

# The Institution of Engineers (India)

## Coimbatore Local Centre

### QUARTERLY NEWSLETTER

October 2024 | Volume 4

**Dr J Krishnamoorthi FIE**  
Chairman, IEI CLC

**Dr G Madhan Mohan FIE**  
Honorary Secretary, IEI CLC



## The Chairman's Desk

Our IEI Coimbatore Local Centre organized several events during the quarter from July to September 2024,

including celebrations for “Royal Charter Day”, “Engineers’ Day”, three all-India seminars and five one-day seminars. Royal Charter Day was observed to commemorate the incorporation of the Institution of Engineers (India) by Royal Charter on September 9, 1935, by King and Emperor George V at Buckingham Palace, London. This distinction makes the Institution the only professional body in India to receive such an honour, granting Corporate Members the right to use the title “Chartered Engineer” implying that they are qualified engineers deemed worthy to hold a Charter.

The 57th Engineers’ Day was celebrated with the theme “Driving Sustainability with Engineering Solutions Embracing the Latest AI-driven Technologies” honouring the 163rd birthday of Sir Mokshagundam Visvesvaraya. This day acknowledges the vital contributions of engineers to modern society and emphasizes the critical role of engineering in tackling global challenges. AI is revolutionizing sustainability initiatives by enhancing predictive models for climate change, optimizing renewable energy, and improving agricultural practices for greater yields with reduced environmental impact. Our Coimbatore Local Centre is preparing ahead to host events for “World Habitat Day”, “World Standards Day” and “Energy Conservation Day” in the upcoming quarter, in addition to other routine activities.

**Dr J Krishnamoorthi FIE**  
Chairman, IEI CLC

## ROYAL CHARTER DAY LECTURE

10.09.2024

IEI Coimbatore Local Centre in collaboration with the Department of Chemical Engineering, KPR Institute of Engineering and Technology, celebrated “Royal Charter Day 2024” with Mr Arjun Moorthy, Founder and Director, M/s Robbell Materials Research Centre (OPC) Private Limited, Salem as guest speaker.

The session began with a welcome address by Dr G Madhan Mohan, Honorary Secretary, IEI Coimbatore Local Centre, who briefly explained the significance of the Royal Charter Day. Dr S Balasubramanian, Professor & Head, Department of Chemical Engineering, KPR Institute of Engineering and Technology delivered the felicitation address. Dr A K Priya, Professor, Department of Chemical Engineering, KPR Institute of Engineering and Technology & Committee Member, IEI Coimbatore Local Centre introduced the guest speaker.

Mr Arjun Moorthy in his lecture emphasized the current trends and future prospects in photovoltaic materials. His lecture covered the materials used in the construction of PV cells, their technological advancements, and how they are integral in meeting the world’s growing energy demands.

Finally, Ms L Dharani, Assistant Professor, Department of Chemical Engineering, KPR Institute of Engineering and Technology offered concluding remarks and vote of thanks.

## 57<sup>th</sup> ENGINEERS' DAY

18.09.2024



The 57<sup>th</sup> Engineers' Day was celebrated in a grand manner by The Institution of Engineers (India), Coimbatore Local Centre at PSG College of Technology, Coimbatore. Engineers' Day held annually to commemorate the birth anniversary of Sir M. Visvesvaraya, one of India's most revered engineers and statesmen, is an occasion to recognize the immense contributions of engineers to technological progress and society's advancement.

The event began with the welcome address by Er J Krishnamoorthi, Chairman, IEI Coimbatore Local Centre, who greeted the chief guest and all attendees. The Chief Guest, Dr K Venu Madhav, Director - Product Excellence & Innovation, M/s Elgi Equipments Limited, Coimbatore and other dignitaries paid tribute to Sir M Visvesvaraya by garlanding his portrait. This was followed by an audio-visual message from IEI National President, Dr G Ranganath.

Dr Venu Madhav delivered an inspiring keynote address on the theme, "Driving Sustainability with Engineering Solutions Embracing the Latest AI-Driven Technologies". He highlighted the crucial role of engineers in addressing global challenges like climate change, resource depletion, and environmental degradation. He emphasized that Artificial Intelligence (AI) is now playing a pivotal role in creating sustainable and efficient systems to tackle these challenges.

In the event are presentation of Outstanding Engineer Awards to three distinguished engineers for their significant contributions in their respective engineering divisions. The recipients were: Er L Ashok Kumar, Principal, Thiagarajar College of Engineering, Madurai, Er T Haldorai, Former Chief Engineer, Tamil Nadu Electricity Board and Er B Paulchamy, Professor and Head, Department of Electronics and Communication Engineering, Hindustan Institute of Technology, Coimbatore.

In addition, the Young Achiever Awards were also given to: Er D Premkumar, Assistant Professor, Department of Computer Science and Engineering, KPR Institute of Engineering and Technology, Er A Purushothaman, Professor, Department of Electronics and Communication Engineering, Hindustan Institute of Technology and Er S Prabhakaran, Assistant Professor, Department of Robotics and Automation Engineering, PSG College of Technology.



Three engineering students from different institutions have also been recognized with "Cav Dr GKD Memorial Award", "Shri Sengoda Gounder Memorial Award" and "Thiru S V Subramaniam Memorial Award" for their exemplary academic achievements.

