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A CENTURY OF SERVICE TO THE NATION

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Third National Quality Convention 2024 of the Safety and Quality Forum, IEI

Role of Quality in Infrastructure Projects for Nation Building & Inclusive Growth

The **Safety and Quality Forum [SQF]** of The Institution of Engineers (India) successfully organized its Third National Quality Convention with the theme **Role of Quality in Infrastructure Projects for Nation Building & Inclusive Growth** during March 11-12, 2024, at International Automobile Centre of Excellence (iACE), Gandhinagar, Gujarat. The Inaugural Session, held at the iACE Auditorium, saw a gathering of large number of participants, including nominated young professionals from Maruti Suzuki. Dr Nilesh M Desai, Director of the Space Applications Centre (SAC/ISRO) graced the function as the Chief Guest and Dr G Ranganath, President, IEI was the Presiding Guest. Er Navinchandra B Vasoya, Past



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Thirty-sixth National Convention of Metallurgical and Materials Engineers and National Seminar

Green Composites, the-new Generation Sustainable Composite Materials: Specific Features and Application

Thirty-sixth National Convention of Metallurgical and Materials Engineers was organized by **West Bengal State Centre** of the Institution during 29 February-01 March, 2024 under the aegis of Metallurgical and Materials Engineering Division Board [MMDB], IEI. A National Seminar was also organized concurrently on the theme **Green Composites, the-new Generation Sustainable Composite Materials: Specific Features and Application**. The objective of the National Convention was to disseminate and exchange ideas and thoughts on the green composites having unique characteristics, superior functionality and environmental compatibility.



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From the President's Desk.....

To strengthen and reinforce the physical, social, and economic infrastructure and activities, land resources are one of the most significant factors. The protection and maintenance of land resources is crucial for the continued support of terrestrial ecosystems and the essential services they provide. On the other hand, rapid deforestation, unsustainable farming, overgrazing, and mining are converting fertile land into deserts and results deep impact in the dryland ecosystems. This leads to desertification, by which vegetation in dry lands, mainly arid and semi-arid lands, such as grasslands or shrub lands, decreases and eventually disappears. Desertification, land degradation, and drought are a global problem, when climatic variability plays a pivotal role. A large portion of the world's rural people live on degraded land and are exposed to problems like food insecurity, scarcity of water, drought, etc.



At the onset, land restoration is a vital strategy to combat desertification and mitigate the impacts of drought. By restoring degraded lands, we can enhance biodiversity, improve water retention, and restore carbon, thereby contributing to both ecological health and climate mitigation. Innovative approaches such as agro-forestry, regenerative agriculture, and the re-wilding of natural habitats are proving effective in rejuvenating soils and supporting sustainable livelihoods. Governments, NGOs, and the private sector must collaborate to scale up these initiatives, ensuring that they are inclusive and benefit the most affected populations.

Equally, building drought resilience strategy empowers communities to withstand and recover from climatic shocks. This includes investing in early warning systems, water conservation techniques, and drought-resistant crop varieties. Education and capacity-building are key to equipping farmers and local communities with the knowledge and tools needed to adapt to changing conditions. As we move forward, let us commit to a future where land degradation is reversed, ecosystems are restored, and communities are resilient. Together, we can create a path towards a more sustainable and equitable world for all.

As we celebrate World Environment Day 2024 on June 05, it is crucial to turn our attention to the pressing issues of land restoration, desertification, and drought resilience. On this Day, let us come together to take the oath for making the remarkable progress in the pursuit for a better world. The theme, 'Land Restoration, Desertification and Drought Resilience' reverberate with the fundamental purpose of Land restoration to foster progress and prosperity for all of mankind. It stands as a beacon of hope for Nations grappling with extreme climate changes having devastating effects.

Green Composites, the-new Generation Sustainable Composite Materials: Specific Features and Application

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At the zero hours, all the guests watered the plant at the floor of the auditorium as a mark of the opening of great occasion, which was followed by invocation song. The program was initiated by the welcome address delivered by Prof (Dr) Raju Basak, Chairman, West Bengal State Centre, IEI. In his address Prof Basak extended his sincere welcome to all the participants, guests on and off the dais, experts for their gracious presences at the convention being organized by the West Bengal State Centre who have also been dedicating its relentless services towards the cause of development engineering science and technology for more than 100 years. He added that this event will provide a platform for dissemination and exchange of ideas and thoughts on the green composites having unique characteristic, superior functionality, and environmental compatibility. Prof (Dr) Indranil Manna, President, Indian National Academy of Engineers (INAE) & Vice Chancellor, BIT Mesra, Ranchi, graced the inaugural function as the Chief Guest. Er Kishore Kumar Mehrotra, Chairman, Metallurgical and Materials Engineering Division Board [MMDB], IEI, presided over the function.



Prof (Dr) N.R Bandyopadhyay, Working Chairman of the 36th NCMM 2024, deliberated on the genesis of IEI and the rationale of organizing the National Conventions for engineering divisions of IEI as a flagship event. He mentioned that the Metallurgical & Materials Engineering Division of IEI have been organizing one of such flagship events, every year since its establishment in the year 1984, under the auspices of State and/or Local Centres of IEI, to provide unique opportunity to provide a platform to engineering fraternity, in general and Metallurgical & Materials engineers in particular to open the dialogue and exchange thoughts on the theme of contemporary significance. He spoke on the significance of applying green composites. He mention that we are currently at the early but secure and irreversible stage of a remarkable and far reaching materials revolution; The materials sector has emerged as a science based knowledge intensive high technology area with serious implications for technical change, competitiveness, growth in employment, trade patterns, location of manufacturing activities and global division of labour. Moreover, new materials development is an essential part of attempts to resolve the pressing environmental problems haunting the human civilization, he added.

Er Kishore Kumar Merhotra, Chairman, MMDB, IEI, in his address, conveyed his heartiest congratulations in anticipation of a grand success of the National Convention on a contemporary topic and extended his sincere greetings to West Bengal State Centre, IEI. He mentioned that globalization and sustainability has made life not only feasible but challenging too. Materials obtained from resources that are renewable tend to be suitable for sustainable development. These materials have a global value since they can counter various environmental issues such as waste management problems, increase in global warming, constant rise in oil prices and the deteriorating fossil resources. He added that, in this context, the National Convention & National Seminar will serve as an invaluable platform for

exchanging ideas & promoting collaboration for faster & effective use of green composites to create a better tomorrow.

The Convention was formally inaugurated by the Chief Guest of the function, Prof (Dr) Indranil Manna, President, Indian National Academy of Engineers (INAE) & Vice Chancellor, BIT Mesra, Ranchi. During the State-of-the-art Lecture delivered by him, Professor Manna elucidated the essence of engineering as the transformation of scientific understanding into practical solutions, addressing societal needs and aspirations. Emphasizing the dynamic nature of engineering materials and techniques, he highlighted the imperative for continuous innovation. His admirable discourse on "Microstructure - The Key to Design Engineering Solids and Composites" captivated everyone, enriching their understanding and inspiring the engineering community, including students and scholars. A book of abstracts was released on the occasion.

On the occasion, Prof (Dr) Shubhabrata Datta, Research Professor, Department of Mechanical Engineering, and Coordinator, Centre for Composites and Advanced Materials, SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu; Dr Debashis Ghosh, Chief Scientist & Head, NDT & Metallurgy Group and Professor, Academy of Scientific and Innovative Research (AcSIR), CSIR-Central Mechanical Engineering Research Institute, Durgapur and Shri Ranadev Mitra, Former Executive Director, Steel Authority of India Limited (SAIL) were felicitated as Eminent Engineering Personalities in recognition of their eminence and contribution to the profession of Metallurgical & Materials Engineering. Further, to recognize outstanding achievements/contributions made by Young Engineers in engineering research, and/or excellence in the field of Metallurgical & Materials Engineering, three awards were presented to Dr Aarti Kumari, Assistant Professor, Department of Fuel, Minerals & Metallurgical Engineering, Indian Institute of Technology- Indian School of Mines, Dhanbad; Dr Ashok K, Assistant Professor, Indian Institute of Technology Hyderabad and Mr Pradyut Sengupta, Senior Scientist, Advanced Materials Technology Department, CSIR-Institute of Minerals and Materials Technology Bhubaneswar, Odisha. The proceedings of the Inaugural Session ended with the vote of thanks delivered by Er Anirban, Datta, Honorary Secretary of West Bengal State Centre. He extended deepest gratitude and profound appreciation to all the participants, esteemed guests, expert speakers, young presenters' generous donors, and individuals who have directly or indirectly supported and contributed to the triumph of the occasion.

Followed by the inaugural session, Er Somdev Das, Former Executive Director, Alloy Steel Plant, Steel Authority of India Limited (SAIL) with additional responsibility of CEO, Durgapur Steel Plant, SAIL delivered the V Subramony Memorial Lecture on the topic 'Emerging Technologies for Sustainable Steelmaking Processes'. In his lecture, the focus was on transitioning modern steel production towards green methods, emphasizing the use of hydrogen to extract oxygen from iron ore, thus enabling sustainable steel manufacturing. However, the challenge lies in producing hydrogen from renewable sources. Despite this, newer processes for green steel production are emerging. He elaborated that moving forward, success will depend on input, output, and governmental regulations. He also opined that research and development efforts must persist for process improvement, while supportive policies and investments are essential for advancing manufacturing and ensuring intellectual property protection. He emphasized on enhanced collaboration between industry and government for survival of the future of generations. Er Das's absorbing deliberation generated lot of interesting interaction amongst the participants. The session was chaired by Er Kishore Kumar Mehrotra.

During the National Convention, twenty five technical papers including Key note, Invited and Contributory Lectures were presented spreading over four

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Processing and Value Addition in Agriculture for Increasing Farmers Income - An Engineering Perspective

Kerala State Centre, IEI, in association with Kerala State Council for Science, Technology and Environment (KSCSTE), organized an All India Seminar on the theme **Processing and Value Addition in Agriculture for Increasing Farmers Income - An Engineering Perspective** during 25-26 October 2023 at Thiruvananthapuram, under the aegis of Agricultural Engineering Division Board [AGDB], IEI. Prof (Dr) M Jayaraju, Chairman of Kerala State Centre [Session 2021-23] delivered the welcome address. Prof K P Sudheer, Ex Officio Principal Secretary, S&T Department and Executive Vice President, KSCSTE, Government of Kerala, was the Guest of Honour. In his speech, he emphasized the longstanding presence of value addition in agriculture, highlighting durability and extension as crucial characteristics and said that the current focus is on enhancing production and precision while managing increasing demands. He informed that meeting these challenges necessitates a consumer-centric approach to sustainability, utilizing creative ideas and technology. He further opined that interdisciplinary development is the key for driving economic growth, with India boasting numerous research institutes dedicated to improving product shelf life and value addition; However, there's a call to shift from solely academic research to industry-relevant studies. He urged a shift from academic to industry-oriented research, highlighting the potential of data-based technology and big data analysis.



Shri G R Anil, Hon'ble Minister for Food and Civil Supplies, Government of Kerala, delivered the inaugural address and appreciated for organizing the agriculture-focused seminar. He said that engineers, showcasing their prowess in diverse fields, could aid farmers through technology, enhancing production and livelihoods. He also stressed that encouraging technological advancements for farmers is imperative, particularly in reducing expenses for better profitability. Innovative measures such as utilizing plantain fruit for products like perfume, should be promoted to support agricultural diversification and sustainability.

Dr G Byju, Director, Indian Council of Agricultural Research - Central Tuber Crops Research Institute (ICAR - CTCRI), Thiruvananthapuram, delivered the Keynote address. He said that agriculture traces back to the 1800s, with Dr M S Swaminathan's green revolution shaping the past 60 years and the progress to food surplus from scarcity is credited to agricultural technology; Challenges include high production costs, climate change and altering rainfall patterns. Transitioning to "Farm-to-Fork," diversifying products, and optimizing rainfall usage are essential for sustainability amidst changing climates and production costs, he mentioned. Er Roy Mathew, Honorary Secretary [Session 2021-23] proposed the vote of thanks at the end of inaugural session.

During the technical sessions, spread over two days, Invited talks from esteemed speakers on the theme and related topics were presented. Dr Sajeev M S, Principal Scientist, ICAR-Central Tuber Crops Research Institute, Sreekaryam, Thiruvananthapuram, gave Invited talk on the topic 'Processing and Value Addition of Tuber Crops'. Dr Rajesh K A, Joint Director, Central Institute of Petrochemicals Engineering & Technology - Institute of Petrochemicals Technology (CIPET-IPT), Eloor, Udyogamandal on 'Green Packaging Materials'; Dr Rajesh G K, Assistant Professor, KAU-KCAET,

Tavanur, Malappuram, on 'Processing and Value Addition of Fruits and Vegetables'. Dr Manikantan R, Principal Scientist, ICAR-Central Plantation Crops Research Institute, Kasaragod on 'Processing and Value Addition of Plantation Crops Presented'; Dr. Padmaja G, Head & Principal Scientist (Retd), ICAR-CTCRI, Sreekaryam on 'Functional and Nutraceutical Foods'; Dr. Suma Divakar, Professor, Department of Community Science, College of Agriculture, Thiruvananthapuram on 'Millets for Food and Nutritional Security'; and Dr Jayaprakas C A, Principal Scientist (Retd), ICAR-CTCRI, Sreekaryam, Thiruvananthapuram on 'Cassava Leaves : Potential for Plant Protection and Bio Energy'. Shri Suresh Muthukulam, Former Additional Director of Agriculture presented a Lead Talk on 'Value Addition and Product Diversification'.

Further, Shri P J Sivakumar, Former Director, Planning & Institutional Development, Kerala Kerakarshaka Sahakarana Federation Limited (KERAFED) delivered lecture on 'Prospects and Relevance of Farmer Producer Organizations'; Dr Binuja Thomas, Principal Scientist, Kerala State Council for Science, Technology and Environment on 'Agri Business Incubation Facilities for Emerging Technologies'; Dr Jomy Jacob, Project Leader, Small Farmers Agro Business Consortium (SFAC), deliberated on 'Agri Business Ventures by SFAC Kerala'. V Haritha, Department of

Processing and Food Engineering, KCAET, Tavanur on 'Electrically Operated Jackfruit Seed Peeler'; Mr T Krishnakumar, Section of Crop Utilization, ICAR-Central Tuber Crops Research Institute (CTCRI) on 'Effect of Different Packaging Materials on the Quality and Shelf-Life of Cassava Flour during Storage'. Ms C Pradeepika, Section of Crop Utilization, ICAR-Central Tuber Crops Research Institute (CTCRI) on 'Pearl Millet Incorporated Sweet Potato Choco-Filled Cookies'; Ms Noorbina Razak, Department of Processing and Food Engineering, KCAET, Tavanur delivered presentation on 'Development and Quality Evaluation of Cake Fortified with Moringa Oleifera Leaf Powder'; Ms Ann Annie Shaju, Department of Processing and Food Engineering, KCAET, Tavanur presented paper on 'Studies on Microwave Steam Distillation Process for Extraction of Tulsi Essential Oil'; Er Navya K P and Er Anuj Sonal P, Department of Processing and Food Engineering, KCAET, Tavanur on 'Effect of Aqueous Ozone Treatment on Reduction of Pesticide Residue and Microbial Qualities of Cucumber' and 'Towards Sustainable Coconut (Cocos Nucifera L) Products: Vacuum Impregnation Optimization & Its Impact'. A panel discussion was organized on the occasion. An Exhibition also arranged at the venue during the seminar. The organizations participated in the Exhibition were Hi-Tech Power Solutions, The Kerala Agro Industries Corporation Limited, Indian Council for Agriculture Research-Central Tuber Crops Research Institute, Thiruvananthapuram, Andreas Stihl Private Limited, K M Tractors, Valanchery and others.

During the valedictory function, Er Febi Varghese, Director & CEO, Kerala State Nirmithi Kendra, Government of Kerala, Thiruvananthapuram, graced the function as the Chief Guest. Er Babu V, State Agricultural Engineer, Agriculture Department was the Guest of Honour. Dr V Ganesan, Director, CERCON summed up the proceedings of deliberation. Er Roy Mathew proposed the vote of thanks.

Green Composites, the-new Generation Sustainable Composite Materials: Specific Features and Application

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structured Technical Sessions. Besides, in Day I, one session on the topic 'Future Trend in Met & Mat Engineering' and one Business Session were held where one Theme Talk and two Special Talks were presented.

Four Keynote speakers shared their insights from various domains as detailed. Prof. Shubhabrata Datta, SRM Institute of Science & Technology, Chennai spoke on the topic 'AI-based Design of Biomedical Composite', Prof Amit Karmakar, Jadavpur University on 'Transient Dynamic Analysis of FG-CNT Reinforced Composite Shells', Prof Amitava Basu Mallick, Indian Institute of Engineering Science and Technology (IIST), Shibpur on 'The Genesis of Composite Materials: Past, Present and Future' and Dr Arjun Dey, Indian Space Research Organization, Bangalore on 'Heterostructure, Composite and Hybrid Material Systems for Spacecraft Thermal Control Applications'.

