Liquid Level of Inner Hearth at Blast Furnace', on 09 August 2024. Speaker, Er Joyraj Debnath, Assistant Manager, Tata Steel (Equipment Manufacturing) focussed on methods for online monitoring of liquid levels in the inner hearth of a blast furnace, which is crucial for improving blast furnace process control and cast house practices. Er Debnath discussed the development of theoretical models and the testing of various probes and sensors to predict hearth liquid levels, while also addressing challenges such as smoke and dust interference.

Kadapa

Organised a seminar on 'Advanced 5G Technology' on 08 June 2024 at Kadapa. The Keynote speaker, Er G Krishna Kishore, Associate Professor and HoD, Mechanical Engineering Department, Global College of Engineering & Technology, Kadapa, delivered an insightful lecture on the transformative role of 5G technologies in modern society.

Kanpur

In collaboration with the All India Valuers Association (AIVA), organized a lecture on 'Protecting Integrity: Addressing Low Fees & Fake Valuation Reports' on 08 June 2024, via online mode. The session featured Er Bhupendra Prasad Singh, Proprietor of Mortgage Valuation Experts, Ghaziabad, as the Guest speaker. The lecture addressed critical issues in the banking sector, highlighting the risks posed by counterfeit valuation reports resulting from fee pressures and the employment of unqualified inspectors. Er KK Upadhyay, General Secretary, AIVA delivered the concluding remarks. The event witnessed robust participation from corporate members, student

members of IEI and AIVA members, underscoring the importance of maintaining credibility in the valuation process.

North Bengal

Organized a lecture meeting on 'Lifecycle Cost Analysis' on 08 June 2024 at Jalpaiguri Government Engineering College. The theme speaker, Mr Nirjhar Chakraborty, General Manager, Tata Consulting Engineers Limited, Kolkata, delivered an insightful presentation on the significance of life cycle cost analysis (LCCA). He explained that LCCA evaluates the total cost of owning or operating a project, helping to identify cost-effective alternatives that balance initial and operating expenses. The session included a detailed explanation of the methodology, including determining the economic impact of alternatives and quantifying them monetarily.

Organized a lecture meeting on 'AI in Our Day-to-Day Use' on 09 July 2024 at Jalpaiguri Government Engineering College. The theme speaker, Er Rajib Goon, Founder, R G Technologies, Jalpaiguri, delivered an insightful presentation on the pervasive role of AI in daily life. Er Goon emphasized the growing impact of Machine Learning (ML) and Natural Language Processing (NLP) in various sectors, including finance, healthcare and automotive, accelerating innovation, improving customer experience and reducing operational costs. The session was attended by 20 participants and fostered an engaging discussion.

Pune

In association with Tech Forum, organized an online lecture on 'Embedded Systems' on 07 July 2024. Keynote speaker, Mr Jaykrushna Puranik, COO & Managing Consultant, SGC Enterprises, in his insightful lecture, emphasized the role of embedded systems in advancing clean technologies, which focus on sustainability and environmental care. He further mentioned that a clean technology entails the presence of technological and innovative components with the key goal of promoting sustainability and decarbonisation.

In collaboration with the Tech Forum, organized an online lecture on 'TRIZ Techniques of Patent Circumvention in Reverse Engineering' on 08 September 2024. Keynote speaker of the session was Mr Hemant Pardikar, an expert in TRIZ (Theory of Inventive Problem Solving). Mr Pardikar discussed the concept of patent circumvention in reverse engineering, highlighting its legal applications in creating new products while bypassing existing patents.

Salem

Organized a webinar on 02 October 2024, as part of its 'Engineers Talk' series, commemorating the 30th anniversary of Salem Local Centre, IEI. Chief Guest, Mr Kamal Palanivel, Packaged Application Development Associate Manager at Accenture, Bengaluru, delivered a Keynote address on 'Emphasizing the Relevance and Importance of Ethics in the IT Profession'.