The event concluded with vote of thanks by Er G Madhan Mohan, Honorary Secretary, IEI Coimbatore Local Centre. The event witnessed participation from nearly 200 attendees, including IEI past chairmen, past honorary secretaries, committee members, corporate members, awardees' families & friends, faculty and students.

# ALL INDIA SEMINAR ON "ELECTRIC MOBILITY'S RECENT TRENDS AND ADVANCEMENTS"

05.07.2024 - 06.07.2024



IEI Coimbatore Local Centre in partnership with the Department of Electrical and Electronics Engineering, SNS College of Technology, Coimbatore organized an All India Seminar on "Electric Mobility's Recent Trends and Advancements".

The inaugural session began with welcome address by Dr G Madhan Mohan, Honorary Secretary, IEI CLC. Dr S Chenthurpandian, Principal, SNSCT delivered the felicitation address, followed by a detailed overview of the seminar by Dr C Ramakrishnan, Professor and Head, Dept of EEE, SNSCT. Mr R Satheeshkumar, Assistant Professor, Dept of EEE, SNSCT introduced the chief guest, Mr P Manikandan, Founder & CEO, M/s Grenerg Mobility Solutions Private Limited, Coimbatore who provided knowledge into the latest trends and advancements in electric mobility. Dr R Senthilkumar concluded the session with a vote of thanks.

The technical session began with Mr P Manikandan, Founder & CEO, M/s Grenerg Mobility Solutions Private Limited, Coimbatore. He provided a comprehensive overview of the electric vehicle (EV) industry in India. Mr T Vasanthakumar, Founder & CEO of M/s Radhva Motors Private Limited, Coimbatore, delivered a thoughtful lecture comparing hybrid and electric vehicles.

Mr R Satheeshkumar, Assistant Professor, Department of EEE, SNSCT focused on the importance and types of chargers for EVs. Mr M Varun, Founder and Chief Executive Officer, TOPTEK transformers, Coimbatore, highlighted the latest trends in charging technologies, including faster charging speeds, wireless charging, bidirectional charging for vehicle-to-grid applications, and smart charging solutions.

Mr R Vijayakumar, Assistant Professor, Department of EEE, SNSCT addressed the challenges in setting up charging infrastructure and the hurdles India faces in launching autonomous vehicles. Mr Arun Raaj Manickaraj, Head BD and Investments, AIC RAISE Associate Vice President Investment, RAIN - Raise Angle Investor Network, Technical Lead, Entuple Technology Solutions India Private Limited Coimbatore, presented an analysis of the Indian EV market.

Ms P Shantha Sheela, State Business Facilitation Officer, District Industries Centre (DIC), Coimbatore, explained the subsidy schemes under EMPS 2024, particularly for two-wheeler electric vehicles.

Four teams participated in the technical paper presentation session, showcasing their projects and research on electric vehicles. The presentation included Life cycle identification for EV charging stations, User feedback system ratings for smart EV charging station monitoring, Navy station battery management system for sustained power provision from a renewable plant and Enhancement of battery management system efficiency for LV grade electric vehicles.

The program concluded with valedictory session by distribution of certificates to the participants, marking the end of a successful and informative event on electric mobility.

# ALL INDIA SEMINAR ON “ADVANCES IN METHODS, MATERIALS, AND CHARACTERIZATION TECHNIQUES FOR LASER MATERIAL PROCESSING”

12.07.2024 - 13.07.2024

The Institution of Engineers (India), Coimbatore Local Centre organized an All India Seminar on “Advances in Methods, Materials, and Characterization Techniques for Laser Material Processing” in association with the Department of Metallurgical Engineering, PSG College of Technology, Coimbatore & Centre of Excellence in Welding Engineering and Technology funded by Ministry of Heavy Industries, Government of India.

The seminar commenced with an inaugural function. Dr J Krishnamoorthi, Chairman, IEI CLC and Professor & Head, Dept of Metallurgical Engineering, PSGCT welcomed the attendees and provided an overview of IEI’s activities. Dr R Sivasankari, Assistant Professor, Dept of Metallurgical Engineering, PSGCT and Committee Member, IEI CLC gave an overview of the seminar. The chief guest, Dr V Ramaswamy, Visiting Professor, Dept of Metallurgical Engineering, PSGCT (former Executive Director, Salem Steel Plant, Steel Authority of India Limited), delivered an address on the importance of laser material processing in industrial applications. He mentioned the stringent quality requirements for the metals and materials for engineering industries. The inaugural session concluded with vote of thanks by Dr G Madhan Mohan, Honorary Secretary, IEI Coimbatore Local Centre.

Mr M Gunaseelan, Senior Project Engineer, PSG TIFAC CORE, PSGCT detailed various types of laser-based additive manufacturing. Dr G Venkatesh, Assistant Professor, Dept of Metallurgical Engineering, PSGCT, provided



knowledge of macrostructural and microstructural analysis techniques. Dr R Sivasankari, Assistant Professor, Dept of Metallurgical Engineering, PSGCT introduced selective laser melting and direct energy deposition. Mr E Sreedhar Kumar, Senior Manager and Mr M Gunaseelan, Senior Project Engineer, PSG TIFAC CORE, PSGCT showcased the research activities at their center and demonstrated the modeling and manufacture of components by rapid prototyping.