Seven Invited talks were presented as furnished. Dr Supriya Bera, NIT, Durgapur on 'New Mg-based Amorphous Alloy for Biomedical Applications', Dr Mitun Das, CSIR-CGCRI, Kolkata on 'Composite Biomaterials for Repairing Bone Tissue Injury'; Dr Parijat Pallab Jana, MSTD, CSIR-NIIST, Trivandrum on 'Studies on the Metallothermic Reduction of CeO_2 for Fabricating in-situ rare-earth-added Aluminium Alloys and Composite'; Dr Gautam Anand, IIST, Shibpur on 'Micro Architected and Hierarchical Nanostructure of Carbon in Ancient Carburizing Slags—Implications to the Wootz Steelmaking and Damascus Steels'; Dr Suman Kalyan Das, Jadavpur University on 'Green Tribology: Eco-Sustainable Solutions for Material Innovation'; Dr Chandra Sekhar Tiwary, IIT Kharagpur on '3D Printing of Composites for Energy, Bio-medicals, and Sensor Applications' and Dr Apurba Das, IIST, Shibpur on 'Application of Composite Material in Indian Railway: Present Condition and Future Aspect'.

A Special Session, chaired by Prof (Dr) Krishnamoorthi J, Member, MMDB, IEI, was held on the Discourse on Future Trends in Metallurgical & Materials Engineering : Germane Perspective. Speaker of the session was Prof (Dr) Pravas Chandra Chakraborty, Professor & Head, Department of Metallurgical & Materials Engineering, Jadavpur University. A Special Talk was delivered by Dr Ashok Kamaraj, Assistant Professor, IIT Hyderabad on the topic 'Demystifying the Role of BOF Vessel Shape on Slag Carryover'. A Business Session was chaired by Shri Ranadev Mitra, Former Executive Director, SAIL, in which, Shri Mitra set the mood of discussion by his brief deliberation on the sustainable materials development and industry interface. A Special Talk was given by Dr Bishaljit Paul, et. al, Department of Electrical Engineering, Narula Institute of Technology, on the topic 'Marginal Price Settlement for a Cost Effective Power industry with the impact of Renewable Generation'.

Also papers were presented on relevant subtheme, which include; Processing and characterization of in-situ Al-TiB 2 metal matrix composites by stir casting technique; A novel technique for extraction of HAp from fish wastes and its utilization as dispersing phase; Comparative study on various natural plant fiber composites; Analysis of transient acceleration response of a Carbon fibre reinforced Aluminium composite cracked plate structure by wavelet decomposition; Influence of thermal stresses on the modal parameters of functionally graded composite Beams with different material gradations; PCL based composite as biodegradable implants for bone fixation; An investigation on weldability of Al-SiC Metal Matrix Composite using Tungsten Inert Gas Welding; Corrosion study of newly developed Mg-Zn-Al-Fish bone waste derived hydroxyapatite bioactive composite; Phase evolution and magnetic characteristics in mechanically alloyed cobalt-2 wt.% MWCNT nano-composite; Taguchi-Driven Precision: Experimental investigation of CNC lathe parameters for surface quality; On exploring the role of advanced composite materials for Hydrogen pipeline applications; Advancing Sustainable Energy: Investigating green composite cathodes for Intermediate-Temperature solid oxide fuel cell etc.

The Valedictory Session of the Convention was chaired by Prof (Dr) N R Bandyopadhyay. He expressed his satisfaction for the absorbing deliberation by the expert guest speakers, followed by lively interaction from the audience. Er S Natarajan and Er K N Sivaraju, Members of MMDB, IEI were present and appreciated the successful accomplishment of the event. Prof (Dr) Sumit Chabri, Convenor, Technical Committee, 36th NCMM, summed up the proceedings of the technical sessions and also proposed the vote of thanks, extending heartfelt appreciation to all guests and participants of CSIR-CMERI, Durgapur for their kind patronage, as well as to them, who had worked behind the scene to make the convention a success.

The Recommendations, emanating from the two-day event, are furnished hereunder:-

Increasing concern about energy, environment, efficiency, resource and economy has necessitated design of composites with various constituents, composition and architecture, including newly found Green Composites, the new-generation sustainable composite materials with specific features and applications; Dedicated efforts are required to be directed towards developing advanced composites with improved performance. Beyond the traditional composite scope recently broadened to the use of smart materials as reinforcements in the matrix to respond to external or internal stimuli and take corrective actions during service. Researchers should focus on developing the self-healing composite, which possesses crack-healing ability.



AI and Robotics

West Bengal State Centre, IEI organized Technical Webinar on the theme **AI and Robotics** on 14 October 2023 under the aegis of Electronics & Telecommunication Engineering Division Board [ETDB], IEI. This webinar aimed at showcasing the concepts of Artificial Intelligence (AI) and Robotics with the uses, cases and current research activities in this arena.



Dr Dilip Kr Pratihari

Panelists of the webinar session were Prof (Dr) Dilip Kumar Pratihari, Institute Chair Professor, Mechanical Engineering Department, IIT Kharagpur and Mr Bitan Pratihari, Research Scholar, Chemical Engineering Department, IIT Kharagpur. Er Chanchal Chakraborty, the then Convenor, Electronics and Telecommunication Engineering Divisional Sub-Committee, WBSC, IEI moderated the webinar session.



Mr Bitan Pratihari

The event began with a welcome address delivered by Er Ram Chandra Chakraborty, the then Jt. Honorary Secretary, West Bengal State Centre, with introductory remarks on the theme. He also introduced the Expert Speakers and the Moderator.

Prof Pratihari's session covered the historical evolution of intelligence, from ancient civilizations to modern AI. He highlighted the inception of AI in 1956 and its subsequent application in

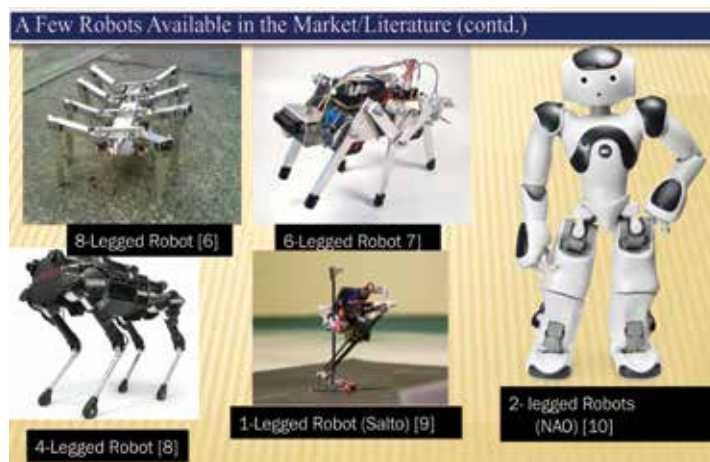
US DARPA projects for intelligent robots. Intelligence, he emphasized, facilitates adaptive decision-making. He categorized AI into four types and delineated its wide-ranging applications across industries. Transitioning to computational intelligence, he explained soft computing biological basis and its tools like evolutionary and learning systems. Prof Pratihari detailed AI subsets such as machine learning, deep learning neural networks, and generative AI. In the context of robotics, he traced the term's origin and defined robotics as a multidisciplinary science. Describing the components and types of robotic systems, from manipulators to wheeled and legged robots, he highlighted practical applications and mentioned experimental variations like 8-legged and 1-legged robots. He further explained about the development of Adaptive Motion Planner, Adaptive Gait Planer, Adaptive Controller, Multibody Dynamics in Humanoid Robot etc. He underscored the pivotal role of AI in robotics, particularly in environmental perception, motion planning, and emotion modeling. Prof Pratihari discussed at a length intelligent optimization, Metaheuristic algorithm, Clustering and classification Tools, Dimensionality Reduction technique, etc. Dr Pratihari's



Er Chanchal Chakraborty

comprehensive session elucidated the intertwined realms of intelligence, AI, and robotics, spanning historical context to contemporary applications.

Mr Bitan Pratihari delved into fuzzy clustering, introducing fuzzy sets with imprecise boundaries, contrasted with crisp sets. Real-world problems, he noted, often involve uncertainties, efficiently addressed by fuzzy logic. He delineated crisp and fuzzy clustering, explaining their distinctions and common techniques like K-means and Fuzzy C-Means Algorithm. Mr Pratihari discussed algorithms such as Entropy-based Clustering and Entropy-based Fuzzy C-Means, concluding with experimental results. His



session illuminated the efficacy of fuzzy clustering in handling uncertainties and its practical applications in data analysis. He explained a case study on Fuzzy Logic based Expert System. An elaborated question answer session was held at the end of deliberation, when the replacement of human action and its' effect in employability was discussed.

The moderator of the session summed up the proceedings of deliberations and commented that Dr Pratihari and Mr Pratihari lucidly described the concepts of AI and Robotics explaining the future roadmap of this new generation technology. There were 128 participants and the webinar generated immense interest among them. Earlier, Er Ram Chandra Chakraborty, introduced the panelists and moderator of the session and proposed the vote of thanks at the end of the session.

One Day Seminar under the aegis of Interdisciplinary Coordination Committee

Clean Energy Technologies

Manipur State Centre, IEI organized a One Day Seminar on the theme **Clean Energy Technologies** on 18 December 2023, under the aegis of Interdisciplinary Coordination Committee [ICC], IEI. Er Swamikanta Singh L, Chairman Manipur State Centre presided over the Inaugural Function and welcomed the august gathering. Er RK Nando Singh, Controller of Technical Education, Government of Manipur, graced the occasion as the Chief Guest.



Er Ng. Basantakumar Singh, Principal, Government Polytechnic College, Imphal was the Guest of Honour. Er L Shamungou Singh, Convenor briefed the audience about the theme. Guest of Honour, Er Basantakumar Singh, spoke on various clean energy technologies and generation of clean energy from renewable sources. Chief Guest, Er RK Nando Singh, in his speech, spoke about the clean energy generation methods, which can be effectively adapted for sustainability and reducing the environmental pollution. During the technical sessions, invited lectures were delivered by Dr Benjamin A Shimray, Associate Professor, Department of Electrical Engineering, National Institute of Technology Manipur on the topic 'Optimal Hydropower sites selection: A Move towards Clean Energy' and Mrs Babita Thangjam, Senior Scientific Officer, Manipur Renewable Energy Development Agency (MANIREDA), Government of Manipur delivered lecture on the topic 'Harnessing Energy from Renewable Sources, a Way to Clean Energy Technologies'. The session ended with a vote of thanks delivered by Er Thokchom Subhaschandra Singh, Honorary Secretary, Manipur State Centre.

Accelerators, Incubation opportunities for Faculties, Students and Early Stage Entrepreneurs

Madhya Pradesh State Centre, IEI, in collaboration with IES University Bhopal and the IES College of Technology Bhopal, organized a One Day Seminar on the theme **Accelerators, Incubation opportunities for Faculties, Students and Early Stage Entrepreneurs** on 28 November 2023 at Bhopal under the aegis of Interdisciplinary Coordination Committee [ICC], IEI. The One Day seminar provided an insightful platform for faculties,



students, and early-stage entrepreneurs. The lectures on entrepreneurship offered valuable guidance, emphasizing practical approaches to fostering innovative ideas. Participants gained crucial insights into bank schemes tailored for entrepreneurs, facilitating financial support for budding ventures. The seminar shed light on Madhya Pradesh's startup initiatives, fostering a conducive ecosystem for entrepreneurial growth. The Atal Incubation Center was highlighted as a key resource for nurturing startups. Additionally, the event featured sessions on self-discovery, empowering individuals to recognize their potential in the entrepreneurial landscape. Overall, the seminar served as a comprehensive guide for aspiring entrepreneurs in navigating the dynamic startup environment. The Seminar was attended by the Corporate Members, practicing engineers, faculty members,

research scholars and students. Er R K Mehra, Secretary, Public Works Department (PWD), Government of Madhya Pradesh graced the function as the Chief Guest. Er Balmukund Soni, Former Project Director, M P Jal Nigam Maryadit, Bhopal, Er V K Khare, Former Chief Engineer, Public Health Engineering Department (PHE), Government of M P and Er Arun Kumar Dwivedi, Former Engineer in Chief (EnC), PHE. Govt of M P graced the occasion as the Guests of Honour. Er Rajesh Bisaria, Chairman of Madhya Pradesh State Centre, IEI delivered the welcome address and presided over the function. Er B S Yadav, Chancellor of IES University Bhopal addressed the gathering. Dr Mukesh Kumar Mishra, Honorary Secretary, Madhya Pradesh State Centre elaborated on the theme of the seminar. The seminar covered a wide range of subtheme, which include: Introduction to Start-up Ecosystem; Understanding Accelerators and Incubators; Government Schemes and Programs for Start-ups; Support Services and Resources for Start-ups; Identifying and Nurturing Innovative Ideas; Business Model Canvas and Pitching and Industry-Academia Collaboration.

During the technical sessions, invited lectures were delivered by Ms Anuradha Singhai, Executive Director, The Centre for Entrepreneurship Development, Madhya Pradesh (CEDMAP) Bhopal on the topic 'Basics of Entrepreneurship'; Mr Ronald Fernandez, Chief Executive Officer (CEO) , AIC-RNTU Foundation, Bhopal on 'Role of Incubation in Entrepreneurship'; Mr K Shankar, Corporate Trainer on 'Role of Banks in Incubation and Entrepreneurship'; Shri S K Mustaque Ali, Consultant, M P Start Up on 'Start up Ecosystem in Madhya Pradesh' and Mr C S Arun Thapar, Assistant Registrar (Finance & Accounts), Indian Institute of Information Technology Bhopal discussed on 'Discovering Entrepreneur in You'. The Valedictory Session was presided over by Er Rajesh Bisaria, which ended with a vote of thanks delivered by Dr Mukesh Kumar Mishra.

Role of Nanotechnology in Material Science

Tamil Nadu State Centre, IEI, in association with Department of Aeronautical Engineering, Mahendra Engineering College, Namakkal, organized a One Day Seminar on the theme **Role of Nanotechnology in Material Science** on 17 October, 2023 at Namakkal under the aegis of Metallurgical and Materials Engineering Division Board [MMDB], IEI. The event was started with the welcome address delivered by Er K N Sivaraju, Honorary Secretary, Tamil Nadu State Centre, IEI [Session 2021-23]. Er S Natarajan, Convener and Committee Member, Tamil Nadu State Centre, delivered the thematic address. Er D B Daniel, Chief General Manager, Steel Authority of India Limited, Salem Steel Plant, was the Chief Guest of the function and delivered the inaugural address. He explained the manufacturing of iron & steel in ancient India and explained about the latest development in steel plants and appreciated the effort of budding engineers. Dr R V Mahendra Gowda, Principal, Mahendra Engineering College addressed the audience on the occasion. Dr R Samson Ravindran, Executive Director, Mahendra Educational Institutions, delivered the special address with the focus on recent developments of nanotechnology in material science. Er R Vinoth Babu, Assistant Professor, Metallurgical Engineering Department, Government College of Engineering, Salem delivered the Keynote address, and explained the role of nanotechnology in material science with the



latest developments in the domain. During the technical session, papers were presented from different academic institutions. Dr C Dhavamani, Co- Convener, Professor & Head, Aeronautical Engineering Department, Mahendra Engineering College summed up the proceedings of deliberations and delivered the concluding remarks.

Solar Energy and Thermal Storage for Sustainable Development

Kattankulathur Local Centre, IEI, organized an All India Seminar on the theme **Solar Energy and Thermal Storage for Sustainable Development** during 21- 22 September 2023, under the aegis of Mechanical Engineering Division Board [MCDB], IEI. The All India Seminar aims to foster knowledge, awareness, and collaboration among participants in the field of solar energy and thermal storage, focusing on their role in achieving sustainable development goals. The theme is to empower a sustainable future: for harnessing solar energy and thermal storage for sustainable development.

The inaugural session started with Dr S Dhanalakshmi, Chairman, Kattankulathur Local Centre, welcoming the Chief Guest, Keynote Speakers all other dignitaries. Prof (Dr) K. Elango, Professor and Head, Valliammai Engineering College, Chennai delivered the Keynote address on the topic 'Recent Advances in Solar Photovoltaics'. Apart from the Keynote address, two invited lectures were given by Mr V C Mahadevan, Manager, Renault-Nissan Motors on the topic 'Electric Vehicle Charging Automation' and Dr P Sellamuthu, Professor, Department of Mechanical Engineering, VMKV Engineering College, Salem delivered Invited Talk on 'Enhancement of Heat Transfer in Phase Change Materials for Effective Solar Thermal Energy Storage'.

Over the next two days, 20 technical papers were presented, in which topics covered almost all areas of solar energy and thermal storage, namely solar water heaters, solar air heaters, concentrated solar collectors, thermal energy storage systems, phase change materials, sensible heat storage materials,

solar-powered drones for agricultural applications, solar distillation, solar desalination, solar stills, solar dryers, solar refrigeration, solar photovoltaics, effects of dust and sand cover on solar PV electric vehicles, operation strategy of solar energy systems, charge controllers, solar-powered vehicles, Internet of Things (IoT), Artificial Intelligence (AI) and Machine Learning (ML) technologies for solar energy systems and applications.