South Gujarat

In collaboration with Chintan Pratishtan, Sardar Vallabhbhai National Institute of Technology Surat organized an interactive session with Padma Shri Dr H C Verma, a renowned physicist and educator on 11 August 2024. The event provided a unique opportunity for faculty members of SVNIT and IEI Surat members to engage with the esteemed professor, whose contributions to physics education in India are unparalleled. Dr Verma emphasized that education should go beyond scoring marks, focusing instead on empowering minds and nurturing capabilities. He shared his personal journey from being a below-average student to becoming a leading educator dedicated to fostering scientific temper among students. Highlighting his contributions to building physics infrastructure across the country, he discussed his grass roots efforts to improve science education. In a significant development.

Tiruchirappalli

In collaboration with several esteemed organizations including Indian Institute of Welding Tiruchirappalli Branch, Computer Society of India, Tiruchirappalli Chapter, Safety Quality Forum – IEI, New Delhi, Indian welding Society

Southern Zone, Indian Institute of Metals Tiruchirappalli Chapter, Indian Institution of Industrial Engineering Tiruchirappalli, Indian Institution of Plant Engineers Trichy Chapter, Kumari Arivial Peravai Kanyakumari and Indian Society for Non-destructive Testing Trichy Chapter, organized a technical lecture on 01 October 2024 through online mode. The event featured Er AK Balasubramanian, Former Director (Technical) & Distinguished Scientist, Nuclear Power Corporation of India Limited (NPCIL), Mumbai, FNAE, as the Keynote speaker.

Udaipur

In collaboration with the Department of Mechanical & Electrical Engineering, S S Polytechnic College (SSPC), Udaipur and the Indian Institution of Industrial Engineering (IIE), Udaipur Chapter organised a two-day Faculty Development Program (FDP) on the topic 'Role of Engineering Towards Attainment of Sustainable Development Goals' during 07-08 June 2024 through online mode. The program emphasized engineering's pivotal role in advancing the 17 Sustainable Development Goals (SDGs) established under the United Nations' Agenda 2030. Dr Deepak Tak, Principal, SSPC delivered the opening remarks. The program was coordinated by Mr Piyush Sharma, Head, EE Department, SSPC and Mr Dheeraj Soni, Head, ME Department, SSPC. Resource persons of the session were; Dr Ranak Jangid, Assistant Prof. & Head, EE Department, GITS, Udaipur, Dr Dheeraj Dhaked, Chankya Postdoc Fellow, iHUB-IIIT Delhi, hosted at IIT- Roorkee; Er C P Jain, Chairman, Udaipur Local Centre, IEI and Dr Dipesh Vaya, Assistant Professor, Department of Computer Science & Engineering SPSU, Udaipur shared their experience and views amongst the participants.

Visakhapatnam

Observed Industrial Safety Day on 11 June 2024 through virtual mode. The event featured a Keynote Lecture, delivered by Sri Hiranmoy Barai, GM – Safety (Process & Operations), HPCL, Visakh Refinery, who emphasized the importance of safety in industrial operations, highlighting key hazards, accident prevention and regulatory compliance. Discussions covered process safety, early detection systems and statutory compliance, reinforcing the significance of maintaining safety standards to prevent industrial accidents and ensure operational integrity.

FORA

Safety & Quality Forum

Organised an International Seminar on 'Water Quality Management & Water Conservation' on 25 January 2025 at New Delhi, in association with JICA. The event brought together esteemed professionals, researchers, policymakers, and industry experts to deliberate on critical issues surrounding Water Quality Management, Conservation Strategies & Sustainable Practices. The seminar commenced with an insightful inaugural session, setting the stage for in-depth discussions on global and national water challenges. Chief Guest, Er Jagdish Chand Singhal, Chairman BOG, SQF-IEI, delivered the pivotal address, underscoring the pressing need for policy interventions and innovative solutions in water quality & its conservation. He highlighted the growing global focus on water as a critical resource and emphasized the importance of sustainable management practices in addressing future water challenges. Keynote Speaker, Mr Wakamatsu Eiji, Senior Representative, JICA India Office, elaborated Japan's contributions and collaborative efforts in India's water sector. He further informed that India has been recognized