Dr D Kesavan, Associate Professor, Dept of Mechanical Engineering, The Indian Institutes of Technology Palakkad, explained the LPBF process and its significance on material properties. He discussed specifically the processing of nickel-base superalloy IN718 and Ti-6Al-4V alloy, including post-processing heat treatments and tribological characterization.

Dr S Kanmani Subbu, Associate Professor, Dept of Mechanical Engineering, The Indian Institutes of Technology Palakkad, addressed defects in the LPBF processed components, including porosity, balling, staircase defects, and cracking. Dr S M Ganesan, Principal Scientist, Corrosion and Materials Protection Division, CSIR - Central Electrochemical Research Institute, Karaikudi, discussed the principles of laser cladding and the influence of process parameters on coating performance.

Dr S Prabhakaran, Assistant Professor, Dept of Robotics and Automation, PSGCT explained Wire Arc Additive Manufacturing (WAAM) and laser Direct Energy Deposition (DED). The seminar concluded with valedictory session, in which certificates were distributed to the participants.

# ONE DAY SEMINAR ON “CALIBRATION OF MEASURING INSTRUMENTS AND FORM MEASUREMENT”

19.07.2024



IEI Coimbatore Local Centre in collaboration with the Department of Production Engineering, PSG College of Technology, Coimbatore, organized a One Day Seminar on “Calibration of Measuring Instruments and Form Measurement”. The event featured insightful lectures and discussions on various aspects of calibration, quality standards, and modern measurement systems.

The event commenced with inaugural session in which Dr J Krishnamoorthi, Chairman, IEI Coimbatore Local Centre welcomed the gathering and emphasized the importance of the seminar. Dr M Senthilkumar, Professor and Head, Department of Production Engineering, PSGCT & Committee Member of IEI Coimbatore Local Centre delivered the felicitation address. Dr R Rajamani, Assistant Professor, Department of Production Engineering, PSGCT presented the theme of the seminar.

The chief guest, Mr S M Dheeran Chinnamalai, Senior Engineer - Operations, M/s Craftsman Automation, Coimbatore, addressed the audience on the significance of quality in manufacturing industries. The inaugural session concluded with a vote of thanks proposed by Dr M R Pratheesh Kumar, Associate Professor, Department of Production Engineering, PSGCT.

The first invited lecture was delivered by Mr S M Dheeran Chinnamalai, who provided an in-depth perspective on quality in the manufacturing industry.

The second invited lecture was presented by Mr P Suresh Kumar and Mrs Sindhuja from M/s Lakshmi Machine Works - Textile Machinery Division Unit 1, Coimbatore. Mr P Suresh Kumar discussed the eight dimensions of quality: performance, reliability, durability, serviceability, aesthetics, features, perceived quality, and conformance to standards, providing relevant examples. Mrs Sindhuja elaborated on the need for calibrations, traceability, and the standards used for the calibration of basic instruments.

Mr N Paramaguru, Senior Engineer, M/s Aquasub Engineering, Coimbatore, delivered the third invited lecture. He presented the basic terminologies used in industrial metrology and covered calibration procedures and standards for basic instruments.

The fourth invited lecture was presented by Dr R Rajamani, Assistant Professor, Department of Production Engineering, PSGCT. He highlighted the importance of digital measurement systems for the Industrial Internet of Things (IIoT) and the concept of connected factories. Dr Rajamani demonstrated the operation of Wi-Fi gauges and real-time monitoring of manufacturing processes.

The seminar concluded with valedictory session, during which certificates were distributed to the participants. The event provided important findings on the calibration of measuring instruments, quality standards, and modern measurement systems, fostering a deeper understanding of these crucial aspects among the attendees.

# ALL INDIA SEMINAR ON “AI-POWERED 3D PRINTING: BRIDGING INNOVATION AND AUTOMATION”

25.07.2024 - 26.07.2024

The Institution of Engineers (India), Coimbatore Local Centre organized an All India Seminar on “AI-Powered 3D Printing: Bridging Innovation and Automation” in partnership with the Department of Mechanical Engineering and Department of Electronics and Instrumentation Engineering, Sri Ramakrishna Engineering College, Coimbatore.

The seminar commenced with inaugural function. Dr J Krishnamoorthi, Chairman, IEI Coimbatore Local Centre welcomed the attendees and gave an overview of IEI's activities. Dr A Soundarrajan, Principal, SREC presented the felicitation address, followed by Dr P Karuppuswamy, Professor and Head, Department of Mechanical Engineering, SREC who offered an overview of the seminar's objectives. The chief guest, Dr D Kesavan, Associate Professor, Department of Mechanical Engineering, The Indian Institutes of Technology Palakkad delivered inaugural address. Dr K Srinivasan, Professor and Head, Department of Electronics and Instrumentation Engineering, SREC concluded the session with vote of thanks.