Dr P Thirumal, Professor and Head, Department of Mechanical Engineering, Government College of Engineering, Bargur presented paper on 'Heat Transfer Enhancement of Solar Dryers using

Latent Heat Thermal Energy Storage for Sustainable Development', Dr G Arun Vijay, Department of Mechanical Engineering, University College of Engineering Kancheepuram, on 'A Review of the Heat Transfer Augmentation in Solar Heaters using Turbulators'; Ms S Rithika, Department of Computing Technologies, SRM Institute of Science and Technology, Kattankulathur on 'Effective Utilization of Solar Energy and Thermal Storage Technologies for Sustainable Development and Climate Change Mitigation'; Mr K Karthikeyan, Department of Electrical and Electronics Engineering, KCG College of Technology, Karapakkam, Chennai and Dr T Mothilal, Department of Automobile Engineering, KCG College of Technology, Karapakkam, Chennai on 'Performance Analysis of Solar Powered DC Fan'. Mr Shankhadip Manna & Ms Arpita Kander, Department of Bachelor of Computer Application and Mr Somesubhra Panda, Department of Electrical Engineering, Global Institute

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Role of Quality in Infrastructure Projects for Nation Building & Inclusive Growth

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President, IEI and Dr T M Gunaraja, Past President, IEI, were the Guests of Honour on the occasion. The event also witnessed the august presence of Er S S Rathore, Past President, IEI, Er Jagdish Chand Singhal, Chairman-BOG, Safety & Quality Forum-IEI; Er Manish Mahendra Kothari, Member, BOG-SQF, IEI. Council Members of IEI, namely Er Sandip Vasava, Er I Satyanarayana Raju, Er Ajoy Kumar Sinha, Dr Labh Singh Bhari, Er P Balakrishnan Nair and Past Council Members, Er Satish Joshi, Er B Brahma Reddy & Dr N Sivaramalsubramanian were present on the occasion. Er Praveen Kumar Singh, Director, Safety & Quality Forum, IEI and Er Niraj Anilbhai Shah, Honorary Secretary of Gujarat State Centre were also present on the dais.

The event commenced with the auspicious 'lighting of the lamp' ceremony accompanied by devotional music. Er E Rajiv, Executive Director of iACE, emphasized the importance of quality, particularly in the automobile sector, and commended the initiatives of SQF in this domain. Er Jagdish Chand Singhal delivered the Convention Address, highlighting the forum's role in fostering a culture of safety and quality through ethical practices. Guest of Honour, Dr T M Gunaraja, Past President, IEI appreciated the continuous efforts of Safety and Quality Forum since its establishment in 2003. Guest of Honour, Er Navinchandra B Vasoya, Past President, IEI shed light on safety practices in the dynamic work environment, particularly in Gujarat, with a focus on developments in the GIFT city. Dr G Ranganath, President IEI, in his address commended SQF's commitment to national safety and quality, acknowledging its role in awareness spreading, facilitating courses, and policy formulation. He inaugurated the two-day Convention and participated in the release of Souvenir, containing messages from dignitaries and technical papers. Chief Guest, Dr Nilesh M Desai delivered a lecture on the theme, emphasizing ISRO's significant contribution to nation building, which was widely appreciated. Er Manish Mahendra Kothari, Member, BOG-SQF in his address, briefed about the rigorous selection process for the Quality Innovation Awards, followed by the distribution ceremony honouring nine organizations. Er Niraj Anilbhai Shah, Honorary Secretary of Gujarat State Centre proposed the vote of thanks, and the event concluded with the National Anthem, marking a successful and enriching Convention focused on enhancing safety and quality in infrastructure projects for national development and inclusive growth.

The event comprised of five Technical Sessions, comprising of 17 Key-Note addresses/Papers & case studies. Deliberations in different sessions comprised of highly relevant themes. A Plenary Session was organised on 'Role of Quality in Infrastructure Projects for Nation Building & Inclusive Growth'. The first Technical Session was organised on the topic 'Quality Management & Sustainability'. The second Technical Session was on 'Quality Assurance and Control Mechanisms in Development'. The third Technical Session was on 'Plastic in Electric Vehicle' & the fourth Technical Session was organised on 'Case Studies and Best Practices in Quality'. Further, During the Safety Convention, Technical Visits for delegates were arranged at the Institute of Advanced Research, Gandhinagar & Skill Development Centre of iACe to showcase the emerging technologies for ensuring Sustainability & Quality.

During the Valedictory Session, Er Navinchandra B Vasoya graced the occasion as the Chief Guest. Er Jagdish Chand Singhal, delivered the welcome address. Er Singhal in his address applauded the efforts of co-organizers & supporters in making this event successful. Er Praveen Kumar Singh, Director, SQF-IEI, presented the Convention synopsis.

5G VOLTE

Agra Local Centre of the Institution of Engineers (India) organised an One Day Seminar on the theme **5G VOLTE** on 18 November, 2023 at Agra, in association with the Department of Electronics and Communication Engineering, BSA College of Engineering & Technology Mathura (UP) under the aegis of Electronics and Telecommunication Engineering Division Board, (ETDB), IEI. The Seminar started with lightning of the lamp by the dignitaries on the dais. Er Rajneesh Kumar Yadav, Honorary Secretary of Agra Local Centre said about IEI, its roles, functioning and contribution to the society, industry and academics. In the Inaugural session, Advocate Umashankar Agrawal Chairman, BSACE&T spoke about the advancement of technology, scope of implementation of advanced technology and its uses. .

During the technical session, Mr Vishal Lal Goswami, HOD, Electronics and Communication Engineering, BSA College of Engineering & Technology Mathura introduced 5G (VOLTE) technology to the students. He expressed that 5G (VOLTE) technology will bring great changes in the area of Artificial Intelligence (AI) and Internet of Things (IoT). The second speaker, Er. Bhagwan Das Rawat, Assistant General Manager, BSNL, Agra spoke about 5G (VOLTE) technology that provides high speed internet, having greater bandwidth with practically low tower requirement. He further explained Frequency bands for full scale deployment of 5G Mobile communication that can be divided broadly in two groups Sub 6GHz Band & mmW band



for easy support for high speed data transfer, having large capacity data transmission. Key speaker of the Seminar, Er Sanjay Agrawal, SDE BSNL, Agra, explained the aim of 5G (VOLTE) technology in the area of internet and communication. He said that 5G is designed to do a variety of things that can transform our lives, including giving us faster download speeds, low latency, having more capacity and connectivity for billions of devices connected simultaneously.

Er. Rajneesh Kumar Yadav spoke about the applications of 5G technology from wearable devices with AI (Artificial Intelligence) capabilities to Pervasive (Global) networks, Media independent handover, Radio resource management having 6th sense technology. The vote of thanks was delivered by Er. Ranjeet Singh, Organizing Secretary of the workshop.

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 practising 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.

WORLD ENVIRONMENT DAY

05 June 2024

Theme: Land Restoration, Desertification and Drought Resilience

World Environment Day 2024 emerges as a beacon of hope, spotlighting the critical theme of land restoration, desertification, and drought resilience. As nations grapple with the repercussions of climate change, the imperative to safeguard our planet's terrestrial ecosystems has never been more urgent. This year's theme underscores the interconnectedness between land degradation, desertification, and drought, highlighting the pressing need for concerted global action.

Land restoration stands at the forefront of environmental conservation efforts, aiming to reverse the adverse impacts of human activities and restore ecosystems to their former vitality. Through reforestation, sustainable land management practices, and the rehabilitation of degraded lands, communities can mitigate soil erosion, enhance biodiversity, and bolster food security. World Environment Day 2024 serves as a catalyst for renewed commitments to restoring the health and resilience of our planet's landmasses, fostering a sustainable future for generations to come.

Moreover, the theme of desertification and drought resilience underscores the existential threats posed by climate change-induced aridity. As vast swathes of land succumb to desertification and communities grapple with water scarcity, the imperative for innovative solutions grows more pronounced. By promoting drought-resistant agricultural practices, investing in water conservation initiatives, and fostering international cooperation, World Environment Day empowers global stakeholders to confront the challenges of desertification and drought head-on, forging a path towards a more resilient and sustainable future.

Link : <https://www.worldenvironmentday.global/about/theme-host>

Innovation Conclave 2024

A One Day Seminar on the theme **Innovation Conclave 2024** was organised by **Durgapur Local Centre, IEI** at Durgapur on 7 January 2024. The main objectives of the Seminar were to provide awareness about the concept, tools & techniques of innovation and creativity along with exercises and real-life cases of business innovations from sectors like engineering & technologies, health care, human resource, finance etc for the benefit of delegates and corporate members from engineering enterprises and academic institutions. Chief Guest of the function, Dr Saikat Chatterjee, Director, Sanaka Educational Trust and Group of Institution [SETGOI] and Guest of Honour, Prof Pathik Kumbhakar, Dean Academic Research NIT, Durgapur shared their views and thoughts with the audience. During the technical session, five speakers from different fields of expertise delivered their presentations. Participants including delegates from industries/ Institutions attended the programme. Dr Chandan Koner, Chairman of Durgapur Local Centre, IEI extended a warm welcome to the Chief Guest, Guest of Honour, eminent Speakers, delegates, media personnel and program sponsors also. In his welcome address he expressed the need for such a program which aims multi-dimensional growth among professionals. Guest of Honour of the programme, Prof Pathik Kumbhakar in his address covered the areas of innovation in research for the sustainable development goal and its application part for a better future. Chief Guest and Keynote Speaker of the Conclave, Dr Saikat Chatterjee, Director SETGOI, talked about the present scenario of innovations at various levels and its commercialization. In his lecture, he expressed nurturing innovative ideas and concepts in a collaborative environment. He elaborated in detail regarding the perspective of a budding Engineer in line with the innovation to entrepreneurship with the aim of job creator instead of job seeker.

During the technical sessions, the speakers were welcomed and introduced by Er Safikul Islam, Immediate Past Chairman and Dr Bimal Das, Honorary Secretary, Durgapur Local Centre and Dr Chittatosh Bhattacharya, Deputy Director, NPTI (ER).

Er Sameer Jain, General Manager, SAIL-DSP highlighted the concepts and role of innovation in steel and allied industries specifically applicable for solid waste management in an integrated steel plant. Er Jain mentioned that recycling entire solid waste into a clean green and zero waste solution in a sustainable manner is a big challenge. He presented the successfully implemented cases of innovative processes and problem solving approaches in Durgapur Steel Plant through which large scale tangible and intangible benefits could be obtained.



Dr Amarnath Basu, MS, Expert in open, laparoscopic, and robotic surgery presented the innovative approaches in the health care system. He demonstrated robotic surgery for the liver transplant with very high precision and excellent results compared to laparoscopic surgery. He also covered innovative healthcare practices in other fields of surgery and healthcare.

CA Sanuj Mittal, Sr Manager (Finance), SAIL-DSP, presented the cases of successful financial innovations in recent times. He deliberated on the UPI payment system of India which has made a significant contribution in the digital economy. He covered blockchain technology & cryptocurrencies and many other recent financial innovative products and services in banking, insurance, capital market and trading platforms which has revolutionized the financial transactions in India.

Er. P Shaw, in his presentation on Innovation for Excellence, discussed the popular excellence framework like EFQM, Malcom Baldrige, and Demining. He discussed the innovation process as a value creation model and briefly described different types of business innovation like product, process, technological, incremental Vs disruptive, biomimicry innovations etc. He discussed the innovation tools and creative problem solving styles.

Prof (Dr) Subrata Mandal, Former General Manager (HRD), SAIL-DSP emphasized on the various tools and techniques of creativity and innovation. He discussed the Da Vinci principles of learning & creativity, left brain and right brain thinking pattern, suggested environment during ideation process, Tolerance to ambiguity, blocks to creativity, steps of innovation process, out-of-box thinking, process of brainstorming etc. The conclave concluded with the vote of thanks by Dr. Bimal Das, Honorary Secretary, IEI, Durgapur Local Centre.

Solar Energy and Thermal Storage for Sustainable Development

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of Science and Technology, Hatiberia on 'Internet of Things (IoT) based Remote Photovoltaic (PV) System Operation'.

Prince Ragul V and Dr V Vandhana Devi, Department of Civil Engineering, KCG College of Technology, Chennai spoke on the topic 'Enhancing Building Energy Efficiency with Thermal Mass and Phase Change Materials (PCMs)'. Ms S Rithika, Department of Computing Technologies, Ms R Sanjana, Department of Data Science and Business Systems and Mr Nagisetty Pramod, Department of Electronics and Communication Engineering, SRM Institute of Science and Technology, Kattankulathur Campus on 'Artificial Intelligence and Machine Learning Techniques for Solar Thermal Energy Storage Systems towards Sustainable Development'; Mr V Velukmar, Assistant Professor, Department of Food Process Engineering, College of Fish Nutrition and Food Technology, Madhavaram, Chennai, Mr S D Sekar, Associate Professor, Department of Mechanical Engineering, RMK Engineering College, Kavaripeitai, Thiruvallore and Dr T Mothilal, Professor, Department of Automobile Engineering, KCG College of Technology, Karapakkam, Chennai discussed on 'Investigation on Heat Transfer Rate in Gas-solid Cyclone Heat Exchanger'. Mr S Sudhakar and Mr Vijayaragavan

Mathanraj, Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai on 'Experimental Study on Energy and Exergy Performance of Equally Partitioned Single Slope Solar Still at Different Water Depths'. Dr V Vandhana Devi, Department of Civil Engineering, KCG College Of Technology, Chennai delivered presentation on 'Development of Sustainable Solar Multistage Flash Distillation to Attain Green Energy Goals'.

From the Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur number of papers were presented as indexed. Mr Ankit Kumar Kapse, spoke on 'Development and Evaluation of a Thermosyphon-Based Flat Plate Hot Water System'; Dr Abhinav Narayanan Kutty, on 'A Sustainable Solution for Hot Water Generation'. Dr Hariharan A A, delivered lecture on 'Design and Material Selection for the Sustainable Development of a Novel Double-Pass Solar Air Heater with Porous Fins'. Mr Santhosh V Venkatesan, on 'Effect of Sensible Heat Storage Materials on the Thermal Performance of Solar Air Heaters'. C Hari, spoke on 'Effects of Sandblasting on the Efficiencies of Solar Panels'. Dr M Dhinakar explained on 'Design and Development of an Automatic Solar Water Heater Controller'.

Hands on Robot Simulation, Programming and Execution using Real Time Robot

Kanchepuram Local Centre, IEI organized an All India Seminar on the theme **Hands on Robot Simulation, Programming and Execution using Real Time Robot** under the aegis of Production Engineering Division Board [PRDB], IEI at Chennai in association with Sathyabama Institute of Science and Technology [SIST], Chennai, during 17-18 August, 2023. The event was started with the welcome address delivered by Dr D Elango, Chairman, Kanchepuram Local Centre, IEI [Session 2021-23]. Dr S Prakash, Mechanical Engineering Department, Sathyabama Institute of Science and Technology also spoke on the occasion. During the technical sessions, speakers from industries and academia shared their insights on the theme and sub theme. Mr Rajesh R, Assistant General Manager, Hyundai Motor India Limited, Chennai addressed the august audience. Mr M Merlin Jebha Kumar, Deputy Manager, Ashok Leyland, Foundry Division, Chennai explained the upcoming development in robotics. Dr J Jeya Jeevahan, Assistant Professor, School of Mechanical Engineering, SIST, Chennai also delivered on the occasion. This session gave a better understanding about using real time Robots. He explained the fundamental concepts required for robot design and run robot simulations with Webots® simulation package. The hands-on sessions, with two examples of the wheeled mobile robots with or without the proximity sensor, helped the participants to develop new robot models, write the controller program using programming language like Python, and run the robot simulations. Mr Balaji Ananthashekar, Deputy



Manager, Ashok Leyland, Foundry Division, Chennai, shared his expertise and views with the participants. Dr R B Durairaj, Assistant Professor, School of Mechanical Engineering, SIST, Chennai delivered presentation on the topic 'Cloud Computing and IoT Incorporation for Optimizing and Automating Workflow' and discussed new perspective about robot development and its methodologies. Dr V Vedanarayanan, Associate Professor, School of Electronics and Communication Engineering, SIST, Chennai delivered lecture on 'IoT for Real Time Applications'.

Empanelment as Advocate/ Attorneys & Chartered Accountant for Engineers

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

Applicants are requested to send a hard copy of their application to the **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>.

One Day Seminar under the aegis of National Languages Promotional Committee

Awareness on Cyber Crime

Tamilnadu State Centre, IEI organized a One Day Seminar on the theme **Awareness on Cyber Crimes** in association with SRM Valliammai Engineering College on 18 October 2023 in the New Seminar Hall of SRM Valliammai Engineering College under the aegis of National Languages Promotional Committee [NLPC], IEI. The event started with the welcome



address delivered by Er S Kannan, Chairman of Tamilnadu State Centre, IEI [Session 2021-23]. He spoke on day-to-day cybercrime, their consequences and potential safety strategies. Dr M Senthil Kumar, Head of the Department of Cyber Security, SRM-VEC briefed about the theme of the seminar. Dr B. Chidhambara Rajan, Director of SRM-VEC graced

the function as the Chief Guest and delivered the inaugural address and provided meaningful insights on evolving technologies in the digital world. Continuing with this, the special address was given by Dr M Murugan, Principal, SRM-VEC and he enlightened the key concepts of digital safety and its preventive measures. The Keynote address was delivered by Prof (Dr) B Radjaram, Chairman, Puducherry State Centre [Session 2021-23] and Chairman of National Languages Promotional Committee [Session 2022-23]. Large number of students from different engineering colleges and institutions attended the seminar.