as the "Best Investment Destination", by Japan, for three consecutive years, highlighting the increasing global confidence in India's growth potential. Dr O P Dewal, President, JAAI, emphasized the importance of sustainable water management practices and the role of international cooperation in tackling water-related challenges. The technical session featured insightful presentations by distinguished experts from the field of water quality and environmental sustainability. Dr S K Shukla, Research Officer & Head, National River Water Quality Laboratory, CWC, discussed the current status of India's river water quality, highlighting key monitoring initiatives and challenges. Dr Ajay Pradhan, Director, Cetus Consulting Private Limited, shared innovative approaches to water management in urban and industrial sectors, emphasizing sustainable infrastructure development. Dr A K Haritash, Professor & Head, Department of Environmental Engineering, DTU, provided insights into sustainable technologies for wastewater treatment and reuse, stressing the need for advanced solutions. Mr Shubham Srivastava Development Specialist, JICA shared his views on the subject highlighting the need of active public participation to meet the challenge. Dr Gaurav Gaur, Assistant Professor, Centre for Social Work, Punjab University, emphasized the socio-economic dimensions of water conservation, advocating for stronger community engagement in conservation efforts. A dynamic Q&A session followed the presentations, the discussions and insights presented throughout the seminar reaffirmed the global commitment to water quality & conservation and echoed the powerful message, 'Conserve Water, Every Drop Counts'. The event concluded with a vote of thanks, delivered by Mr Praveen Kr Singh, Director, SQF-IEI.

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The Institution of Engineers (India)

IEI YOUNG ENGINEERS AWARD 2025

Notification

The Institution of Engineers (India) is a multi-disciplinary professional body of engineers with 15 engineering disciplines and over 9,00,000 members in India and abroad. The Institution was established in 1920 and was incorporated by Royal Charter in 1935. It has been in the forefront of engineering profession addressing the socio engineering problems for progress of the country. IEI functions among professional engineers, academicians, research workers to update their professional knowledge through continuous professional development. With its large international linkages and a network of 124 Centres in India and Six Overseas Chapters, the Institution has built up wide reach and large infrastructure to meet its objectives of promoting engineering in all aspects.

With a view to promote the pursuit of excellence in the field of engineering, IEI has instituted 'IEI Young Engineers Award'. The Award consists of a Plaque and a Certificate. The purpose of the Award is to recognize outstanding achievements/contributions made by young engineers in engineering research, excellence in engineering technology development, technology transfer, etc. Any engineer citizen of India not older than **35 years** of age/ women engineer citizen not older than **37 years** of age as on **March 31, 2025** is eligible for the Award, provided that he/she is a Corporate Member of IEI or has applied for IEI Membership. The IEI Young Engineers Award is presented to awardees for all the 15 Engineering Divisions of the IEI during the respective National Conventions. The awardees attending the National Convention will be provided with free accommodation & their traveling expenses (AC-3 Tier train fare by shortest route) will be reimbursed on production of original documents.

The Application Proforma may be downloaded from IEI website <https://www.ieindia.org/webui/IEI-Activities.aspx#young-engineering-awards> or scan the QR code below. Soft copy of the filled-in application proforma should be forwarded to award@ieindia.org by **April 15, 2025**. Further, six copies of the duly filled application form, along with all supporting documents, endorsed by appropriate authority should be sent to the below mentioned address so as to reach us latest by **April 25, 2025**:

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



The envelope containing the application should be superscribed at the top as 'IEI Young Engineers Award 2025' and name of the engineering division under which the applicant desires to be considered for the Award.

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

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

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

Hundred-and-fifth Annual General Meeting of The Institution of Engineers (India)

PROCEEDINGS

The 105th Annual General Meeting (AGM) of The Institution of Engineers (India) was held at 1400 hrs on 22 Dec 2024 at Hotel Novotel Kolkata Hotel & Residences, CF-11, Action Area-I, Newtown, 700156 Kolkata, India.

Attended by 161 Corporate Members, the meeting was chaired by the President, IEI. The President welcomed the Past Presidents, President-elect and Corporate members of IEI present at the meeting and announced that under the provision of Bye-Law 46, Honorary Life Fellowship of The Institution of Engineers (India) was conferred on the Hon'ble Chief Minister of Gujarat, Shri Bhupendrabhai Patel on 8th December 2024.

Then, on being invited by the President, the Secretary and Director General read out the Notice of the meeting published in November 2024 issue of IEI News.