The technical session commenced with an thoughtful lecture by Dr D Kesavan, Associate Professor, Department of Mechanical Engineering, IIT Palakkad. He provided a comprehensive introduction to Additive Manufacturing (AM), emphasizing the process of building objects layer by layer from a digital model. Dr Kesavan shared his extensive experiences in the field. The next lecture was delivered by Mr S D R Niranjana, Founder & CEO of M/s Mukkudal Robotics, Coimbatore. His talk focused on the transformative role of

Artificial Intelligence (AI) and the Internet of Things (IoT) in automation. The fourth lecture was presented by Mr S Jeevanantham, Design Engineer at M/s Robert Bosch, Coimbatore. He shared his expertise on the impact of automated design techniques in modern engineering. The second day of the seminar began with a lecture by Mr S Manickaraj, Director, M/s MELZ Indcosys Solutions, Coimbatore. He discussed the critical roles of Quality Assurance (QA) and Quality Control (QC) in manufacturing. The sixth lecture was delivered by Dr V S Saravanan, Associate Vice President (Foundry), M/s Indo Shell Cast Private Limited, Coimbatore. Dr Saravanan's talk focused on the application of the Internet of Things (IoT) in production engineering. Dr Rajesh Ranganathan, Professor, Dept of Mechanical Engineering, Coimbatore Institute of Technology delivered a lecture on the impact of 3D printing in healthcare engineering.



The eighth lecture was presented by Mr S Kaushik, Project Manager, M/s Mechmet Engineers, Coimbatore. He discussed the role of AI and IoT in factory automation, emphasizing the practical skills required to optimize manufacturing processes. The final session of the seminar was a hands-on training conducted by Dr T Velmurugan, Assistant Professor, Dept of Mechanical Engineering, SREC. This session provided participants with practical experience in designing and creating three-dimensional objects. The seminar concluded with valedictory session, during which certificates were distributed to the participants.

## ONE DAY SEMINAR ON “RENEWABLE ENERGY INTEGRATION IN CHEMICAL ENGINEERING: ROLE AND CHALLENGES”

31.07.2024

IEI Coimbatore Local Centre organized a One Day Seminar on “Renewable Energy Integration in Chemical Engineering: Role and Challenges” in association with the Department of Chemical Engineering, KPR Institute of Engineering and Technology, Coimbatore.

The event began with an inaugural session in which Dr G Madhan Mohan, Honorary Secretary of IEI Coimbatore Local Centre, delivered the welcome address. Dr S Balasubramanian, Professor & Head, Department of Chemical Engineering, KPRIET, provided an overview of the seminar, setting the stage for the day’s discussion. Dr A K Priya, Professor, Department of Chemical Engineering, KPRIET & Committee Member, IEI Coimbatore Local Centre introduced the chief guest. The chief guest Dr P Ragupathy, Principal Scientist, Flow Battery Section, Electrochemical Power Sources Division, CSIR - Central Electrochemical Research Institute, Karaikudi delivered an insightful address on the significance of renewable energy integration within chemical engineering, emphasizing the associated roles and challenges. Dr Uma Priya, Assistant Professor, Department of Chemical Engineering, KPRIET, concluded the session with vote of thanks.

The first invited lecture by Dr P Ragupathy focused on “Electrochemical Energy Storage and Conversion Systems: Great Challenges and Opportunities”. The second invited lecture was delivered by Dr A Karthick, Associate Professor, Department of Electrical and Electronics Engineering, KPRIET.

His talk titled “Role of Chemical Engineering in Renewable Energy”, emphasized the interdisciplinary collaboration between chemical engineering and renewable energy technologies. Dr R Ranjith Kumar, Project Officer, Department of Civil Engineering, The Indian Institutes of Technology Madras, presented the third invited lecture on “Carbon-Free Fuel Systems”. He provided an in-depth overview of carbon-free fuel systems and their significance in mitigating climate change by reducing greenhouse gas emissions. He discussed advancements in hydrogen fuel cells, battery technologies, and synthetic fuels, with a particular focus on green hydrogen produced using renewable energy sources.



The final lecture of the day was delivered by Dr S Pranav, Assistant Professor, Department of Chemical Engineering, KPRIET on “Technologies for Sustainable Production of Hydrogen”. Dr Pranav emphasized the critical need for ongoing research and development in sustainable hydrogen production to meet future energy demands while minimizing environmental impact. His talk covered lifecycle assessments of hydrogen production technologies and the integration of renewable energy systems with hydrogen production units. The seminar served as an important forum for sharing knowledge and perspectives on incorporating renewable energy into chemical engineering, emphasizing the various challenges and potential opportunities in this vital field.

# ONE DAY SEMINAR ON “BUILDING THE FUTURE: COST-EFFECTIVE AND ECO-FRIENDLY CONSTRUCTION TECHNOLOGY WITH COMPRESSED STABILIZED EARTH BLOCKS”

09.08.2024

The Institution of Engineers (India), Coimbatore Local Centre in association with the Department of Civil Engineering, KPR Institute of Engineering and Technology (KPRIET) organized a one day seminar titled “Building the Future: Cost-Effective and Eco-Friendly Construction Technology with Compressed Stabilized Earth Blocks”. This seminar highlighted innovative and sustainable construction practices, focusing on the use of Compressed Stabilized Earth Blocks (CSEB) as an eco-friendly building material.