The seminar had two sessions. The first session was about awareness of Cyber Security. Dr B Chidhambararajan, Director, SRM Valliammai Engineering College gave a deep insight into cyber security protective measures which highlighted the importance of cybercrime awareness, type of cybercrimes, consequences of cybercrime, personal cyber security, reporting cybercrimes etc. The session ended with the mindful information about cybercrimes. The second session was handled by Mr Ram Sundar Suresh, Managing Director of HebeSec Technologies Private Limited, who provided an overview of cybercrimes and their real-time implications and strategies which entailed security operations, legal, and regulatory needs. The seminar created an ability to identify warning signs of potential cyber attacks or scams and an awareness of common indicators of recent crime crimes.

05th April is celebrated every year in India as National Maritime Day to commemorate the maiden voyage of the first Indian owned commercial vessel SS Loyalty that set sail from Bombay (Mumbai) to London, on 05th April 1919. 'National Maritime Day commemorates our nation's entry into the international mercantile shipping community in 1919. A brief account of the Day, as celebrated at various State/Local Centres of The Institution of Engineers (India), are reported hereunder.

STATE CENTRES

Maharashtra

On 05 April 2024, Maharashtra State Centre, IEI observed National Maritime Day 2024 through online mode. Er Anand Wamanrao Jawanjale, Chairman, Maharashtra State Centre, IEI welcomed the participants and delivered the introductory speech. Speaker of the event, Mr P Lakshman, Senior Vice President, Rochem SEPARATION System delivered lecture on challenges and sustainability in maritime industry. He focussed on the challenges faced by maritime industry including air pollution and underwater noise, artificial intelligence (AI) and the internet of things (IoT), geo-political tensions and over-regulations, ocean freight rates and newbuild prices, piracy, crew shortages, cyber security vulnerabilities, sustainability, etc. At the end, Er Milind Lakshmikanth Patil, Honorary Secretary, Maharashtra State Centre, IEI proposed the vote of thanks.

Punjab & Chandigarh

On 05 April 2024, Punjab & Chandigarh State Centre, IEI in association with Institute of Marine Engineers (India), Chandigarh Chapter observed National Maritime Day 2024 at Chandigarh. Dr Labh Singh Bhari, Chairman, Punjab & Chandigarh State Centre, IEI welcomed the dignitaries and guests and highlighted the challenges faced by shipping industry. Hon'ble Chief Guest, Commodore R K Dass, VSM, Retired Indian Navy explained the Indian Navy's role in securing our coastal boundaries, protecting the merchant fleet from pirates and terrorist group in the red sea area. Er Arun Agarwal, Chairman, Institute of Marine Engineers (India), Chandigarh Chapter



highlighted the importance of proper training to accept the challenges faced by Indian Navy. Keynote Speakers of the event were Er Ajit Singh Mehndiratta, former President, Merchant Navy Officers

Association [MNOA], Chandigarh and Er Nityanand Bhardwaj, Managing Director, Renit Power Private Limited. Er Ajit Mehndiratta spoke about the history of National Maritime Day and discussed about the challenges faced by the shipping industry and the opportunities thereon. Er Bhardwaj discussed about the changes in shipping that has come from opposed piston to propulsion power systems. The event witnessed the august presence of Prof (Dr) T S Kamal, Former Vice President, IEI and Er Sukhviri Singh Mundi, Vice President, IEI. At the end, Er Swinder Singh, Honorary Secretary, Punjab & Chandigarh State Centre, IEI proposed the vote of thanks.

Tamilnadu

Tamilnadu State Centre, IEI observed National Maritime Day 2024 through virtual platform on 11 May 2024. At the outset, Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI welcomed the gathering and Er R Muthusamy, Committee Member, Tamilnadu State Centre, IEI introduced the Chief Guest of the event, Dr (Captain) Suresh Bhardwaj, Resident Director & Principal, MASSA Maritime Academy, Chennai. Dr Bhardwaj focused on the present scenario about decarbonisation of shipping and spoke about regulations from key bodies like IMO and EU are taking steps in driving industry stakeholder to implement plans in the coming decades. He emphasized that challenges faced by maritime industry are multifaceted and addressing them for the well being and effectiveness of our experienced seafarers is an essential requirement. At the end, Er Gokul D, Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks.

Telangana

On 05 April 2024, Telangana State Centre, IEI observed National Maritime Day 2024 through online mode. Dr G Venkata Subbaiah, Chairman, Telangana State Centre, IEI welcomed the gathering and presided over the function. Keynote Speaker of

the event, Er N V Ramana, Director, Neptunus Ship Builders and Recyclers Private Limited and Director, Marine Car Parks, delivered lecture on theme 'Sustainable Shipping: Opportunities and Challenges'.

Tripura

On 05 April 2024, Tripura State Centre, IEI observed National Maritime Day 2024 through online mode and organized a webinar on the theme. Dr Subhadeep Bhattacharjee, Chairman, Tripura State Centre, IEI welcomed the Special Speakers of the event, Er Gautam Sen, Former Director, Marine Department, Kolkata Port Trust & Chairman, Marine Engineering Division, West Bengal State Centre, IEI and Er V Ramkumar, Head of Engineering, Hoon Maritime Institute, Kolkata. Er Sen explained the significance of National Maritime Day and its historical importance. He also highlighted the future of Indian Shipping industries. Er Ramkumar discussed the technological aspects for development of Indian maritime industries in India's economic growth and highlighted the sacrifice of seafarers not only to run the trade but also to take part in national security. At the end, Dr Mrinal Kanti Deb Barma, Honorary Secretary, Tripura State Centre, IEI proposed the vote of thanks.

West Bengal

On 06 April 2024, West Bengal State Centre, IEI, in association with the Institute of Marine Engineers (India), Kolkata Branch observed National Maritime Day 2024 at Kolkata. Prof (Dr) Raju Basak, Chairman, West Bengal State Centre, IEI delivered the welcome address. Er Gautam Sen, Former Director, Marine Department, Kolkata



Port Trust and Chairman, IMEI, Kolkata Branch in his address explained the history and significance of the day. He shared his lucid view of modern shipping in India and the historical role of Bengal in the growth of shipping in

the country. Rear Admiral (Dr) P J Rangachari, Former Director, Indian Maritime University, Kolkata Campus graced the occasion as Chief Guest. He highlighted the contribution of Indian Navy towards strengthening India's role in the world maritime scenario. Er Sadhan Kumar Sarkar, Former Director (I/C), Marine Engineering and Research Institute, Kolkata delivered lecture on 'Combating Green House Gas Emission: Most Difficult Challenge for Indian Shipping'. He explained the three term strategy of IMO towards reducing carbon emission by 70% in 2050. Prof Soumitra Neogi, Professor of Practice (SMET), Indian Maritime University, Kolkata Campus highlighted that apart from emission, there are other factors that concern the sustainability of shipping industry like human factor, where seafarers need to be continuously trained to keep up with the rapid changes in technology in the shipping industry. At the end, Er Anirban Datta, Honorary Secretary, West Bengal State Centre, IEI proposed the vote of thanks and thanked the dignitaries, participants and expressed that this discussion would promote the understanding of the current issues and contribute to the growth of Indian shipping in the coming years.

LOCAL CENTRES

Coimbatore

On 05 April 2024, Coimbatore Local Centre, IEI, in association with Coimbatore Marine College, Coimbatore observed National Maritime Day 2024 at Coimbatore



and organized a technical lecture on the theme 'Sustainable Shipping: Opportunities and Challenges'. Prof (Dr) Krishnamoorthi J, Chairman, Coimbatore Local Centre, IEI welcomed the

guest speakers and the participants. Guest Speakers of the event was Er Kaushik Das Gupta, Principal, Coimbatore Marine College, Coimbatore and Capt Balagopal Sunil, Head of the Department, Department of Nautical Science, Coimbatore Marine College, Coimbatore. Mr Das Gupta discussed about applications of Artificial Intelligence in shipping industry including automation of cargo handling and management, optimization of routes and logistics and predictive maintenance of ships. He discussed the importance of AI in optimizing fleet operations to improve the efficiency of shipping routes and shared the vital role of maritime industry like supply chain management, risk management autonomous shipping, etc. Capt Sunil discussed various challenges faced by the mariners in shipping industry and the disruptive changes happening in the maritime sector. He further explained the impact of de-carbonization and digitalization in shipping industry and suggested important skills required for future sea farers to overcome the barriers in this sector. At the end, Prof (Dr) Madhan Mohan Gopalasamy, Honorary Secretary, Coimbatore Local Centre, IEI proposed the vote of thanks.

Kanyakumari

On 05 April 2024, Kanyakumari Local Centre, IEI observed National Maritime Day 2024 through online mode. Prof (Dr) Marsaline Beno M, Honorary Secretary, Kanyakumari Local Centre, IEI welcomed all the attendees and explained the theme 'Sustainable Shipping: Opportunities and Challenges'. Keynote Speaker of the event, Er A Vickramoorthy, Assistant Professor, Department of Marine Engineering, NI College, Kumaracoil highlighted the promising opportunities and the challenges in sustainable shipping, that lie ahead. He navigated through the intricate landscape of maritime sustainability, elucidating key strategies and technological advancements in shaping the industry's trajectory and his presentation fostered a deeper interconnection between environmental conservation, economic viability and technological innovation within the maritime sector. His deliberation covered in the area of alternative fuels and emission reduction measures to digitalization and regulatory frameworks. Er P Gopal, on behalf of Kanyakumari Local Centre, IEI while delivering the vote of thanks underscored the importance of collaborative efforts in addressing the challenges facing the maritime industry and emphasizing the pivotal role of knowledge exchange and collective action.

Madurai

On 05 April 2024, Madurai Local Centre, IEI observed National Maritime Day 2024 in Madurai and a seminar was organised on the theme 'Sustainable Shipping: Opportunities and Challenges'.



Prof (Dr) P Udhaya Kumar, Chairman, Madurai Local Centre, IEI welcomed all. Er A T Baskar, Honorary Secretary, Madurai Local Centre, IEI introduced the Chief Guest of the event, Er M Muthu Kumar,

Marine Chief Engineer, Merchant Ships, Former Dean, Tamilnadu Maritime Academy, Tuticorin, Ship in Charge & Senior Faculty, R L Institute of Nautical Sciences, Madurai. During deliberation, it was mentioned that the day is celebrated to honour the brave men who spend months at sea and contributing significantly to India's global trade and commerce. Also the significance of India's maritime aspirations in the context of its economic growth is highlighted and the need for technological changes to reduce pollution had been emphasized. At the end, Er A T Baskar proposed the vote of thanks.

Neyveli

Neyveli Local Centre, IEI observed National Maritime Day 2024 on 10 April



2024 at Neyveli. Er Appavu Eraniyan, Honorary Secretary, Neyveli Local Centre, IEI welcomed the Chief Guest and Keynote Speaker Dr P Anantharman, Dean/Faculty of Marine Sciences, Annamalai University, Chidambaram and

other participants. Er A Sekar, Chief General Manager (Retd), NLC India Limited and Council Member, ELDB, IEI presided over the function and highlighted the symbiotic relationship between the Navy and Merchant Marine. Dr Anantharaman in his Keynote address explained India's historical dominance in shipping and seaborne trade and emphasized the pivotal role of seafarers. The Keynote speaker stressed the need on biogeochemistry water sampling on research vessels, which is instrumental in advancing marine science, supporting sustainable practices and strengthening national research capabilities.

North Bengal



On 05 April 2024, North Bengal Local Centre, IEI observed National Maritime Day 2024 in Jalpaiguri. A seminar was organised on the theme 'Sustainable Shipping: Opportunities and Challenges'.

Er Shrayasi Datta, Honorary

Secretary, North Bengal Local Centre, IEI explained about the theme and explained sustainable or green shipping as logistics and transport operations that strives to limit the company's Green House Gas (GHG) emissions. Er G Bairagi, Member, North Bengal Local Centre, IEI stated that shipping industry is responsible for 3% of the world's total CO₂ emissions and 940 million tonnes annually. He opined that if no significant action is taken by the shipping industry then the global CO₂ emissions will increase upto 17% by 2050. At the end, Er Shrayasi Datta proposed the vote of thanks.

Palghat

On 05 April 2024, Palghat Local Centre, IEI observed National Maritime Day 2024 at Palakkad. Er Rajesh Menon B, Honorary Secretary, Palghat Local Centre, IEI



welcomed all the members. Er A V Rajappan, Chairman, Palghat Local Centre, IEI presided over and explained the theme. Guest Speaker of the event, Er T B Ramakumar, Retired Chief Marine Engineer and Past Chairman, Palghat Local Centre, IEI delivered

lecture on the theme and advocated that transport of cargo by sea is cheaper, least polluting, most efficient with timely delivery, fuel efficient and economically sustainable. He stressed on more application of environment friendly sustainable shipping and the cost effective technologies for running the ship engines.

Trichur



On 08 April 2024, Trichur Local Centre, IEI, jointly with Kochi, Kollam and Kozhikode Local Centres observed National Maritime Day 2024 through virtual mode. Er Velayudhan Nair G, Chairman, Kochi Local Centre, IEI delivered the welcome address. Dr Gireesan

P, Chairman, Kozhikode Local Centre, IEI introduced the Chief Guest of the event, Er Duggirala Rajasekhar, Chairman, Marine Engineering Division Board, IEI. Dr Rajasekhar delivered lecture on 'Navigating the Future: Safety First' and stressed on cyber attack, navigation safety issues, marine environmental issues, trade and commerce aspects, attaining sustainability through marine traffic and case studies of recent marine accidents. At the end, Er Thomas John V, Chairman, Trichur Local Centre, IEI proposed the vote of thanks.

Varanasi

On 05 April 2024, Varanasi Local Centre, IEI, in association with Government Girls Polytechnic, Sunderpur, Varanasi observed National Maritime Day 2024 at



Varanasi. Prof (Dr) Birendra Nath Rai, Chairman, Varanasi Local Centre, IEI welcomed the Invited Speaker, Er K N Singh, CEO, Northstar Academy, Varanasi. Er Singh mentioned that The day was celebrated to encourage and familiarize the

young students about the marine activities and the genesis of the celebration was explained along with the importance of marine transportation for the development of trade, overall growth of GDP and employment opportunities to young students. The speaker in his address detailed about different modes of sea transportation including bulk trade, containerization, offshore drilling rigs and platforms etc. Er Santosh Kumar, Past Honorary Secretary, Varanasi Local Centre, IEI conducted the proceedings. At the end, Er Rahul Mourya, Honorary Secretary, Varanasi Local Centre, IEI proposed the vote of thanks.

IEI Celebrates World Engineering Day for Sustainable Development 2024

Theme
**Engineering Solutions for
a Sustainable World**

World Engineering Day for Sustainable Development was celebrated by the Centres of the Institution all over the country on March 04, 2024. Brief accounts of the celebration as received from various Centres are reported hereunder.

STATE CENTRES

Andhra Pradesh



Andhra Pradesh State Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 05 March 2024 at Vijayawada. Prof (Dr) Venkata Sriram Chinthamaneni,

Chairman, Andhra Pradesh State Centre, IEI delivered the welcome address and explained the activities of IEI. Speaker of the event, Dr Chava Srinivas, Professor and Head, Department of Civil Engineering, Velagapudi Ramkrishna Siddhartha Engineering College, Vijayawada emphasized that in today's changing world, the importance of sustainable engineering practices cannot be overstated and highlighted that engineers and environmentalists are embracing a new approach which is known as 'Building with Nature', aiming at harmonizing human made structures with nature. He opined that building with nature represents a paradigm shifts in engineering philosophy, recognizing that our built environment can coexist harmoniously with the natural world and further added that by integrating ecological principles into engineering design, construction and operation seeks to mitigate environmental impact, enhance resilience and create more livable communities. People and economic activities concentrating on urban areas such as coastal, deltaic and riverine areas, etc and the society demands more on safety, prosperity and sustainability.

Assam

On 04 March 2024, Assam State Centre, IEI observed World Engineering Day for Sustainable Development 2024 at Guwahati and a popular talk was organized on the occasion. At the beginning of the function, Er Mahesh



Barkataki, Chairman, Assam State Centre, IEI welcomed all. Er Monojit Misra, Honorary Secretary, Assam State Centre, IEI explained the importance of the day and welcomed the gathering.

Speaker of the event, Er Ashok Thakuria, former Director (Planning) of Irrigation Department, Government of Assam delivered a talk on 'Traffic Congestion Problem in Guwahati and Sustainable Solution' and explained the importance of Sustainable Development Goals. He stressed the need to focus on the bottom of the pyramid which shows inequality that exists at present. He focused on the traffic problem in Guwahati due to rapid urbanization, narrow roads, absence of proper planning and policies, adequate public transport, lack of traffic sense, etc. He advised for running city rail service and metro or mono in Guwahati for mitigation of the traffic congestion problem. At the end, Er Shantanu Choudhury, on behalf of Assam State Centre proposed the vote of thanks.