ITEM 1 Confirmation of Minutes of the 104th Annual General Meeting held on 29 Dec 2023 at Jabalpur

The Minutes of the 104th Annual General Meeting held on 29 Dec 2023 at Jabalpur had been circulated in the March 2024 issue of IEI News, [Vol. 30, No. 12] and again in November 2024 issue of IEI News [Vol. 31, No. 8]. President invited comments on the Minutes from the members present.

The Corporate Members present unanimously Resolved that the Minutes of the 104th Annual General Meeting of The Institution of Engineers (India) held on 29 Dec 2023 at Jabalpur be confirmed.

ITEM 2 To receive the Annual Report of the Council and the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2024

(a) Annual Report

President invited comments from the members present on the Annual Report of the Council for the year 2023-2024 as circulated.

The Corporate Members present unanimously Resolved that the Annual Report of the Council for the year 2023-2024 be received.

(b) Audited Accounts

President then invited comments on the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2024.

The Corporate Members present unanimously Resolved that the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2024 be received.

ITEM 3 To receive the report on the composition of the Council for the Session 2024-2025

On being requested by the President, the Secretary and Director General reported the following composition of the Council for the Session 2024-2025:

Er V B Singh, President

(1) Under provisions of Bye-Law 4(a)(ii) (02)

The following, by virtue of his being the Immediate Past President, shall become Member of the Council for the Session 2024-2025:

Dr G Ranganath

The seat of another Past President in the Council was decided to be kept vacant for session 2024-25.

(2) Under provisions of Bye-Law 4(a)(iii) (17)

The Corporate Members elected to the Council from the following State Centres for sessions 2024-2028 shall be Members of the Council for its Session 2024-2025:

Andhra Pradesh :: K N S Prakasa Rao

Haryana :: Kiran Chander Sethi

Punjab & Chandigarh :: Sukhvir Singh Mundi

Further, one Corporate Member from West Bengal State Centre would become member of the Council for the Session 2024-2025 on completion of the election process.

A number of Corporate Members present raised objections about the announcement of the name of the member elected from Andhra Pradesh State Centre, as the matter was still under examination by the Election Grievance Redressal Committee (EGRC).

Being asked by the President, the Secretary and Director General apprised the members of a direction by the President (Session 2023-24) vide his note dated 21 Dec 2024. Copy of the note which was read out by the Secretary and Director General is given at **ANNEXURE**.

The Chairman, Andhra Pradesh State Centre who expressed concern of not being communicated the decision on the election from the State Centre to the Council was assured by the President of a copy of the communication within two days.

The Corporate Members elected to the Council from the following State Centres shall continue as Members of the Council for the Session 2024-2025:

Elected for the Sessions 2023-2027:

Bihar :: Ajoy Kumar Sinha

Jharkhand :: Sanjay Sen

Madhya Pradesh :: Rakesh Kumar Rathore

Rajasthan :: Sajjan Singh Yadav

Elected for the Sessions 2022-2026:

Kerala :: Dr G Madhu

The Corporate Members elected to the Council from the following State Centres shall continue as Members of the Council for the Session 2024-2025:

Elected for the Sessions 2021-2025:

Delhi :: Devendra Gill

Gujarat :: Sandeep B Vasava

Karnataka :: Dr M Chowde Gowda

Maharashtra :: Manish Mahendra Kothari

Odisha :: Dr Nutan Kumar Dash

Tamilnadu :: Dr G Ranganath

Telangana :: M Shyamprasad Reddy

Uttar Pradesh :: V B Singh

(3) Under provisions of Bye-Law 4(a)(iv) (31)

The following members elected from 15 Engineering Divisions for the Sessions 2021-2025 shall become members of the Council for the Session 2024-2025 :