The event began with the inaugural function, Dr G Madhan Mohan, Honorary Secretary of IEI Coimbatore Local Centre delivered the welcome address. Dr G Anusha, Professor and Head, Department of Civil Engineering, KPRIET gave an overview of the seminar. The chief guest Er J Vijaykumar, Proprietor, M/s SKV Construction, Coimbatore elaborated on the significance of eco-friendly construction technology. The inaugural session concluded with vote of thanks by Ms S Bharani, Assistant Professor, Department of Civil Engineering, KPRIET.



The first invited lecture, titled “Holistic Approach to Earthen Building” was delivered by Er J Vijaykumar.

The lecture covered both traditional and modern techniques, demonstrating how ancient methods can be adapted to contemporary needs while addressing challenges like durability and weather resistance through stabilization techniques.



The second invited lecture, delivered by Er Natarajan Krishnasamy, Project Coordinator at M/s Synergy Greenfra, Coimbatore explored the “Potential of Earthen Construction in Modern Architecture”. The lecture discussed the challenges of building codes and public perception while highlighting technological advancements that make earthen construction viable in modern settings.

The seminar also featured two paper presentation sessions. In the first session, research papers on advanced construction technology were presented, including studies on enhancing CSEBs with polypropylene fibers, the use of foundry sand in CSEB production, and the development of modified cement mortars for increased strength and durability. The second paper presentation session focused on repair techniques in concrete.

Finally, certificates were distributed to the participants in the valedictory session. Overall, the event promoted the exchange of knowledge on affordable and environmentally friendly construction technologies, presenting forward-thinking solutions for the future of sustainable architecture.

## One Day Seminar on “Accelerating DevOps Adoption: Strategies, Tools, and Best Practices”

13.08.2024

IEI Coimbatore Local Centre in collaboration with the Department of Computer Engineering, PSG Polytechnic College organized a one day seminar on “Accelerating DevOps Adoption: Strategies, Tools, and Best Practices”. The seminar aimed to provide participants with an in-depth understanding of DevOps principles, tools, and practices, focusing on how to implement and accelerate DevOps in modern organizations.



The event began with a warm welcome note addressed by Dr G Madhan Mohan, Honorary Secretary of IEI Coimbatore Local Centre, who introduced the seminar's agenda and underscored the importance of DevOps in today's technology landscape. Dr B Giriraj, Principal, PSG PTC, delivered the felicitation address and Dr S Brindha, HoD, Department of Computer Engineering, PSG PTC provided an overview of the seminar. Mrs Rohini Ashok, PPSM Manager, M/s Accenture, Coimbatore served as the chief guest and spoke about the current trends in DevOps and its growing significance in the tech industry. The inaugural session concluded with a vote of thanks by Mrs P Thilakaveni, Lecturer Department of Computer Engineering, PSG PTC.

The seminar featured four invited lectures by

industry experts, offering comprehensive insights into various facets of DevOps. The first invited lecture delivered by Mrs Rohini Ashok focused on “DevOps Practices”. Her presentation emphasized how DevOps fosters collaboration between development and operations teams, ultimately leading to faster, more efficient software delivery. The second invited lecture titled “DevOps Tools” was conducted by Mr D Manikandan, Chief Technology Officer, M/s iDevOpz, Coimbatore. He discussed essential DevOps tools such as version control systems, Continuous Integration / Continuous Delivery (CI/CD) platforms, and configuration management tools.

The third invited lecture presented by Mr M Mohammed Arief, AWS Associate DevOps Engineer, M/s OneData Software Solutions Private Limited, Coimbatore focused on “Infrastructure as Code (IAC)”. He provided an overview of IAC tools like Terraform, Ansible, and AWS Cloud Formation, discussing their features and use cases.

The fourth invited lecture was delivered by Ms S Geetha, Co-Founder and DevOps Lead, M/s iDevOpz, Coimbatore focused on “DevOps Automation”. She discussed the importance of automation in DevOps, emphasizing how it reduces deployment times, increases consistency, and strengthens collaboration between teams.



The seminar concluded with a certificate distribution ceremony, where participants received certificates in recognition of their involvement.

# ONE DAY SEMINAR ON "RECENT DEVELOPMENTS AND CHALLENGES ASSOCIATED WITH WIRE ARC ADDITIVE MANUFACTURING (WAAM)"

16.08.2024

IEI Coimbatore Local Centre, in collaboration with the Department of Production Engineering, PSG College of Technology, Coimbatore, organized a one day seminar on "Recent Developments and Challenges Associated with Wire Arc Additive Manufacturing (WAAM)." The seminar offered an engaging platform for discussing the latest trends and issues in additive manufacturing, with a particular focus on advancements and challenges specific to WAAM techniques, including process optimization, quality control, and industrial applications.

The inaugural session began with a welcome address by Dr J Krishnamoorthi, Chairman, IEI CLC, who highlighted the importance of the seminar and its relevance in the current industrial landscape. Dr M Senthilkumar, Professor and Head, Dept of Production Engineering, PSGCT & Committee Member, IEI Coimbatore Local Centre delivered the felicitation address. Dr S Elangovan, Associate Professor, Dept of Production Engineering, PSGCT presented the theme of the seminar. The chief guest, Dr S Kanmani Subbu, Associate Professor, Dept of Mechanical Engineering, The Indian Institutes of Technology Palakkad, addressed the gathering, explaining the significance of additive manufacturing and its recent challenges. The inaugural session concluded with a vote of thanks by Dr G Madhan Mohan, Honorary Secretary, IEI Coimbatore Local Centre.