Tamilnadu

Tamilnadu State Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 13 March 2024 at Chennai. Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI delivered the welcome speech. Chief Guests of the

event were Dr R Velraj, Vice Chancellor, Anna University and Mr R Sundaram, Founder and Managing Director, Aerospace Engineers Private Limited, Salem,



Tamilnadu. Er S Loganathan, Committee Member, Civil Engineering Division, Tamilnadu State Centre, IEI briefed about the theme. Dr V Rajkumar, Professor and Head of Civil Engineering Department, Government College of Engineering,

Dharmapuri and Mr P Baskaran, Baskaran Projects Private Limited, Salem was present in the. At the end, Er D Gokul, Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks.

Tripura

Tripura State Centre, IEI, in association with Tripura Institute of Technology observed World Engineering Day for Sustainable Development 2024 on 06 March 2024 at Agartala and organized a Seminar on the theme. The programme was presided over by Er Chinmay Debnath, Immediate Past Chairman, Tripura State Centre, IEI and Past President, IEI. Dr Mrinal Kanti Deb Barma, Honorary



Secretary, Tripura State Centre, IEI delivered the welcome address. Chief Guest of the event, Er Rajesh Kumar Soni, ITS, Deputy Director General, NE LSA, Tripura, Department of

Telecommunication, Ministry of Communication, Government of India highlighted the Startup India initiatives taken by Central Ministries covering sectors like technology, manufacturing, agriculture, healthcare and others. He stressed on Cyber Etiquette with respect to use of technology, role of youth and opportunities. Guest of Honour of the event, Prof (Dr) B K Upadhyaya, Principal-in-Charge, Tripura Institute of Technology discussed the role of engineering fraternity in achieving the Sustainable Development Goals (SDGs) by developing social infrastructure like school, college, hospitals, etc, which eradicate the illiteracy and provide knowledge and to empower the citizen to earn their livelihood. Special Speakers of the event, Er Somdeep Chakraborty, Associate Professor, Architectural Assistantship Department, Tripura Institute of Technology discussed on the theme and Dr Nirmalya Kar, Assistant Professor, Department of Computer Science & Engineering, NIT Agartala discussed on sustainable world in ICT perspective and the importance of resilient infrastructure, emphasizing on renewable energy integration and reduced carbon footprints in cyber security operations.

LOCAL CENTRES

Aligarh

On 04 March 2024, Aligarh Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 through virtual mode. Dr (Mrs) Salma Shaheen, Chairman, Aligarh Local Centre, IEI welcomed the participants. Speaker of the event, Dr Savita Gautam, Associate Professor, University Women's Polytechnic,

Aligarh Muslim University, Aligarh spoke about engineering solutions for a sustainable world in different spheres. She emphasized the role of engineering in creating solutions, balancing the economic growth with environmental protection and social responsibilities. She discussed about innovative solutions, implementation of sustainable technologies and practices, improving the efficiency and effectiveness of industrial processes. She explained how we can contribute to the engineering in future by supporting sustainable engineering initiatives and embracing innovation.

Chandrapur

Chandrapur Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 06 March 2024 at Chandrapur. Prof Uttam Baburao Vaidya, Chairman, Chandrapur Local Centre, IEI welcomed Chief Guest of the event, Er Pravin Potdukhe, Principal, Rajiv Gandhi College of Engineering, Research & Technology, (RCERT), Chandrapur and Guest of Honour and Speaker of the event, Er Moreshwar Zode, Former Director, Chandrapur Ferroalloys Limited, Chandrapur and highlighted the importance



of event. Er Potdukhe stressed the need of sustainable development and role of engineer to meet sustainability with minimum use of natural resources. Mr Zode emphasized the significant role of professional engineers on sustainable development. He shared his working experience in steel industry and urges engineers to enhance the welfare, health and safety with minimum use of natural resources and suggested to pay attention to the environment and sustainability of resources. At the end, Er Rajesh Eknathrao Thombre, Honorary Secretary, Chandrapur Local Centre, IEI proposed the vote of thanks.

Coimbatore

Coimbatore Local Centre, IEI, in association with the Department of Civil Engineering, Dr N G P Institute of Technology, Coimbatore observed World Engineering Day for Sustainable Development 2024 on 08 March 2024 at Coimbatore and a technical lecture was organized on the topic 'Water and Wastewater Treatment for Sustainable Development'. Prof (Dr) J Krishnamoorthi,



Chairman, Coimbatore Local Centre, IEI welcomed the Guest Speaker, Mr G S Durai, Managing Director, Senthil Andavar Industries, Coimbatore and the participants. Mr Durai explained about the

importance of water and how it relates to sustainable development; primary treatment of water and wastewater, which reduces the Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) in the wastewater. He discussed the importance of wastewater treatment to recover energy, nutrients, water, and other valuable resources from wastewater. Dr M Senthil Rajan, Assistant Professor, Department of Civil Engineering, Dr N G P Institute of Technology, Coimbatore also spoke on the occasion.

Kanchepuram

On 04 March 2024, Kanchepuram Local Centre, IEI, in association with IEI-SEC Chemical Engineering Students Chapter, Saveetha Engineering College, Chennai observed World Engineering Day for Sustainable Development 2024 at Kanchepuram and a seminar was organised on the topic 'Green Technology'.



Dr Karthikeyan S, Honorary Secretary, Kanchepuram Local Centre, IEI delivered the Keynote address on the theme 'Engineering Solutions for a Sustainable World'. He delved deeper into the critical responsibilities of engineers in driving innovative solutions, addressing global

challenges for a sustainable future and the responsibilities of collaborative efforts in engineering practices in achieving environmental sustainability and social wellbeing. The seminar delved into pivotal topics like 'Green Chemistry for Chemical Technologies' by Ms Preethi Dineshkumar, National Productivity Council and 'Advanced Water Treatment Technologies for Sustainable Engineering' by Ms Porkodi, Marketing Director, Green Care Engineering Private Limited. This event fostered intellectual exchange and networking opportunities among students, faculty and industry professionals.

Kanyakumari

On 04 March 2024, Kanyakumari Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 at Kanyakumari. Prof (Dr) Marsaline Beno M, Honorary Secretary, Kanyakumari Local Centre, IEI welcomed the Keynote Speaker, Prof (Dr) S Ravimaran Chairman, Tiruchirappalli Local Centre, IEI and HoD of AI Department, Saranathan College of Engineering, Tiruchirappalli and all the participants. Dr Ravimaran delivered a lecture on the topic 'The Role of AI in Urban Governance'. He explained how Artificial Intelligence (AI) is revolutionizing urban management and can optimize decision making processes, addressing the multifaceted challenges faced by urban environments. He shared his valuable insights into the transformative potential of AI in shaping the future of urban governance. At the end, Er P Gopal, proposed the vote of thanks on behalf of Kanyakumari Local Centre, IEI.

Kochi

On 04 March 2024, Kochi Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 at Kochi. Er G Velayudhan Nair G, Chairman, Kochi Local Centre, IEI delivered welcome speech and introduced the Speaker of the session, Dr Anil Joseph, Chairman of Civil Engineering Division Board, IEI, President of the Indian Geotechnical Society and Managing Director of Geostructurals Private Limited, Kerala, in his address, focused on the vital role of sustainability in geotechnics and presented various innovative ideas in the



building industry aiming at sustainable development. He explained the diverse innovative concepts including smog-eating buildings, transparent solar glaze and methods for constructing green buildings, which served to underscore the potential of

engineering solutions in addressing sustainability challenges. He emphasized the importance of integrating sustainability principles into engineering practices and the construction industry through these innovative ideas. He stressed the need of adopting environmentally friendly practices in engineering projects, continuous innovation and collaboration among engineers, architects, etc to drive sustainable development forward. At the end, Er T C Prasanth, Honorary Secretary, Kochi Local Centre, IEI proposed the vote of thanks.

Kota

On 04 March 2024, Kota Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 at Kota. Chief Guest of the event was Er A S Mathur, Former Chief Engineer, Kota Super Thermal Power Station, Kota. Guest of Honour of the event was Dr Hemant Kumar Garg, Honorary Secretary, Rajasthan State Centre, IEI and Keynote Speaker of the event was Dr R C Mishra (Retired), Rajasthan Technical University, Kota. Er Ashok Kumar Patni,



Chairman, Kota Local Centre, IEI welcomed the Chief Guest, Guest of Honour, Keynote Speaker, distinguished guests and members of Kota Local Centre, IEI. Dr Mishra explained about sustainable engineering and highlighted the role of engineering

in addressing global challenges and advancing sustainable development without sacrificing future needs. He discussed the role of engineers in improving living standards during last decades and stressed that they should consider sustainability in their engineering design and practices in addressing

environmental issues, economy and society to solve our future problems to achieve a sustainable environment. Er Mathur stressed that engineers should consider the problems of waste management, health, energy, food production safety, etc while designing a system and the solutions to these problems needs an integrated approach that combines technology, governance and economy. He highlighted some challenges that engineers should solve like population and urbanization, health, etc. At the end, Er Dharmendra Kumar Jain, Honorary Secretary, Kota Local Centre, IEI proposed the vote of thanks.

Madurai

On 04 March 2024, Madurai Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 in Madurai. Dr M Palaninatharaja, Principal (In-Charge), Thiagarajar College of Engineering, Madurai graced the occasion as Chief Guest.



Prof (Dr) P Udhayakumar, Chairman, Madurai Local Centre, IEI delivered the welcome address and highlighted the role of engineering in developing an advanced energy platform that aggregates data from

smart meter, renewable energy systems, IoT devices, etc and optimize energy consumption to enable cost reduction and environmental impact. He emphasized that engineering solution for a sustainable future is Carbon Capture and Storage (CCS) and this technology focuses on capturing carbon dioxide emissions, primarily from power plants and storing them safely in underground or utilizing them in other applications. At the end, Er A T Baskar, Honorary Secretary, Madurai Local Centre, IEI proposed the vote of thanks.

Navi Mumbai



Navi Mumbai Local Centre, IEI in association with IEI FCRIT Mechanical Engineering Students Chapter, FCRIT Vashi, Navi Mumbai observed World Engineering Day for Sustainable Development 2024 on 02 March 2024 at Vashi. Dr Nilajkumar Najukrao Deshmukh, Chairman, Navi

Mumbai Local Centre, IEI addressed the gathering and explained the significance of World Engineering Day. This event not only gave a platform for students to showcase their innovative ideas but also highlighted the importance of global challenges.

Neyveli

Neyveli Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 20 March 2024 at Neyveli. Er Appavu Eraniyan, Honorary Secretary, Neyveli Local Centre, IEI welcomed the Chief Guest of the event, Er A Kuppusami, Chief General Manager, TA, NLC India Limited. Keynote Speaker of the event, Er V Krishnamurthy, General Manager, Project Planning and Monitoring Group (PPMG) delivered lecture



on the topic 'Engineering Solutions for a Sustainable World' and explained the concept of Sustainable Development that meets the needs of the present without compromising the ability of future generations. He discussed about sustainable engineering jobs like sustainability consultant, renewable energy engineer, environmental engineer and sustainable transportation engineer and also discussed on smart agriculture, green transportation and waste reduction. He emphasized that AI can be used in agriculture to promote sustainable farming practices and smart sensors can monitor soil quality and crop growth. At the end, Er M Anabalan, on behalf of Neyveli Local Centre, IEI proposed the vote of thanks.

Palghat

On 04 March 2024, Palghat Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 at Palakkad. Er Rajesh Menon B, Honorary Secretary, Palghat Local Centre, IEI welcomed all. Er A V Rajappan, Chairman, Palghat Local Centre, IEI delivered presided over the function and explained the theme. Guest Speaker of the event, Er G Natarajan,



Former Senior Scientist, CSIR-CMERI Durgapur, West Bengal delivered lecture on the theme 'Engineering Solutions for a Sustainable World'. He mentioned the engineering's pivotal role in tackling global challenges, realizing the UN's Sustainable Development Goals, promote environmental responsibility through development of sustainable technologies and practices and thus foster a collective commitment towards a sustainable future. He highlighted four pillars of sustainability such as society, environment, economy and technology and stressed on waste as a useful resource.

Salem

Salem Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 17 March 2024 at Salem and organized a technical lecture on the theme. Chief Guest of the event was Mr R Sundaram, Founder and Managing Director, Aerospace Engineering Private Limited; Guest of Honour of the event was Dr G Ranganath, President, IEI. Keynote Speaker of the event was Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI. Dr Thangaraj K, Chairman, Salem Local



Centre, IEI welcomed President, IEI, Chief Guest and Keynote Speaker. Mr Sundaram delivered lecture on engineering solutions for a sustainable world. He emphasized the role of engineers in addressing global challenges, the importance of investing in renewable energy technologies, promoting circular economy practices, advocating for green transportation initiatives, etc. He addressed the engineers to leverage their expertise and creativity in making solutions for a more sustainable and resilient world for future generations. At the end, Prof (Dr) Ms Dhavamani C, Honorary Secretary, Salem Local Centre, IEI proposed the vote of thanks.

Saurashtra



Saurashtra Local Centre, IEI, in association with Government Polytechnic, Rajkot observed World Engineering Day for Sustainable Development 2024 on 06 March 2024 at Rajkot and organized a Seminar on the theme 'Engineering Solutions for a Sustainable World'. Er Kapil Divyakantbhai Gaglani, Honorary Secretary, Saurashtra Local Centre, IEI and Mr A D Swaminarayan, Principal, Government Polytechnic, Rajkot welcomed all the participants and introduced the Speaker of the event Mr Jignesh A Doshi, Lecturer, Civil Engineering Department, Government Polytechnic, Rajkot. Mr Doshi explained the history of World Engineering and Day and described about sustainable development, severe water problem & solution, care for environment, major causes of environmental degradation and air pollution, need for reduction of fossil fuels, concept of green building, measures to increase energy efficiency. At the end, Er Deepak V Suchde, on behalf of Saurashtra Local Centre, IEI and Mr J P Oza, HoD, Civil Engineering Department, Government Polytechnic, Rajkot proposed the vote of thanks.

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IEI Celebrates World Water Day



Theme - Water for Peace

The World Water Day was celebrated by the Institution all over the country on March 22, 2024. Reports of celebration received from various Centres are reported here.

STATE CENTRES

Karnataka

On 22 March 2024, Karnataka State Centre, IEI, in association with Department of Civil Engineering, Dayananda Sagar College of Engineering, Bangalore and Indian Water Works Association (IWWA), Bangalore, observed World Water Day 2024 through online mode. Er M Nagaraj, Chairman, Karnataka State Centre, IEI in his welcome address emphasized the importance of freshwater resources and urged to safeguard this for future generations. Speaker of the event, Dr N S Srinivasa Rao, Senior Consultant, Tata Consulting Engineers delivered lecture on Design of Wastewater Treatments Plants and the Reuse of Secondary Treated Water. He emphasized the importance of wastewater treatment in addressing the water crisis in Bangalore and highlighted simplicity, reliability and effectiveness of producing quality of water. He advocated for recycling and reusing wastewater as crucial solutions for the water crisis. Dr Prakash M Kulkarni, President of Bhageerath, Karnataka discussed water quality improvement in lakes. He discussed about biological restoration and creation of floating gardens for lake restoration, and potential solutions to Bangalore's water crisis. Mr Mathiyalagan, All India President of IWWA stressed the need of freshwater and advocating for its sustainable management in the light of climate change.

Tamilnadu



On 23 March 2024, Tamilnadu State Centre, IEI, in association with Ramcharan Company Private Limited, Chennai; and jointly with Tiruvallur

Local Centre, IEI; Kanchepuram Local Centre, IEI; Salem Local Centre, IEI and Kattankulathur Local Centre, IEI observed World Water Day 2024 at Chennai. Er D Gokul, Honorary Secretary, Tamilnadu State Centre, IEI welcomed the gathering. Dr Thangaraj K, Chairman, Salem Local Centre, IEI delivered lecture on the theme of the World Water Day. Dr Balamurugan J, Chairman, Tiruvallur Local Centre, IEI introduced the Chief Guest of the event, Dr P Rajasekhar, Environmental Adviser & Founder, Chairman of Sustainable Enviro Promoters, Chennai. Dr V Karthikeyan, Chairman, Tamilnadu State Centre, IEI presided over and focused on water conservation by adopting simple measures in our daily lives like raising awareness. Dr Rajasekhar in his thematic address emphasized that water is a universal resource, which is vital for interconnected global systems including food, energy, ecosystems and livelihoods. He stressed the need of cooperative efforts to manage and distribute water resources equitably and mentioned that access to clean water is a fundamental human right by promoting fair and transparent water governance. At the end, Dr P Mohanraj, Joint Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks.

Telangana

On 22 March 2024, Telangana State Centre, IEI observed World Water Day 2024 through virtual mode. Dr G Venkata Subbaiah, Chairman, Telangana State Centre, IEI welcomed the gathering and presided over the function. Keynote Speaker of the event, Er M Raja Sekhar Reddy, Chief Engineer (Retd), PR Department and Senior Faculty & Head, WRD Division, ESCI, Gachibowli, Hyderabad delivered lecture on 'Water for Peace'. At the end, Dr K Seetha Ram Babu, Honorary Secretary, Telangana State Centre, IEI proposed the vote of thanks.