Aerospace (1) :: Dr Venkitakrishnan P V

Agricultural (1) :: Prof (Dr) Nemichandrappa M

Architectural (1) :: Mr Sandip Kumar Deb

Chemical (2) :: Dr Raghupatruni Bhima Rao
Prof (Dr) Ms Shilpa Tripathi

Civil (5) :: Mr M Nagaraj

	Dr I Satyanarayana Raju	
	Mr P Surya Prakash	
	Dr S M Goel	
	Dr Anil Joseph	
Computer (2)	:: Dr Amit Kumar Das	
	Prof (Dr) Chandrashekara S N	
Electrical (4)	:: Mr R R Tanwar	
	Dr S Dharmalingam	
	Mr A Sekar	
	Mr K K Gopalakrishnan Nair	
Electronics & Telecommunication (4)	:: Dr (Ms) G Padmavathi	
	Prof (Dr) G S Mundada	
	Dr Aloknath De	
	Mr S S Mutha	
Environmental (1)	:: Mr J C Singhal	
Marine (1)	:: Cdr (Dr) B M Bhandarkar	
Mechanical (5)	:: Dr Enti Ranga Reddy	
	Prof (Dr) Brahma Raju K	
	Dr R Venkatesan	
Metallurgical & Materials (1)	:: Mr K K Mehrotra	
Mining (1)	:: Prof (Dr) Netai Chandra Dey	
Production (1)	:: Dr Seeram Satyanarayana	
Textile (1)	:: Dr Sadhan Chandra Ray	
(4) Under provisions of Bye-Law 4(b)(i)	(31)	
By virtue of being elected as Chairmen of the following State Centres for the Sessions 2024-26 and installed at the Annual General Meeting of the respective State Centre, the following persons shall become members of the Council for its Session 2024-2025:		
Andhra Pradesh	:: Prof (Dr) M L S Deva Kumar	
Delhi	:: Sat Pal Singh	
Haryana	:: Rajbir Singh Malik	
Himachal Pradesh	:: Jaswant Singh	
Madhya Pradesh	:: Ashok Kumar Sharma	
Tripura	:: Paramananda Sarkar Banerjee	
Punjab & Chandigarh	:: Prof (Dr) Baljit Singh Khehra	
Sikkim	:: Lochan Kumar Adhikari	
By virtue of being Chairmen of the following State Centres for the Sessions 2023-2025, following persons have become ex-officio members of the Council for its Session 2024-2025:		
Andaman & Nicobar	:: Ms T Shanthy	
Arunachal Pradesh	:: Prof (Dr) M Chandrasekaran	
Assam	:: Mahesh Barkataki	
Bihar	:: Jai Prakash Narayan	
Chhattisgarh	:: Prof (Dr) Sanjay Kumar	
Goa	:: Anwar Isaac Khan	
Gujarat	:: S J Ghelani	
Jammu & Kashmir	:: Iftikhar Ahmed Hakeem	
Jharkhand	:: Dr Mahesh Kumar Gupta	
Karnataka	:: M Nagaraj	
Kerala	:: P Balakrishnan Nair	
Maharashtra	:: Anand Wamanrao Jawanjali	

Manipur	:: Swamikanta Singh L
Mizoram	:: Prof (Dr) Saibal Chatterjee
Odisha	:: Prof (Dr) Sudhansu Sekhar Dash
Puducherry	:: Dr S Thirougnaname
Rajasthan	:: Mahendra K Chauhan
Tamilnadu	:: Dr V Karthikeyan
Telangana	:: Dr G Venkata Subbaiah
Uttarakhand	:: Narendra Kumar Yadav
Uttar Pradesh	:: Satya Prakash
West Bengal	:: Prof (Dr) Raju Basak

The Chairman of the Meghalaya State Centre, after assumption of office for the remaining part of the sessions 2023-2025, shall become ex-officio member of the Council for the remaining period of the session 2024-2025.

(5) Under provisions of Bye-Law 4(b)(ii) (19)

By virtue of being elected as Chairmen of the following Local Centres for the Sessions 2024-26, the following persons shall become member of the Council for its Session 2024-2025:

Nashik	:: Samir Dilip Kothari
Visakhapatnam	:: K Venkata Rama Mohana Rao
Faridabad	:: Inderdeep Singh Oberoi

By virtue of being the Chairmen of the following Local Centres for the Sessions 2023-2025, the following persons have become ex-officio members of the Council for its Session 2024-2025:

Navi Mumbai	:: Dr Nilajkumar Najukrao Deshmukh
Coimbatore	:: Prof (Dr) Krishnamoorthi J
Durgapur	:: Prof (Dr) Chandan Koner
Ghaziabad	:: Dr Satish Chandra Gupta
Kancheepuram	:: Prof (Dr) S Ramesh
Kochi	:: Velayudhan Nair G
Ludhiana	:: Dr Arvind Dhingra
Madurai	:: Prof (Dr) P Udhaya Kumar
Mysore	:: Prof (Dr) Deepu R
Nagpur	:: Satish Sambhaji Raipure
Neyveli	:: M Venkatachalam
Pune	:: Vasant Dattatraya Pandarkar
South Gujarat	:: Dr Suryawanshi Shiwanand Rohidas
Salem	:: Dr Thangaraj K
Tiruchirappalli	:: Prof (Dr) Ravimaran S
Vadodara	:: Dr Satishkumar Kantilal Joshi

(6) Under provisions of Bye-Law 12, 13 and Regulation (17)

Corporate Members shall be co-opted in the Council for the Session 2024-2025 under provisions of Bye-Law 12, 13 and Regulation 17.

ITEM 4 To appoint Auditors for the year 2024-2025 and to fix their remuneration

President proposed that Auditors M/s D K Chhajer & Co., Chartered Accountants be appointed as Auditors of The Institution of Engineers (India) for the year 2024-2025 at a remuneration of Rs.3,00,000 + Taxes as applicable.

It was then Resolved that M/s D K Chhajer & Co., Chartered Accountants, be appointed as Auditors of The Institution of Engineers (India) for the year 2024-2025 at a remuneration of Rs.3,00,000 + Taxes as applicable.

The meeting was declared closed at 1500 hrs.

IEI DIARY



Civil Engineering Division

One Day Seminar on 'Instrumentation and Sensor Application in Civil Engineering'

Puducherry, April 04, 2025

The Honorary Secretary, IEI, Puducherry State Centre, No. 63, Nethaji Subash Chandra Bose Salai, Ground Floor, PWD Campus, Puducherry 605001 [Mobile: 9489766701, E-mail : puducherry@ieindia.org, Website : www.ieipsc.org]

All India Seminar on 'Building A Greener Future Modern Construction Practices for Sustainability'

Faridabad, April 10, 2025

The Honorary Secretary, IEI, Faridabad Local Centre 2nd Floor, Bank Building, J C Bose University of Science and Technology (YMCA), Sector 6, Faridabad 121006 [☎: 01292245008 E-mail : faridabadlc@ieindia.org, Websites: www.ieifbdlc.in]

Computer Engineering Division

One Day Seminar on 'Artificial Intelligence, Machine Learning And Its Application'

Kanpur, May 24, 2025

The Honorary Secretary, IEI, Kanpur Local Centre, Engineers Bhawan, HBTU Campus, Nawabganj, Kanpur 208002 [Mobile: 9140018277, E-mail: kanpurlc@ieindia.org, Website: www.ieikanpur.org]

One Day Seminar on 'Exploring Quantum Frontiers The Future Of Computation'

Coimbatore, June 27, 2025

The Honorary Secretary, IEI, Coimbatore Local Centre, PSG Tech Campus, Peelamedu, Coimbatore, Tamilnadu 641004 [☎: 0422-2580733, E-mail: coimbatorelc@ieindia.org; ieicoimbatore@gmail.com, Website: www.ieicoimbatore.org]

One Day Seminar on 'Smart Cloud Based Meditation System With Adaptive AI for Holistic Wellbeing'

Erode, July 03, 2025

The Honorary Secretary, IEI, Erode Local Centre, Sri Ramakrishna Seva Samithi Religious Library, Thindal Murugan Temple Premises, Thindal, Erode 638012, Tamilnadu [E-mail : ieierode2015@gmail.com, erodelc@ieindia.org, Web: www.ieierode.org]

One Day Seminar on 'Computational Intelligence in Healthcare Systems'

Hyderabad, August 03, 2025

The Honorary Secretary, IEI, Telangana State Centre, 6-2-910, Visvesvaraya Bhavan, Khairatabad, Hyderabad 500004, Telangana [☎: 040-23314969, E-mail: telanganasc@ieindia.org]

Electrical Engineering Division

All India Seminar on 'Artificial Intelligence and Machine Learning Applications in Electrical Engineering'