Dr S Kanmani Subbu opened the seminar with a lecture on "Metal Additive Manufacturing: Challenges and Research Opportunities". He provided an overview of the current trends, technological advancements, and future

potential in metal additive manufacturing.

Dr Afzaal Ahmed, Associate Professor, Department of Mechanical Engineering, The Indian Institutes of Technology Palakkad, delivered a lecture on "Sustainable Surface Post-Treatment Approach for Metal Additive Manufacturing Components using Low Energy Electric Discharges".

Dr A Karpagaraj, Assistant Professor, Dept of Mechanical Engineering, National Institute of Technology Puducherry, presented a detailed lecture on "Implementation of Wire Arc Additive Manufacturing (WAAM)". His talk covered the practical aspects of WAAM, including techniques to modify setups, prevent defects, and analyze mechanical properties of components.



Dr Jayakrishnan Nampoothiri, Assistant Professor, Department of Production Engineering, PSGCT discussed on "Leveraging Machine Learning for Metal Additive Manufacturing". He explored how machine learning techniques can optimize operational parameters, improve the quality of 3D builds, and predict material properties.

The seminar concluded with a valedictory session, during which certificates were distributed to participants. The event offered attendees a comprehensive understanding of calibration, form measurement, and the evolving field of additive manufacturing, equipping them with valuable knowledge for future applications.

## TECHNICAL WEBINAR ON “VIBRATION ANALYSES OF FLIGHT VEHICLE STRUCTURES & THEIR EXPERIMENTAL VALIDATION”

23.08.2024

IEI Coimbatore Local Centre in collaboration with the Department of Aeronautical Engineering, Kumaraguru College of Technology, Coimbatore organized a technical webinar on the topic of “Vibration Analyses of Flight Vehicle Structures & their Experimental Validation”. The event featured a lecture by Dr R Santhanam, Senior Scientist, Aerospace Structures Division, Directorate of Flight Structures, Defence Research and Development Laboratory (DRDL), Hyderabad. The session commenced with a welcome address by Dr G Madhan Mohan, Honorary Secretary, IEI Coimbatore Local Centre. He highlighted the importance of such technical webinars in enriching the knowledge of students and professionals. Following this, Dr M Senthil Kumar, Head of the Department, Department of Aeronautical Engineering, KCT & Committee Member, IEI Coimbatore Local Centre delivered the felicitation address. Mr G Raj Kumar, Assistant Professor, Department of Aeronautical Engineering, KCT introduced the guest speaker.

Dr R Santhanam, the guest speaker, provided a comprehensive and thoughtful lecture. He discussed various numerical simulation techniques employed in the aerospace industry, including Finite Element Analysis (FEA), Modal Analysis, Harmonic Analysis, and Transient Analysis.

The event concluded with vote of thanks by Mr G Raj Kumar, Assistant Professor, Department of Aeronautical Engineering, KCT expressing gratitude to the guest speaker, organizers and participants for making the session a success.

## TECHNICAL WEBINAR ON “ENGINEERING FAILURE ANALYSIS - MATERIALS ASPECTS”

29.08.2024

The Institution of Engineers (India), Coimbatore Local Centre in association with the Department of Aeronautical Engineering, Hindusthan College of Engineering and Technology, Coimbatore organized a technical webinar. The session featured a distinguished lecture by Dr P Parameswaran, Former Head, Physical Metallurgy Section, Materials and Metallurgy Group, Indira Gandhi Centre for Atomic Research, Kalpakkam on the topic of “Engineering Failure Analysis - Materials Aspects”.

The event commenced with a welcome address by Dr J Krishnamoorthi, Chairman, IEI CLC, who greeted the guest speaker and participants and delivered the presidential address. Following this, Dr V T Gopinathan, Professor and Head, Dept of Aeronautical Engineering, HiCET, delivered the felicitation address, Dr K P Uma, Professor and Head, Dept of Science and Humanities, HiCET introduced the guest speaker. Dr P Parameswaran provided a detailed and thoughtful lecture on engineering failure analysis, focusing on the importance of investigating why a component or structure failed to perform as intended. He also highlighted the crucial role of electron microscopic methods such as Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), and Electron Dispersive Analysis in conducting failure analysis studies.

The event concluded with a vote of thanks by Mr V Saravanakumar, Assistant Professor, Department of Aeronautical Engineering, HiCET, who expressed gratitude to the guest speaker, organizers, and participants for their contributions to the successful webinar.