LOCAL CENTRES

Agra

Agra Local Centre, IEI observed World Water Day 2024 on 31 March 2024 at Agra. Er Devendra Singh Chaudhary, Past Chairman, Agra Local Centre, IEI presided over the function. Er Rajnesh Kumar Yadav, Honorary Secretary, Agra Local Centre, IEI welcomed the guests and participants. Keynote



Speakers of the event were Er Padam Goutam, Senior Software Engineer, Gurugram, Haryana; Er

Rajnish Kumar Tiwari, Assistant Professor, Dr B R Ambedkar University, Agra; Er Anurag Kulshreshtha, Associate Professor, RBS Engineering Technical Campus, Agra. Er Padam Goutam explained the role of water in encouraging global peace and sustainable development worldwide. Er Devendra Singh Chaudhary, explained the significance of the day, which serves as a platform to inspire individuals, communities and Government to prioritize water as tool for peace and ensuring stability and prosperity of the world. Er V K Gupta, Former Assistant Professor, Anand Engineering College, Agra opined that water can be the stabilizing force and catalyst for sustainable development.

Aligarh

On 22 March 2024, Aligarh Local Centre, IEI observed World Water Day 2024 at Aligarh. Dr (Mrs) Salma Shaheen, Chairman, Aligarh Local Centre, IEI delivered the welcome address. Chief Guest of the event, Er Mohammad Ahsan Former Superintending Engineer, UP Jal Nigam, Aligarh shared his valuable insights on World Water Day and explained its significance. Guest of the Honour of the event, Er Sudhir Pandey, Senior Manager, Ion Exchange



India Limited, Aligarh shared his views on water. He explained the characteristics and types of water and impurities commonly found in water, water related challenges to different

regions and proposed solutions to address these issues. Speaker of the event, Dr Arshad Husain, Associate Professor, University Polytechnic, Aligarh Muslim University, Aligarh delivered the thematic address.

Alwar

On 22 March 2024, Alwar Local Centre, IEI observed World Water Day 2024 at Alwar on the theme 'Water for Peace'. Er Ashok Kumar Gupta, Chairman, Alwar Local Centre, IEI welcomed the participants. Chief Guest of the event, Er Lalit Karol, Additional Chief Engineer. Public Health Engineering Department, Jaipur, Rajasthan focussed on rapid decrease of water level due to continuous exploitation of water and suggested judicious use of water. Keynote Speaker



of the event, Dr Yogesh Manat, Senior Hydrologist, Ground Water Department, Bharatpur stressed the need of water harvesting systems in all places like factories, homes, offices, schools, etc so that water level can

be increased. Mr Subhash Chandra Joshi, Former Chairman of Alwar Local Centre shared his views on World Water Day. At the end, Er R C Sharma, Honorary Secretary, Alwar Local Centre, IEI proposed the vote of thanks.

Aurangabad

On 22 March 2024, Aurangabad Local Centre, IEI observed World Water Day 2024 at Aurangabad. Prof (Dr) Ulhas Bhanudasrao Shinde, Chairman, Aurangabad Local Centre, IEI welcome the Chief Guest and Keynote Speaker of the event, Dr Avinash Garudkar, Professor & Head, Faculty of Engineering, WALMI, Aurangabad and the participants. Dr Garudkar explained the importance of water resources and the effect of environmental factors on water resources. He emphasized the importance of water and how we can



diligently manage the natural resources in future. He discussed about the importance of river system, drainage networking, interlinking of river, clean and safe drinking water, disposal of waste water, safe storage of water, etc and how to stop unnecessary wastage of water. At the end, Er K M I Sayyad, Honorary Secretary, Aurangabad Local Centre, IEI proposed the vote of thanks.

Bokaro Steel City

On 22 March 2024, Bokaro Steel City Local Centre, IEI observed World Water Day 2024 at Bokaro. Er Bijay Kumar Prasad, Chairman, Bokaro Steel City Local Centre, IEI welcomed the participants and explained the challenges and opportunities being faced across the globe regarding fresh water. He



discussed the UN-SDG 6 to ensure access to water and sanitation for all. Chief Guest of the event, Mr P K Baisakhiya, Chief General Manager (Maintenance & Utilities), SAIL, Bokaro

Steel Plant in his inaugural address explained the importance of sustainable availability of water. He requested the audience to exchange ideas about conservation of water in daily life. During the technical session, Mr Lambodar Upadhyaya, GM/TE-Water Supply of (SAIL, Aeokaro Steel Plant) proposed a CAMEL Model to Cooperate, Accept, Monitor , Explore and Look ahead by Humanity to solve the water crisis. Nitesh Ranjan, AGM/Environment Conservation & Sustainability, SAIL/Bokaro Steel Plant presented paper on various technologies being adopted by Industries for water Treatment including water characterization, Physical treatment, Chemical treatment & Biological treatment of waste water. He discussed various environmental laws pertaining to water and MBR, MBBR and SBR technologies being adopted for sewage treatment across India. At the end, Er Harihara Rout, Honorary Secretary, Bokaro Steel City Local Centre, IEI proposed the vote of thanks.

Durgapur



On 22 March 2024, Durgapur Local Centre, IEI observed World Water Day 2024 at Durgapur on the theme 'Water for Peace'. The event witnessed the presence of

Dr Hirok Chaudhuri, Associate Professor, Department of Physics, National Institute of Technology Durgapur and Mr Somasish Saha, Manager, CO & CC, Durgapur Steel Plant, Durgapur as Guest of Honours. Dr Arup Kumar Mandal, Joint Honorary Secretary, Durgapur Local Centre, IEI welcomed the august gathering and highlighted the importance of the day to serve as a platform in raising awareness about the contributions of engineering to society and to inspire the future generation of engineers. Prof (Dr) Chandan Koner, Chairman, Durgapur Local Centre, IEI delivered the welcome address and explained the theme of the event. He emphasized in raising awareness about the crucial role of engineering in promoting sustainable development.

Mr Somasish Saha discussed about water wastage scenario especially in industry and stressed to reuse the industrial wastewater by purification in the plant. He highlighted the innovations adopted by Durgapur Steel Plant in utilizing wastewater of Coke Oven Batteries. Dr Chaudhuri explored the current status of water pollution by industrial effluent, antibiotic contamination and radioactive elements leaching into ground water. He gave an overview of the water pollution status in Damodar River Basin. At the end, Dr Arup Kumar Mandal proposed the vote of thanks.

Indore

On 28 March 2024, Indore Local Centre, IEI observed World Water Day



2024 at Indore. Guest of Honour of the event was Dr Rakesh Saxena, Director, SGSITS, Indore. Speakers of the event were Mr Suresh MG, Nagrath Charitable Trust, Indore; Dr Sandeep M Narulkar, HoD & Professor,

Civil Engineering and Applied Mechanics Department, SGSITS, Indore and Er Priyanshu Kumath, IIT Bombay. Prof (Dr) Ms Shilpa Tripathi, Council Member, IEI was also present on the occasion. Er Ramesh Singh Chouhan, Honorary Secretary, Indore Local Centre, IEI welcomed the guests and speakers. Er R P Gautam, Immediate Past Chairman, Indore Local Centre and Convener of the event briefed about the day. The speakers expressed concern about the increasing water crisis and stressed on save water, reuse of waste water etc.

Jodhpur

On 22 March 2024, Jodhpur Local Centre, IEI in association with UltraTech Cement observed World Water Day 2024 at Jodhpur. Er M M Agarwal, Chairman, Jodhpur Local Centre, IEI welcomed the Keynote Speaker of the



event, Acharya (Er) Daria Singh, Former Chairman, Board of Technical Education, Rajasthan. He highlighted the alarming situation of global warming all over the world that leads to shortage of resources

including scarcity of water pollution in air, degradation of land. He stressed on conservation of precious resources and minimize the water crisis to empower the country. At the end, Er Resham Ram Hooda, Honorary Secretary, Jodhpur Local Centre, IEI proposed the vote of thanks.

Kochi

On 22 March 2024, Kochi Local Centre, IEI observed World Water Day 2024 at Kochi on the topic 'Leveraging Water for Peace'. Er Velayudhan Nair G, Chairman, Kochi Local Centre, and Council Member, IEI delivered the welcome speech. Prof (Dr) G Madhu, Council Member, IEI introduced the Speaker of the event, Prof (Dr) M M Prabhakaran, Chief Consultant, Saras Engineering &



Environ Consultants, Maradu and Former Executive Engineer, Kerala Water Authority, Former Principal, AACET, Thodupuzha. He explained the importance of water conservation and

meticulously linked water conservation efforts to the achievement of UN-SDGs. He highlighted the benefit of water not only for human survival but also for agriculture, industry and ecosystems. He underscored the urgent need for water conservation measures for facing the challenges of water scarcity and pollution adopting various strategies and technologies that can be employed to conserve water resources. He stressed the need for access to clean and safe water for all, which impacts on health, education and economic prosperity. At the end, Er T C Prasanth, Honorary Secretary, Kochi Local Centre, IEI expressed gratitude the Speaker for sharing his valuable insights.

Kozhikode

On 22 March 2024, Kozhikode Local Centre, IEI observed World Water Day 2024 at Kozhikode. Dr Gireesan P, Chairman, Kozhikode Local Centre, IEI presided over the function and explained the importance of the day. Er M Pramod Kumar, Honorary Secretary, Kozhikode Local Centre, IEI welcomed the audience. Speaker of the event, Dr



George K Varghese, Associate Professor, Department of Civil Engineering, NIT Calicut delivered lecture on the topic 'Water for Peace' and explained about water stress and developing a global approach to water as a resource. At the end, Er C Jayaram, Committee Member, Kozhikode Local Centre, IEI proposed the vote of thanks.

Meerut



On 22 March 2024, Meerut Local Centre, IEI observed World Water Day 2024 at Meerut. Er Subhash Chandra Mittal, Honorary Secretary, Meerut Local Centre, IEI discussed about

water disputes among the countries, and highlighted the importance of water for peace. Keynote speaker, Dr Rup Narayan, Professor of Ecology, CCS University, Meerut discussed the gap between water availability and its demand in agriculture, industries and other anthropogenic activities, which may disturb the peace across different states and countries. He emphasized on implementing different initiatives, such as encouraging drip irrigation, pipe water supply and Jal Shakti Mission to mitigate challenges of global climate and water scarcity. He spoke about water pollution both on surface and underground.

Navi Mumbai

On 22 March 2024, Navi Mumbai Local Centre, observed World Water Day 2024 at Belapur. Dr Nilajkumar Najukrao Deshmukh, Chairman, Navi Mumbai Local Centre, IEI delivered the welcome Address and explained the importance of World Water Day. Dr Mohan B Dagaonkar, Former Council Member, IEI and Past Chairman, Maharashtra



State Centre, IEI explained the importance of water conservation in our daily life. Mr K K Varkhedkar, Past Chairman, Navi Mumbai Local Centre, IEI and Er Prabhakar Shanikarrao Phulari, Honorary Secretary, Navi Mumbai Local Centre, IEI were also present on the occasion.

Palghat

On 22 March 2024, Palghat Local Centre, IEI observed World Water Day 2024 at Palakkad. Er Rajesh Menon B, Honorary Secretary, Palghat Local Centre, IEI welcomed the members. Er A V Rajappan, Chairman, Palghat Local Centre, IEI presided over and explained the theme of the event. Dr Nisha A S, Honorary Joint Secretary, Palghat Local Centre, IEI introduced the Guest Speaker, Dr



Sudheer Padikkal, General Manager, Kerala Irrigation Infrastructure Development Corporation, Government of Kerala. Dr Padikkal delivered lecture on the theme and emphasized the integral role water plays in promoting global peace and sustainable development. He spoke on water sharing disputes between States in India and various inter-state water sharing projects. He explained about decision making tools for sustainable water

sharing and spoke about water conservation. He mentioned the relevance of rain water harvesting, pollution control, recharging of ground water, ground water management, Integrated Water Resources Management (IWRM), etc. At the end, Prof (Dr) Pradip C, Immediate Past Honorary Secretary, Palghat Local Centre, IEI proposed the vote of thanks.

Salem

On 22 March 2024, Salem Local Centre, IEI observed World Water Day 2024 through online mode. Dr Thangaraj K, Chairman, Salem Local Centre, IEI welcomed Chief Guest & Keynote Speaker of the event Dr A Geetha Selvarani, Professor and Head, Department of Civil Engineering, Vel Tech Rangarajan Dr Sangunthala R&D Institute of Science and Technology, Chennai; Dr P S S Srinivasan, Principal, Knowledge Institute Technology, Salem and Dr K Visagavel, Vice Principal, Knowledge Institute Technology, Salem. Dr Selvarani delivered lecture on the theme. At the end, Prof (Dr) Ms Dhavamani C, Honorary Secretary, Salem Local Centre, IEI proposed the vote of thanks.

Saurashtra



On 22 March 2024, Saurashtra Local Centre, IEI, in association with Darshan University, Rajkot observed World Water Day 2024 at Rajkot and a Seminar was organized on the theme. Er

Urvish C Kakkad, Chairman, Saurashtra Local Centre, IEI welcomed all and introduced the theme speaker, Er Kapil Gaglani, Assistant Engineer, Rajkot Irrigation Project Circle, Rajkot. Er Gaglani explained the history of World Water Day and discussed about the importance of world water day, water availability in India, common reasons for water scarcity, water scarcity – Global issue that affects, necessity of actual ground work for peaceful co-existence to achieve UN's SDG, etc. Mr Ujjwal Solanki, Assistant Professor, Civil Engineering Department, Darshan University, Rajkot also spoke on the occasion. Er Deepak Suchde, on behalf of Saurashtra Local Centre, IEI proposed the vote of thanks.

Trichur

On 22 March 2024, Trichur Local Centre, IEI observed World Water Day 2024 at Trichur. Er Thomas John V, Chairman, Trichur Local Centre, IEI welcomed the gathering and explained the theme. Speaker of the event, Prof (Dr) N Saji Kumar, Former Professor and HoD of Civil Engineering Department, Dean



Research, Government Engineering College, Thrissur discussed about Integrated Water Resource Management, Water Conflicts, Sharing of Water, Aquifer Sharing, Interlinking

of rivers, Eco Hydrology and Hydrological Models. He presented a case study of Parambikulam – Aliyar project. At the end, Er V Narayanan, Past Honorary Secretary, Trichur Local Centre, IEI proposed the vote of thanks.

Visakhapatnam



On 22 March 2024, Visakhapatnam Local Centre, IEI observed World Water Day 2024 at Visakhapatnam. Er Rapeti Nageswara Rao, Honorary Secretary, Visakhapatnam Local Centre, IEI welcomed the gathering.

Speaker of the event, Er K V Sivananda Kumar, Superintending Engineer, Rural Water Supply & Sanitation Department, Government of Andhra Pradesh, Visakhapatnam delivered lecture on 'Water for Peace' and explained global water scenario, water stress, and mentioned that decrease in water quantity affect the ecosystem and human health. Dr (Ms) Gunnu Padmavathi, Council Member, IEI presided over.

News-in-Brief

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

STATE CENTRES

Andhra Pradesh

Inaugurated the opening of IEI APSC Newsletter on 25 February 2024 at Vijayawada, in the august presence of Prof G V R Srinivasa Rao, Vice Chancellor, JNTUA. He spoke about professional ethics, stressing on the declining ethical knowledge, advocating for continuous learning and embracing insights from all levels for engineers.

Organized a technical visit to KIA Motors unit at Anantapur, Andhra Pradesh on 26 February 24. Spread over an area over 530 acres, the KIA Motors unit at Anantapur ensure efficient production of 1040 cars daily, showcasing cutting-edge technology and effective teamwork. Anticipating future integration of AI for enhanced productivity, the hospitality at the unit is commendable.

Organized a technical visit to Penukonda Fort on 26 February 24, a medieval fort situated at Penukonda in Anantapur district of Andhra Pradesh. Built on a hill, it showcases Hindu-Muslim architecture, with notable features like Gagan Mahal Palace and Babayya Darga.

Organized a technical talk on the topic 'Vegetable Oil Processing & Value- Added Products (Paints)' on 25 February 2024 at Vijayawada. Dr P Venkateshwar delivered a lecture on the topic particularly in the context of the paint industry and detailed the pre-treatment operations for various oilseeds, extraction processes and refining techniques such as degumming and bleaching, by-products like Lecithin gums etc. Emphasis was placed on powder-coating technology, with insights into manufacturing processes and application techniques, including the latest advancements in double chamber auto-fluidizing operations. This comprehensive talk highlighted the intersection of chemical engineering operations with vegetable oil processing and paint manufacturing.

Organized a technical visit to Agri Entrepreneurial Field on 28 January 2024, and the topic 'Ecology and Environmental Sustainability' was discussed. It was deliberated that Environmental sustainability involved conserving resources and protecting ecosystems for present and future well-being. Forward-looking decisions were vital as impacts may not be immediate. Companies hold a societal responsibility to implement sustainable practices, which can harmonize with business goals, aligning profits with environmental stewardship. Sustainable growth, such as in renewable energy, offers economic opportunities while reducing environmental harm. Investing in sustainability fosters a future where businesses prosper alongside environmental health.