Tuticorin, March 13, 2025

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

All India Seminar on 'Design and Development of a Public Fast Charging Infrastructure for Electric and Hybrid Electric Vehicle'

Chennai, March 28, 2025

The Honorary Secretary, IEI, Tamilnadu State Centre, No. 19, Swami Sivananda Salai, Chepauk, Chennai 600005 [☎: 044-25360614 / 9962950333, E-mail: ieitamilnadu@gmail.com; tns@ieindia.org, Website: www.ieitnsc.org]

Electronics & Telecomm. Engineering Division

One Day Workshop on 'IoT and Cloud Computing'

Durgapur, March 05, 2025

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

All India Seminar on 'Flexible Electronics And Its Real World Applications'

Faridabad, March 07, 2025

The Honorary Secretary, IEI, Faridabad Local Centre 2nd Floor, Bank Building, J C Bose University of Science and Technology (YMCA), Sector 6, Faridabad 121006 [☎: 01292245008 E-mail : faridabadlc@ieindia.org, Websites: www.ieifbdlc.in]

Mechanical Engineering Division

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

Dehradun, March 07-08, 2025

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

All India Workshop on 'Opportunities and Challenges in AI and ML for Manufacturing'

Bhimavaram, March 10-11, 2025

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

All India Seminar on 'AI and Emerging Technologies for Enhancing Occupational Safety in Industries'

Palghat, March 28-29, 2025

The Honorary Secretary, IEI, Palghat Local Centre, XIV/3, Nerukakkad, PO: Kallepully, Palakkad 678005 [☎: 0491-2972137, E-mail : palghatlc@ieindia.org, Website: www.ieipkd.org]

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

Durgapur, August 23-24, 2025

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

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

Thiruvananthapuram, September 23-24, 2026

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

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

Belapur, September 17-18, 2027

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

Metallurgical & Materials Engineering Division

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

Rourkela, July 26-27, 2025

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

Mining Engineering Division

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

Durgapur, May 09-10, 2025

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

Production Engineering Division

One Day Seminar on "Additive Manufacturing in Production - Challenges and Opportunities"

Puducherry, March 20, 2025

The Honorary Secretary, IEI, Puducherry State Centre, No. 63, Nethaji Subash Chandra Bose Salai, Ground Floor, PWD Campus, Puducherry 605001 [Mobile: 9489766701, E-mail : puducherry@ieindia.org, Website : www.ieipsc.org]

One Day Seminar on "Revolutionizing Production and Shaping the Future of Industry"

Kancheperum, March 21, 2025

The Honorary Secretary, IEI, Kancheperum Local Centre, Jerusalem College of Engineering Campus, Velachery Main Road, Narayanapuram, Pallikaranai, Chennai 600100 [Mobile: 9789924739, Whatsapp: 8870531609, Email : kancheperumlc@ieindia.org; Website : www.ieindiaklc.org]

One Day Seminar on "Innovations and Best Practices in Production Management"

Kancheperum, April 09, 2025

The Honorary Secretary, IEI, Kancheperum Local Centre, Jerusalem College of Engineering Campus, Velachery Main Road, Narayanapuram, Pallikaranai, Chennai 600100 [Mobile: 9789924739, Whatsapp:

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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 March 2024