## TECHNICAL LECTURE ON “ENERGY AUDITING FOR INDUSTRIES: A STEP TOWARDS SUSTAINABLE MANUFACTURING”

30.08.2024

IEI Coimbatore Local Centre in partnership with the Department of Production Engineering, PSG College of Technology, Coimbatore organized a technical lecture on “Energy Auditing for Industries: A Step towards Sustainable Manufacturing”. The session was led by Er S Ashok, BEE Accredited Energy Auditor, Coimbatore. The event began with a warm welcome address by Dr J Krishnamoorthi, Chairman, IEI Coimbatore Local Centre, who greeted the guest speaker and the participants. Dr M Senthilkumar, Professor and Head, Department of Production Engineering, PSGCT & Committee Member, IEI Coimbatore Local Centre, felicitated the gathering, highlighting the relevance of energy auditing for industries and its importance for sustainable manufacturing.

Er S Ashok, the guest speaker, delivered an in-depth lecture on energy auditing, outlining its significance in today’s industrial context. He provided a detailed overview of the key steps involved in the energy audit process, which include data collection, energy use analysis, recommendations for efficiency improvements, and monitoring to ensure the successful implementation of these recommendations. The session concluded with a vote of thanks by Dr M R Pratheesh Kumar, Associate Professor, Department of Production Engineering, PSGCT who expressed gratitude to the guest speaker, participants and organizers for making the event a success.



## TECHNICAL LECTURE ON “FULL STACK DEVELOPMENT”

23.09.2024



The Institution of Engineers (India), Coimbatore Local Centre in collaboration with the Department of Computer Networking, PSG Polytechnic College, Coimbatore, organized a technical lecture on “Full Stack Development”. The lecture was delivered by Er P Dhivya, Technical Head, M/s Refinement Software Solutions Private Limited, Coimbatore. The event began with a welcome address by Dr J Krishnamoorthi, Chairman, IEI CLC, who greeted the guest speaker and participants. Following this Dr B Giriraj, Principal, PSG PTC delivered a felicitation address. Dr S Brindha, HoD, Dept of Computer Networking, PSG PTC gave a thoughtful introduction to the lecture, emphasizing the significance of web application development and its role in improving departmental and college websites.

Er P Dhivya, the guest speaker, provided a detailed overview of Full Stack Development, emphasizing its importance in the tech industry. She explained the key components of full stack development, covering essential tools, technologies, and programming languages used in both front-end and back-end development. The program concluded with a vote of thanks delivered by Dr G Madan Mohan, Honorary Secretary, IEI Coimbatore Local Centre.

## TECHNICAL LECTURES “FEATURE OF ARTIFICIAL INTELLIGENCE” & “UNVEILING AI AND ML”

26.09.2024



IEI Coimbatore Local Centre in partnership with the Department of Artificial Intelligence and Data Science, Coimbatore Institute of Technology, Coimbatore organized two technical lectures. The topics were “Feature of Artificial Intelligence” and “Unveiling AI and ML” delivered by two expert guest speakers. The event began with a warm welcome address by Dr J Krishnamoorthi, Chairman, IEI Coimbatore Local Centre, Dr A Rajeswari, Principal, CIT presided over the gathering. Dr Valliappan Raman, Professor and Head, Department of Artificial Intelligence and Data Science, CIT who felicitated the audience.

The first lecture was delivered by Mr Bharani Kumar Depuru, CEO & Founder, M/s AiSPRY, 360 igiTMG, Hyderabad. He presented a detailed exploration of Artificial Intelligence (AI) and its vast applications, particularly in areas like healthcare, solar panel defect detection, flammable item detection in metal scrap, and structured forecasting. The second lecture was delivered by Mr Meyappan Srinivasan, Group Manager, GPTW Certified, Organization Cultural Transformation Leader, Coimbatore. He focused on the exploration of AI and Machine Learning (ML), discussing core concepts, technologies, and practical applications. The event concluded with a vote of thanks by Dr M Prabhavathy, Associate Professor, Department of Artificial Intelligence and Data Science, CIT.

## TECHNICAL WEBINAR ON “INTRODUCTION TO OPTIMAL CONTROL BASED ON PSEUDOSPECTRAL METHODS FOR UAVS”

30.09.2024

The Institution of Engineers (India), Coimbatore Local Centre organized a technical webinar in association with the Department of Aeronautical Engineering, Kumaraguru College of Technology, Coimbatore. The guest speaker for the session was Dr M Ranjith, Associate Professor, Department of Aerospace Engineering, The Indian Institutes of Technology Madras who delivered an thoughtful lecture on “Introduction to Optimal Control Based on Pseudospectral Methods for UAVs”.

The webinar commenced with welcome address from Dr J Krishnamoorthi, Chairman of the IEI Coimbatore Local Centre, who introduced the guest speaker and expressed gratitude to the participants for their presence. In his lecture, Dr M Ranjith provided a foundational overview of optimal control and its application to Unmanned Aerial Vehicles (UAVs), focusing on Pseudospectral Methods. He elaborated on the importance of optimal control in enhancing the performance and efficiency of UAV operations.

Dr Ranjith discussed various numerical simulation techniques used in optimal control, including the Finite Element Analysis (FEA) and its relevance to UAV dynamics. He explained how Pseudospectral Methods can be applied to achieve optimal trajectories for UAVs, enhancing their capabilities in various operational scenarios. The program concluded with a vote of thanks delivered by Dr G Madhan Mohan, Honorary Secretary of IEI Coimbatore Local Centre, who expressed appreciation for Dr Ranjith’s enlightening presentation and thanked all attendees for their participation.