Chhattisgarh

Organised a Public Outreach Lecture on 19 February, 2024 at Raipur. Prof (Dr) Sanjay Kumar, Chairman Chhattisgarh State Centre, welcomed the eminent guests for the event and briefed on the primary topic of the lecture. Dr V K Pandey, Convenor, IEI, briefly introduced the Keynote Speaker, Dr Pramod K Pandey, Professor, University of California, USA, who delivered lecture on the topic 'Role of IoT Sensors for Monitoring Real time Green House Gas (GHG) Emissions' and elaborated various aspects of Green House Gas emissions and how IoT sensors can be used to monitor these emissions. He explained how GHG is emitted from Dairy Farm Manure and how the IoT sensors are used to monitor the gas emission.

Punjab & Chandigarh

Organized a technical webinar on 'Trends in Mobile Communication - An Indian Perspective' on 12 January, 2024. Chief Guest, Prof (Dr) T S Kamal, Former Vice President IEI, explained essential elements of communication skill. Keynote speaker, Er Sudesh Kumar Chopra, General Manager (Mobile), BSNL Punjab emphasized on the essentials of mobile communication, the societal significance and the increasing relevance of mobile communication with population growth, stressing its pivotal role in exchanging information among parties located at different physical locations. Er Sukhviri Singh Mundi, Vice-President IEI, during his address, highlighted the role of Mobile Communication in enhancing transparency, accessibility, employee engagement, compliance and business productivity.

Karnataka

Organized lecture on the theme 'Design, Development & Technical Demonstration of Green Think Box to Treat Food Waste at Household Level' on 22 February, 2024 by hybrid mode at Bengaluru. The speaker, Dr H K T Kumara, Professor, Siddaganga Institute of Technology (SIT), Tumakuru and Director, Mylar Tree Private Limited, introduced the audience to the concept of Green Think Box for household food waste treatment, which helps in eliminating odour and pests. In urban areas, daily food waste disposal exacerbates health and environmental issues, reaching critical levels. Hence, there is a need to treat food waste at the household level using Green Think Box, where there is no smell, flies and germs in case of regular usage. Dr Kumara elaborated as to how, after ten days of waste collection, a twenty-day fermentation process yields compost which is suitable for farming or terrace gardening, bypassing traditional compost bin drawbacks. The Green Think Box offers organic fertilizer production at scale, promoting large-scale organic agriculture and mitigating health risks and environmental degradation, marking a significant step towards sustainable waste management and farming practices. This innovative solution won applause from the audience for its effectiveness and scalability, foreseeing widespread adoption.

Manipur

Organized a workshop on 'Application of Artificial Intelligence in Microsoft Office' on 20 March 2024 at Imphal. The Resource Person-cum-Convener, Dr Khundrakpam Nimo Singh, Assistant Professor, Department of Mechanical Engineering, National Institute of Technology Manipur briefly narrated about the various applications of AI in different sectors. Er L Swamikanta Singh, Chairman, Manipur State Centre, encouraged the young engineers & engineering students who were participating in the workshop to apply their knowledge and skills to uplift the society and the country. The Technical session was carried for more than 3 hours. The workshop was attended by engineering students from National Institute of Technology Manipur, Manipur Institute of Technology, Manipur Technical University, etc. Young engineers from various departments like Public Works Department Manipur, Public Health Engineering Department Manipur, Minor Irrigation Department Manipur, etc.

Telangana

Organized Er M Thirpath Reddy 13th Endowment Lecture through hybrid mode on 04 February, 2024 at Hyderabad. Er B Ravindra Sena, Past Chairman, Society in Manufacturing Organization, Atlanta, USA, graced the occasion as Chief Guest and delivered lecture on the topic 'Lean Manufacturing'. Keynote speaker, Dr B Venkateswara Rao, Adjunct Faculty, Water Technology Centre, Jawaharlal Nehru Technological University Hyderabad (JNTUH), delivered lecture on the topic 'Raising of Groundwater Levels is the Key for the Rejuvenation of Rivers'.

Organized Prof K Gopichand 2nd Endowment Lecture on 12 February, 2024 by hybrid mode at Hyderabad. Er Lalit Kumar Mansukhani, IRSSE, Officer on Special Duty, Centre of Excellence (Modern Signaling-Kavach) Hyderabad, delivered the Lecture as Keynote Speaker on the topic 'Overview of Indian Railways Cab - Signaling Kavach Technology'.

LOCAL CENTRES

Agra

Celebrated 'The Regional Languages Promotion Day' on 25 February, 2024 at Agra. Dr Akhand Pratap Singh, Member of Uttar Pradesh Subordinate Service Selection Commission, Government of Uttar Pradesh, was the Chief Guest. Er Rajnesh Kumar Yadav, Honorary Secretary, Agra Local Centre, emphasized on the significance of regional languages in education and literacy. Er Anil Kumar Goyal, Chairman, Agra Local Centre, welcomed the guests, stressing on India's cultural diversity embedded in its regional languages. Dr Ashok Yadav, Immediate Past Chairman, highlighted the role of regional languages in communication and social inclusivity. Er D S Chaudhary, Immediate Past Honorary Secretary emphasized on the cultural and political importance of regional languages in a diverse nation like India. Committee and Corporate members graced the event, emphasizing the value of regional languages in preserving cultural diversity.

Coimbatore

In association with the Department of Civil Engineering, PSG College of Technology, Coimbatore, organized the 12th Dr V Ramakrishnan Endowment Lecture Meeting on 27 February, 2024 on the topic 'Design Approach to Green Building - A Case Study in a Building from Coimbatore'. The Chief Guest, Er & Ar C M Dharmalingam, Architect & Structural Engineer, Proprietor, M Dharmalingam Associate, Coimbatore, highlighted the pressing importance of tackling environmental sustainability in the built environment and offered practical strategies to achieve this goal. He explained green rating systems, mitigating the heat island effect, water and energy efficiency, waste management, and indoor environmental quality.

In association with the Department of Civil Engineering, Hindusthan College of Engineering and Technology, Coimbatore, organized a technical lecture on 'Career Opportunities for Civil Engineers' on 16 March, 2024 at Coimbatore. Dr K Akil, Professor and Head, Department of Civil Engineering, Hindusthan College of Engineering and Technology, delivered the felicitation address. Mr R Sakthivel, Assistant Professor, Department of Civil Engineering, Hindusthan College of Engineering and Technology introduced the guest speaker, Er M Balamurugan, Former President, Coimbatore Civil Engineers Association, Class 1A Collector's Panel Engineer for Coimbatore District, Chartered Engineer and Consulting Civil Engineer, who provided a comprehensive overview of civil engineering career opportunities, covering roles, expectations, study essentials, challenges and success principles, offering valuable insights for career advancement.

Faridabad

In association with J C Bose University of Science & Technology (YMCA) Faridabad, organized a Technical Lecture Meeting on the topic 'Problem/ Project based Learning' on 29 February, 2024 at Faridabad. The Expert Speaker, Dr Pradeep Kumar, Chairperson, Electronics Department, J C Bose University of Science & Technology (YMCA) Faridabad, talked on the emerging trends of learning and how the same has evolved over the years, shifting from book-based learning to a digital style. He expressed concern over the fact that practical learning is being replaced by simulation and how the three 'R's - reading, writing and arithmetic, has taken a hit. He stressed that the world is uniting into a global village, emphasizing collaboration and that Practical learning cannot be replaced by simulation-based learning, which is unable to replicate real-life scenarios accurately. He also spoke of the teacher's role in shaping a student and the methodology to be followed by engineers.

Ghaziabad

In association with Sanskar College of Engineering & Technology, Ghaziabad orchestrated a technical lecture on the topic 'Applications of Artificial Intelligence' on 24 February 2024. Prof (Dr) S C Gupta, Chairman Ghaziabad Local Centre, welcomed the speaker, faculty and all present, hoping that the audience would greatly benefit by understanding the current landscape of Artificial Intelligence, including its pervasive influence across diverse fields and industries. Speaker of the session, Dr Dharmendra Singh, Director, Sanskar College of Engineering & Technology, Ghaziabad traced the evolution of industrial revolutions from the mechanization of industries 1.0 to the transformation of industries 4.0. He touched upon various aspects of AI and emphasized on the importance of symbiosis of AI and HI for a future driven by AI.

Gwalior

Organised a seminar on the topic 'Education through Innovation' on 10 February, 2024 at Gwalior. Key Note Speaker, Er Sonam Wangchuk, Mechanical Engineer, Education Reformist and Innovator from Ladakh deliberated on Indian education system and advocating innovation for qualitative change. He emphasized fostering skills like critical thinking and entrepreneurship, additionally suggesting practical applications, such as using solar energy, to enhance cow shelters, boosting milk production and addressing temperature issues. PE Vinay Kumar Shukla, Organising Secretary, Gwalior Local Centre, emphasized on a transformative education system, that nurtures individuals to be well-rounded, skilled, and adaptable to technological innovations. He said that hands-on learning in real-world scenarios fostered retention and prepared students for future uncertainties. Er A S Bais, a retired Colonel from the Indian Navy, discussed India's vast education system, noting improved access but persistent challenges in quality and consistency, leading to high dropout rates. Guest of Honour, Mr Rajendra Khandelwal emphasized on targeting impoverished

communities despite challenges. Er Vivek Khandelwal highlighted education projects for both children and adults, focusing on curriculum, life skills, and improving neglected schools. Er Anuj Pratap Singh emphasized a fusion of skill development methods in the new education system, integrating traditional and modern approaches to ensure students can thrive in the digital world. Dr Chhavi Saxena, Director, Global Education Consultant Services Overseas, urged schools to adopt experiential learning models engaging students on cognitive, behavioural and physical levels.

Kochi

Organised technical talk on the topic 'Litigation of Properties Alternative - Arbitration/Mediation', in collaboration with the Institute of Valuers (IOV), Kochin Chapter, on 17 February, 2024 at Kochi. Speaker of the session, Adv B G Harindranath, former Professor at the National Judicial Academy, Bhopal and former Law Secretary of the Government of Kerala, explored various facets of property litigation, shedding light on the complexities and nuances of arbitration and mediation as alternative dispute resolution mechanisms. Drawing from his extensive background as a District and Sessions Judge and his tenure as a Professor, he seamlessly integrated personal anecdotes and experiences into his speech, enriching the discourse with practical insights.

Organised a technical presentation on 11 January, 2024 on the topic 'Light Weight Beam Element made from Recycled Plastic Laminate Encompassed with Cold-Formed Steel' at Kochi, which aimed to address the growing need for sustainable construction materials. The speaker, Dr Kavitha P E, Associate Professor, Department of Civil Engineering, Federal Institute of Science and Technology, Angamaly introduced a pioneering concept to reduce the environmental impact of constructions by integrating recycled plastic laminate into cold-formed steel structures, ensuring both structural integrity and sustainability. The presentation concluded with a discussion on future research avenues, emphasizing collaboration between academia, industry, and government bodies. The event fostered knowledge exchange and inspired further exploration of sustainable construction practices.

Organised a technical presentation on 26 February, 2024 on the topic 'Building Information Modeling (BIM)' through online mode. Speakers of the event were Mr Vijai Kumar S K, Technical Specialist at Autodesk AEC, Redington and Ms Gomathi Priya, Technical Specialist at Autodesk ACC, Redington. Mr Vijai Kumar S K initiated the session by providing an overview of Autodesk AEC software and its significance in the contemporary construction industry. He elaborated on the functionalities of the AEC Collection software, demonstrating how civil engineers could leverage integrated workflows to enhance design processes. Ms Gomathi Priya focussed on the features and benefits of Autodesk Construction Cloud.

Organised a technical lecture on 11 January, 2024 on the topic 'Kerala Industries: Yesterday, Today and Tomorrow'. The speaker, Dr P V S Namboodiripad, Former Chairman and Managing Director of Hindustan Latex Limited as well as the Ex-CEO of Appolo Tyres, delivered a compelling speech addressing industry challenges. Drawing from his illustrious career, he provided invaluable insights into Kerala's industrial landscape, offering pragmatic solutions to overcome obstacles. His expertise shed light on the path forward, emphasizing actionable strategies for sustainable progress in the face of adversity.

Meerut

Organized a lecture meeting on 19 November, 2023 at Meerut. The Key note speaker, Dr Saadat Ali Rizvi, Faculty Member, Jamia Milli Islamia, New Delhi, spoke on the topic 'Future of Electric Vehicles' and highlighted the importance of electric vehicles (EVs) in reducing greenhouse gas emissions and conserving oil reserves. He spoke on different categories of EVs, namely Hybrid Electric Vehicles (HEV), Battery Electric Vehicles (BEV), and Fuel Cell Electric Vehicles (FCEV).

Navi Mumbai

Conducted a technical lecture meeting on the topic 'Softwares for Structural Engineers' on 19 January, 2024, in association with The Indian Society of structural Engineers, Navi Mumbai.

Tiruchirappalli

In association with The 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 lecture on 27 February, 2024 through virtual mode. The Speaker, Dr K R Nandagopal, Assistant Professor, Department of Textile Technology, K S Rangasamy College of Technology, delivered lecture on the topic 'Innovation of Sustainable Automotive Interior Composites from Textile Waste Recycled Material'. He said that thermoset plastics and polymer materials posed significant environmental challenges due to their non-biodegradable nature, particularly within the automotive industry. Though manufacturers prioritize performance and safety, yet sustainability concerns keep growing with growing vehicle ownership. To address this, the speaker focussed on converting recycled polyester and cotton fabric waste into needle-punched non-woven fabric for automotive interiors. He also opined that composite materials, comprising of recycled fabric and polypropylene, undergo compression moulding, with parameters like temperature, time, and pressure varied for analysis. The resulting materials exhibit superior sound absorption, thermal insulation, flexural, and tensile strength, surpassing traditional polymers. He stressed that these biodegradable, lightweight composites underscore the importance of sustainable materials in automotive manufacturing, balancing performance with environmental responsibility.

Organized a lecture on 12 March, 2024 through virtual mode. The speaker, Dr T Vairam, Assistant Professor, Department of Information Technology, PSG College of Technology Coimbatore spoke on the topic 'Demystifying Blockchain: From Crypto Craze to Real-World Revolution'.

Organized a lecture on 26 March, 2024 through virtual mode. Speaker of the Session, Er S K Popli, Advisor (Road Safety), National Highways Authority of India, Former Strategic Business Head (Highways), RITES Ltd (Navratna Company), who spoke on the topic 'Road Safety'.

Udaipur

Organised a technical talk on the topic 'Role of Engineers towards attainment of Sustainable Mobility', on 19 February 2024 at Udaipur. Keynote Speaker, Dr Pushpendra Singh, Professor, Electrical Engineering Department, J K Lakshmipat University, Jaipur, said that India's journey towards sustainable mobility is gaining momentum and engineers are playing an important role in addressing the environmental, social and economic aspects of mobility. He opined that with over 28 lakh Electric Vehicles (EV) and 15,493 charging stations, the EV market shows rapid growth. Addressing challenges like high prices and infrastructure gaps, he stressed the need for political support to shape the future of India's electric mobility, heralding a greener tomorrow. Speaker, Er Nishit Jain, Assistant Professor, Techno India NJR Institute of Technology, Udaipur, recommended

using Artificial Intelligence technology partnership to design and shape the innovation policy, transport policy, etc. for sustainable mobility. He brought to the attention of the audience, the challenges and opportunities ahead.

Organised a conference on 'HR Practices for Engineering Efficiency in Industry 5.0' on 10 March, 2024 at Udaipur. Chief Guest of the event was Dr N S Rathore, Campus Director, Geetanjali Institute of Technical Studies, Udaipur & Former VC, MPUAT, Udaipur. Special Guest of Honour was Ms Anita Chauhan, National President, ISTD and Guest of Honour was Er S S Yadav, Council Member, IEI. Er Chandra Prakash Jain, Chairman, Udaipur Local Centre, IEI said that Human Resource (HR) practices, based on the highest standards to enhance engineering capabilities in Industry 5.0, are being used. These practices lead to improved capacity of organizational sensitivity of workers in the industry. Speaker, Dr R P Singh, Chairman of the National Institute of Personal Management, Rajasthan Chapter and Former National President of ISTD, explained in detail about industry classification, designing, robotics, smart machines, smart buildings, and artificial intelligence. Er S S Yadav stressed that the role of HR in industries should be to emphasize innovation for increased productivity, unite personnel and overcome obstacles for mutual prosperity. Ms Anita Chauhan, discussed HR Practices, emphasizing the integration of technology and human potential for industry growth and highlighted knowledge-exchange and sharing. Dr N S Rathore stressed on the complexity of HR, advocating for innovative models. He emphasized talent identification and leveraging human potential, alongside technology for industry growth. He shared views on greater productivity through the use of Artificial Intelligence, Machine Learning, and Cloud Computing in the industry today. Er. Purushottam Paliwal, Honorary Secretary Udaipur Local Centre, spoke on promoting advanced technical training, emphasizing teamwork and innovation to strengthen employee capacity and encourage collaboration in the program.

Warangal

In association with Vaagdevi College of Engineering, Bollikunta, Warangal, organized a three day workshop on 'MATLAB Programming and Simulink' during 7-9 February 2024. Expert speaker of the session, Dr Venkataramana Veeramsetty, Associate Professor, Electrical and Electronics Engineering, SR University, Hanumakonda, explained the learning and practice of MATLAB Programming and Simulink. The workshop covered basics of MATLAB, Mathematical Operations, Operations on MATRIX, Logical Operators, Trigonometric Functions, Solving Linear and Non-Linear Equations, Conditional, loop, switch statements and data extraction, Functions Creation, Visual representation of Data, Solving Differential Equations, Numerical Integration, Solving Linear Optimization Problem, Electric circuits design using SIMULINK, etc. Applications and case studies of Design AI Model, using MATLAB, were also presented and practiced.