Sl. No.	Name of the Course	Scheduled Dates
1.	Management of Training for Training & HR Managers	04 - 06 Mar 25
2.	Implementing Zero Defect and Zero Effect (ZED) in Manufacturing	05 - 07 Mar 25
3.	Safe Operation in Coal & Iron Ore Opencast Mines	05 - 07 Mar 25
4.	Power Distribution Reforms - Issues of General Network Access - Power Exchange	05 - 07 Mar 25
5.	Water Governance – Challenges and the way forward	05 - 07 Mar 25
6.	Moving Towards Net Zero Carbon Buildings to Face Global Warming	06 - 07 Mar 25
7.	Total Productive Maintenance	10 - 13 Mar 25
8.	Current Environment legislation and Regulations	11 - 13 Mar 25
9.	Contract Management E-Tendering and Condition of Contract for EPC/Turnkey projects-FIDIC 99	10 - 14 Mar 25
10.	Condition based Maintenance aspects of Power Plant Equipment & Process Industries	11 - 14 Mar 25
11.	Soil & Water Conservation: Importance and Best Practices	17 - 19 Mar 25
12.	Laboratory Management System Awareness & Internal Auditing (As per ISO / IEC 17025: 2017 & NABL Requirements)	17 - 20 Mar 25
13.	Executive Development Programme on Digital HR Transformation & AI Driven HR Analytics	18 - 20 Mar 25
14.	Professional Ethics, Work culture & Moral Values for Engineers, Scientists and Technologists	18 - 20 Mar 25
15.	Formulation of Mining Plan, Environmental Management Plan, Project Report	18 - 20 Mar 25
16.	Surface Engineering - Concepts, Applications and Emerging Technologies	18 - 21 Mar 25
17.	Generator & its Auxiliaries incl. Excitation System	18 - 21 Mar 25
18.	City Water Action Planning	19 - 21 Mar 25
19.	Engineering Simulation using ANSYS & CFD - With Hands-on Approach	24 - 27 Mar 25
20.	Power Trading, Power Exchanges & Merchant Power Plants	25 - 28 Mar 25
21.	Urban Water Management and Circular Economy	26 - 28 Mar 25
22.	Super Critical and Sub Critical Boilers; Issues and Challenges of Cooling Water Chemistry in Power Plants and Process Industries	26 - 28 Mar 25
23.	Key Aspects of TQM	27 - 29 Mar 25

For detail information please contact:

Engineering Staff College of India

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Email : mis@escihyd.org / URL : https://escihyd.org

IEI DIARY

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8870531609, Email : kanchepuramlc@ieindia.org;
Website : www.ieindiaklc.org]

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

Madurai, May 23-24, 2025

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

Textile Engineering Division

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

Ghaziabad, September 05-06, 2025

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

Interdisciplinary Coordination Committee

All India Seminar on '**Emerging Trends in Engineering and Technology for Shaping the Future**'
Pune, March 19-20, 2025

The Honorary Secretary, IEI, Pune Local Centre, Abhiyanta Bhavan, 1332 J M Road, Shivajinagar, Pune 411005 [☎: 020-25533376 (Admin Incharge: 8668475255 / Office Admin: 9822754165), E-mail: ieiplc41@gmail.com; punelc@ieindia.org, Website: www.ieipune.org

All India Seminar on '**Sustainable Technologies and Green Initiatives**'

Durgapur, April 06-07, 2025

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



The Institution of Engineers (India)

A Century of Service to the Nation

Celebrates

World Engineering Day for Sustainable Development



March 4, 2025

Theme:

Unleashing the Power of Engineers to Advance the Sustainable Development Goals

World Engineering Day for Sustainable Development is celebrated on 4th March every year. It highlights the pivotal role of engineering in driving sustainable progress worldwide. The theme for 2025, "Unleashing the Power of Engineers to Advance the Sustainable Development Goals," emphasizes the crucial contributions engineers make in addressing global challenges such as climate change, poverty, and inequality. Engineers are at the forefront of developing innovative solutions that create positive environmental, economic, and social impacts. By fostering interdisciplinary collaboration, the engineering community plays an essential role in accelerating the achievement of the United Nations' Sustainable Development Goals (SDGs).

The application of engineering solutions is instrumental in tackling majority of the world's pressing problems. From renewable energy technologies to water purification systems and smart infrastructure, engineers design and implement technologies that make our world more sustainable. By creating systems that minimize resource consumption, enhance efficiency, and reduce environmental harm, engineering directly supports sustainable development. Engineers contribute in advancing green technologies, which help reduce carbon emissions and mitigate the effects of global warming to address the SDGs, ensuring a more equitable and sustainable future for all.

In addition to technological advancements, engineers also influence the socio-economic dimension of sustainability. On World Engineering Day 2025, it is essential to recognize the immense value engineers bring in advancing the SDGs and fostering a sustainable world. Their collective efforts can unlock a future where both people and the planet thrive in harmony.

The Institution of Engineers (India) earnestly urges all IEI State & Local Centres, as well as its affiliated entities, to celebrate the World Engineering Day for Sustainable Development-2025, actively participating in the associated activities to foster a collective commitment towards a sustainable future.

I.E.I NEWS

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