World Engineering Day for Sustainable Development 2024

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Tiruchirappalli

Tiruchirappalli Local Centre, IEI in association with Indian Institute of Welding, Tiruchirappalli branch, Computer Society of India- Tiruchirappalli Chapter, Safety Quality Forum – IEI, New Delhi, Indian Welding Society, Southern Zone, Indian Institute of Metals- Tiruchirappalli Chapter, Indian Institution of Industrial Engineering, Tiruchirappalli, Indian Institution of Plant Engineers, Trichy Chapter, Kumari Arivial Peravai Kanyakumari and Indian Society for Non-destructive Testing, Trichy Chapter observed World Engineering Day for Sustainable Development 2024 through virtual mode on 05 March 2024. Prof (Dr) S Ravimaran, Chairman, Tiruchirappalli Local Centre, IEI presided over the meeting and welcomed the Chief Guest and Eminent Speaker of the event, Dr N Anantharaman, Former Professor, Department of Chemical Engineering, National Institute of Technology Tiruchirappalli. Topics covered in the event were: different levels of consumption of natural resources, key goals of World Engineering Day, promoting sustainable development, sustainable development goals, etc. At the end, Er Lakshmanan S P, Honorary Secretary, Tiruchirappalli Local Centre, IEI proposed the vote of thanks.

Tirunelveli

Tirunelveli Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 on 21 March 2024 through online mode. Prof (Dr) Avudaippan S, Chairman, Tirunelveli Local Centre, IEI inaugurated the session and delivered the welcome address. Speaker of event, Dr S Babu Renga Rajan, Professor and Head, Computer Science and Engineering, PET Engineering College, Valliyur, Tamilnadu explained the importance of engineers in the sustainable world and encouraged the budding engineers to participate in the Build Back Wiser Engineering Day Special Hackathon to understand the real world problem. At the end, Er Siva Ganesh, Honorary Secretary, Tirunelveli Local Centre, IEI proposed the vote of thanks.

Vadodara

On 04 March 2024, Vadodara Local Centre, IEI observed World Engineering Day for Sustainable Development 2024 through online mode. Speaker of the event, Dr Vijay Shah, Senior Principal Engineer (Electrification Business), Vice President, ABB India Limited, Vadodara shared his views on the theme of the day. He explained UN-SDGs and discussed how these goals can be achieved by engineering solutions. He emphasized how nature and technology relates each and spoke about application of robotics in industry.

IEI DIARY



Aerospace Engineering Division

Thirty-seventh National Convention of Aerospace Engineers on **"Innovation in Aerospace Engineering"**

Ranchi, November 23-24, 2024

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

Agricultural Engineering Division

All India Seminar on **"Advanced Technologies in Agriculture for Sustainable Development and its Applications"**

Chennai, July 25-26, 2024

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

Thirty-sixth National Convention of Agricultural Engineers on **"Conservation and Management of Engineering inputs Farm Mechanization Agro Processing"**

Raipur, August 29-30, 2024

The Honorary Secretary, IEI, Chhattisgarh State Centre, National Institute of Technology Campus, G E Road, Raipur 492010 [☎: 0771-2254625, E-mail: chhattisgarhsc@ieindia.org, Website : www.ieicg.org]

Architectural Engineering Division

Thirty-ninth National Convention of Architectural Engineers on **"Disaster Mitigative Architecture and Construction"**

Shimla, October 26-27, 2024

The Honorary Secretary, IEI, Himachal Pradesh State Centre, Victoria Place, Opposite Nigam Vihar, Shimla 171 002 [☎: 0177-2623736; E-mail: hpssc@ieindia.org; Website: <http://hpiei.org/home.html>]

Chemical Engineering Division

Thirty-ninth National Convention of Chemical Engineers on **"R&D Activities in Minerals and Metallurgical Industries for Today's Society"**

Bhubaneswar, October 19-20, 2024

The Honorary Secretary, IEI, Odisha State Centre, Engineers Bhawan, Institution of Engineers Square, Sachivalaya Marg, Unit-4, Bhubaneswar 751001, [☎: 0674-2390291, E-mail: odishasc@ieindia.org, Website: www.ieiorissa.org]

Civil Engineering Division

All India Workshop on **"Construction Management and Building Information Modelling"**

Tiruchirappalli, June 20-21, 2024

The Honorary Secretary, IEI, Tiruchirappalli Local Centre, Near Ganesa Bus Stop, BHEL Main Office Road, Opposite to 79 Building, Tiruchirappalli 620014 [☎: 0431-2554285 /2574022, E-mail: tiruchirappallilc@ieindia.org]

All India Workshop on **"Perspectives of Microbial Concrete & Other Sustainable Construction Materials"**

Kattankulathur, July 30-31, 2024

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

Thirty-ninth National Convention of Civil Engineers on **"Exploring Emerging Trends in Civil Engineering"**

Kochi, October 17-18, 2024

The Honorary Secretary, IEI, Kochi Local Centre, IEI Bhavan, Government Homeo Hospital Road, Pullepady, PO: Kaloor, Kochi 682017 [☎: 0484-2403838 / 2403993, E-mail : kochilc@ieindia.org, Website : www.ieikochi.org]

Electrical Engineering Division

All India Workshop on **"Role of Artificial Intelligence in Hybrid Electric Vehicle and Battery Management System"**

Tiruchirappalli, June 07-08, 2024

The Honorary Secretary, IEI, Tiruchirappalli Local Centre, Near Ganesa Bus Stop, BHEL Main Office Road, Opposite to 79 Building, Tiruchirappalli 620014 [☎: 0431-2554285 /2574022, E-mail: tiruchirappallilc@ieindia.org]

All India Seminar on **"Applications of Smart Grid Technology For Sustainable Green Solutions and Enhanced Cyber Security"**

Kanchipuram, June 20-21, 2024

The Honorary Secretary, IEI, Kanchipuram Local Centres, Jerusalem College of Engineering Campus, Velachery Main Road, Narayanapuram, Pallikaranai, Chennai 600100 [☎: 9789924739, Whatapp number: 8870531609, Email: kanchipuramlc@ieindia.org; Website: www.ieindiaklc.org]

All India Seminar on **"Electric Mobilities Recent Trends And Advancements"**

Coimbatore, July 05-06, 2024

The Honorary Secretary, IEI, Coimbatore Local Centre, PSG College of Technology Campus, Peelamedu, Coimbatore 641 004 [☎: 0422-2580733; Email: coimbatorelc@ieindia.org; Website: <https://www.ieicoimbatore.org>]

All India Workshop on **"Hydrogen Fuel Cell Technologies Towards Green Transportation"**

Kattankulathur, August 22-23, 2024

The Honorary Secretary, IEI, Tamil Nadu

State Centre, No. 19, Swami Sivananda Salai, Chepauk, Chennai 600005 [☎: 044-25360614 /9962950333, E-mail : tnsc@ieindia.org, Website : www.ieitnsc.org]

All India Seminar on **"Fuzzy Logic Control, Control of Grid Integrated and WEC System"**

Bhubaneswar, October 07-08, 2024

The Honorary Secretary, IEI, Odisha State Centre, Engineers Bhawan, Institution of Engineers Square, Sachivalaya Marg, Unit-4, Bhubaneswar 751001, [☎: 0674-2390291, E-mail: odishasc@ieindia.org, Website: www.ieiorissa.org]

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

Chennai, October 25-26, 2024

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

Electronics & Telecommunication Engg Division

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

Delhi, October 05-06, 2024

The Honorary Secretary, IEI, Delhi State Centre, Bahadur Shah Zafar Marg, New Delhi 110 002, [☎: 011-23379948/23370489; Fax: 011-23370489; Email: delhisc@ieindia.org; Website: <https://www.ieidsc.in/>]

All India Seminar on **"Emerging Technologies for 5G/6G Wireless Communication using AI/ML"**

Bhubaneswar, November 16-17, 2024

The Honorary Secretary, IEI, Odisha State Centre, Engineers Bhawan, Institution of Engineers Square, Sachivalaya Marg, Unit-4, Bhubaneswar 751001, [☎: 0674-2390291, E-mail: odishasc@ieindia.org, Website: www.ieiorissa.org]

Environmental Engineering Division

All India Seminar on **"Sources of Planet Energy Environment and Disaster Science SPEEDS24 Climate Justice and Equity"**

Lucknow, June 22-23, 2024

The Honorary Secretary, IEI, Uttar Pradesh State Centre, Engineers Bhawan, River Bank Colony, Lucknow 226 018 [☎: 0522-2625322, Fax: 0522-2625322, Email: upsc@ieindia.org, Website: <http://www.ieiup.org.in>]

One Day Seminar on **"Waste to Energy Technology"**

Chennai, July 05, 2024

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

Thirty-eighth National Convention of Environmental Engineers on **"Change Yourself Not the Nature"**

Kochi, August 23-24, 2024

The Honorary Secretary, IEI, Kochi Local Centre, IEI Bhavan, Government Homeo Hospital Road, Pullepady, PO: Kaloork, Kochi 682017 [☎: 0484-2403838 / 2403993, E-mail : kochilc@ieindia.org; Website : www.ieikochi.org]

All India Seminar on "Green Technology for Environmental Management"

Guwahati, September 21-22, 2024

The Honorary Secretary, IEI, Assam State Centre, East Lane, Panbazar Overbridge, Panbazar, Guwahati 781001 [☎: 0361-2548742, Mobile: 6026461095, E-mail: assamsc@ieindia.org, Website: www.ieiasc.org]

Mechanical Engineering Division

All India Workshop on "Occupational Safety and Health in Industries: Issues and Challenges from an International Perspective"

Kolkata, June 14-15 2024

The Honorary Secretary, IEI, West Bengal State Centre, 8 Gokhale Road, Kolkata 700020 [☎: 033-22238914, E-mail: wbsc@ieindia.org, Website: www.ieiwbsc.in]

One Day Seminar on "Additive Manufacturing and 3D Printing"

Agra, 20 June 2024

The Honorary Secretary, IEI, Agra Local Centre, Room No-G3, Faculty of Engineering & Technology Agra College, Agra 282002 [☎: 812689221; E-mail: agralc@ieindia.org]

One Day Seminar on "Green Manufacturing of Steel"

Durgapur, June 23, 2024

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]

All India Workshop on "Occupational Noise and Workplace Acoustics"

Rourkela, June 25-26, 2024

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

All India Seminar on "Role of AI and ML in Mechanical Engineering Field and Challenges"

Belapur, July 05-06, 2024

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

One Day Seminar on 'Calibration of Measuring Instruments and Form Measurements'

Coimbatore, July 19, 2024

The Honorary Secretary, IEI, Coimbatore Local Centre, PSG College of Technology Campus, Peelamedu, Coimbatore 641 004 [☎: 0422-2580733; Email: coimbatorelc@ieindia.org; Website: https://www.ieicoimbatore.org]

All India Seminar on "Green Manufacturing"

Chennai, July 26-27, 2024

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

All India Seminar on "Alternative Energy Systems"

Bhubaneswar, July 27-28, 2024

The Honorary Secretary, IEI, Odisha State Centre, Engineers Bhawan, Institution of Engineers Square, Sachivalaya Marg, Unit-4, Bhubaneswar 751001, [☎: 0674-2390291, E-mail: odishasc@ieindia.org, Website: www.ieiorissa.org]

Thirty-ninth National Convention of Mechanical Engineers on "Innovations in Mechanical Engineering, Sustainable Manufacturing Technologies, Design and Energy Systems"

Chandigarh, September 13-14, 2024

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

One Day Seminar on "CNC Based Composite Structure and their Nonlinear Dynamic Analysis"

Rourkela, September 14, 2024.

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

International Conference on "Advances in Foundry and Forming Technology"

Ranchi, November 21-22, 2024

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

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]

Metallurgical & Materials Engg. Division

One Day Workshop on "Powder Metallurgy and Smart Materials"

Rourkela, August 02, 2024

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

Thirty-seventh National Convention of Metallurgical & Materials Engineers on "Modern Steel Manufacturing Process"

Chennai, December 06-07, 2024

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

Mining Engineering Division

All India Seminar on "Recent Advances In Smart Mining Technologies And Resources",

Kolkata, July 19-20, 2024

The Honorary Secretary, IEI, West Bengal State Centre, 8 Gokhale Road, Kolkata 700020 [☎: 033-22238914, E-mail: wbsc@ieindia.org, Website: www.ieiwbsc.in]

All India Seminar on "Mining 4.0 Technology Vision for Safe Smart and Sustainable 3S Mining"

Ranchi, October 26-27 2024

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

Textile Engineering Division

All India Seminar on "Technical Textiles: A Transformative Force for the Challenges in Agricultural Health Care and Construction Sector"

Bhubaneswar, August 24-25, 2024

The Honorary Secretary, IEI, Odisha State Centre, Engineers Bhawan, Institution of Engineers Square, Sachivalaya Marg, Unit-4, Bhubaneswar 751001, [☎: 0674-2390291, E-mail: odishasc@ieindia.org, Website: www.ieiorissa.org]

One Day Seminar on "Novel Technical Textiles Products-Technology, Production & Applications"

Coimbatore, June 19, 2024

The Honorary Secretary, IEI, Coimbatore Local Centre, PSG College of Technology Campus, Peelamedu, Coimbatore 641 004 [☎: 0422-2580733; Email: coimbatorelc@ieindia.org; Website: https://www.ieicoimbatore.org]

One Day Seminar on "The Role of Textiles in Future Space Travel"

Chennai, November 16, 2024

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

Interdisciplinary Co-ordination Committee

International Conference on "Frontiers of Progress and Developments in Technology, Management and Healthcare"

Jabalpur, September 27-28, 2024

The Honorary Secretary, IEI, Vishvesvaraya Marg, South Civil Lines, In front of Old RTO Office, Jabalpur 482001 [☎: 0761-2678929, E-mail: jabalpurc@ieindia.org]



39th INDIAN ENGINEERING CONGRESS

Kolkata, December 20-22, 2024

Theme: Irresistible India - a Global Engineering Powerhouse



Organized by

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Hosted by: **West Bengal State Centre**



Engineering Staff College of India

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Continuing Professional Development Programmes (CPDPs) for the Month of June 2024

Sl. No.	Name of the Course	Scheduled Dates
1.	Coating & Paint Technology	03 - 05 Jun 24
2.	Best Practices in Energy Auditing of T&D Systems	04 - 07 Jun 24
3.	Climate Change and its Impact on Soil Biodiversity	05 - 07 Jun 24
4.	Air Pollution Monitoring & Modeling using Software Applications – Theory & Practical's.	05 - 07 Jun 24
5.	Emerging Trends in Drilling & Blasting Operations in Mining & Civil Engineering Projects	05 - 07 Jun 24
6.	Recent Advances in Planning, Design, Construction & Maintenance of High Rise Buildings	10 - 14 Jun 24
7.	Effective Utilization of ChatGPT Office Administration	10 - 14 Jun 24
8.	Organizational Culture Assessment, Change Management & Strategic Leadership (Developing a Positive Culture where People and Performance Thrive)	10 - 13 Jun 24
9.	Total Quality in Vigilance	10 - 12 Jun 24
10.	Digital Surface Modeling using GIS Techniques-Hands on Practice	10 - 14 Jun 24
11.	Skill Enrichment Programme for Technical Officers of Defence, Government and PSU's	11 - 13 Jun 24
12.	Substation Automation and Smart Grids	11 - 14 Jun 24
13.	Industrial bearings Revisited- Maintenance, Condition Monitoring, Analysis and Prevention of Failures	18 - 21 Jun 24
14.	Remote Sensing and GIS applications in Global Warming and Climate Change	19 - 21 Jun 24
15.	Application of GIS, GPS & RS in Environmental Data Management.	19 - 21 Jun 24
16.	Cyber Security Tools & Security Audit	19 - 21 Jun 24
17.	Reliable Mine & Land Surveying through Advanced Technology - Total Station, DGPS, 3D Laser Scanner, LiDaR, Drones, GIS, Remote Sensing Demonstration and Hands-on Training on Instruments	18 - 21 Jun 24
18.	Road map for getting NABL accreditation	19 - 21 Jun 24
19.	GEM Procurement Procedures – Gem Account operation from Basic to expertise (Buyer module)	24 - 28 Jun 24
20.	Dam Safety Guidelines - Monitoring and Protection Measures and Emergency Action Plan	24 - 28 Jun 24
21.	Coding for CFD simulations using Python	25 - 27 Jun 24
22.	Engineering Optimization: Traditional Vs Non-Traditional Methods	25 - 27 Jun 24
23.	Personality Development (An Ordinary to Extraordinary Personality Empowerment)	25 - 27 Jun 24
24.	Advanced Course on Effective Spares Parts Inventory Management	25 - 28 Jun 24
25.	Environmental Issues, Challenges and Pollution Control Strategies in Thermal Power Plants	25 - 27 Jun 24
26.	Land use Management - Land Reclamation & Rehabilitation	26 - 28 Jun 24

For detail information please contact:

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

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