## FORTHCOMING ACTIVITIES

World Habitat Day 2024 celebration with the theme **“Engaging Youth to Create a Better Urban Future”** in association with the Department of Civil Engineering, PSG College of Technology on 07.10.2024 at PSG College of Technology, Coimbatore.

World Standards Day 2024 celebration with the theme **“Shared Vision for a Better World: Spotlight on SDG 9: “Industry, Innovation, and Infrastructure in the Age of AI”** in association with the Department of Civil Engineering, Hindusthan College of Engineering and Technology on 16.10.2024 at Hindusthan College of Engineering and Technology, Coimbatore.

One Day Seminar on **“Utilization of E-waste as an Alternative Construction Materials”** (Under the aegis of ENDB) in association with the Department of Civil Engineering, Dr.N.G.P. Institute of Technology on 18.10.2024 at Dr.N.G.P. Institute of Technology, Coimbatore.

Technical Lecture on **“Green Lean Six Sigma for Sustainable Production”** in association with the in association with the Department of Production Engineering, PSG College of Technology on 18.10.2024 at PSG College of Technology, Coimbatore.

All India Seminar on **“Green Technologies for Sustainable Food Production and Processing”** (Under the aegis of AGDB) in association with the Department of Food Technology, Hindusthan

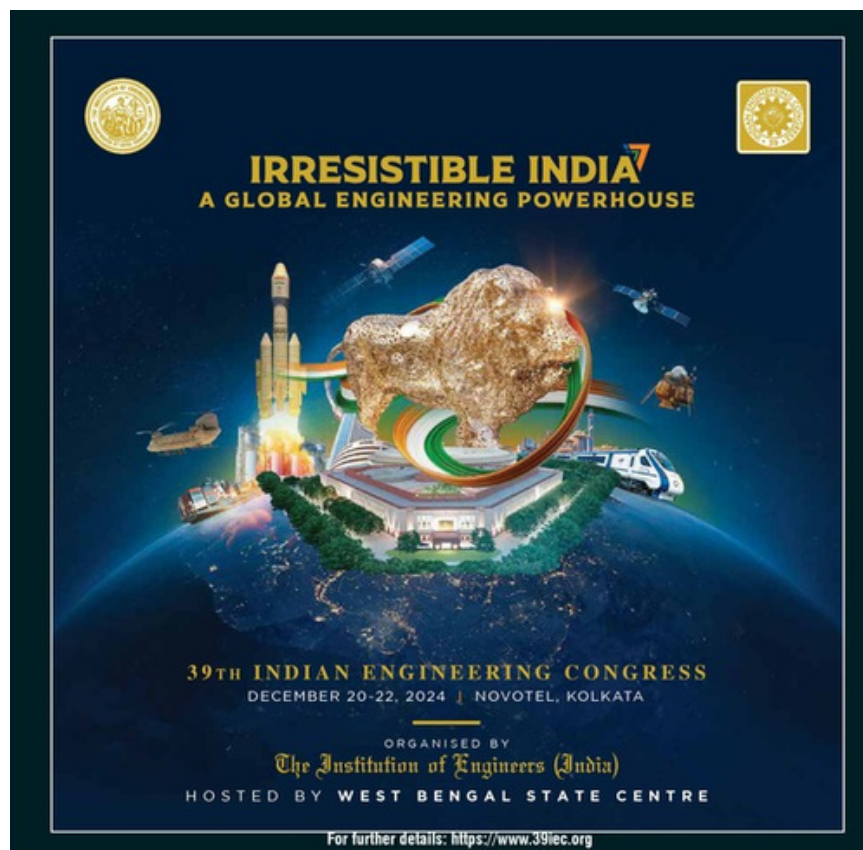
College of Engineering and Technology on 24.10.2024 - 25.10.2024 at Hindusthan College of Engineering and Technology, Coimbatore.

59th Annual General Meeting to be scheduled on 25.10.2024 at PSG College of Technology, Coimbatore.

One Day Seminar on **“Advanced Machining Processes for Manufacturing Bio-Medical Devices”** (Under the aegis of ICC) in association with the Department of Production Engineering, PSG College of Technology on 06.12.2024 at PSG College of Technology, Coimbatore.

One Day Seminar on **“மின்னுதறையில் செயற்கை நுண்ணறிவுக்கான வாய்ப்புகள் மற்றும் பயன்பாடுகள் - Opportunities and Applications of Artificial Intelligence in Electronics Sector”** (Under the aegis of NLPC) in association with the Department of ECE, PSG Polytechnic College on 12.12.2024 at PSG Polytechnic College, Coimbatore.

All India Seminar on **“Transforming Industry and Infrastructure: The Role of Automation and AI”** (Under the aegis of ICC) in association with the Department of Mechanical Engineering, PSG Polytechnic College on 19.12.2024 - 20.12.2024 at PSG Polytechnic College, Coimbatore.



## Corporate Air Ticketing Benefit for Members

Corporate Members are entitled to Corporate Air Ticket benefit. For details please visit

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

## 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.

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

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

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

### Professional Engineers (PE) Certification by IEI

#### ELIGIBILITY REQUIREMENT

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

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

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

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

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

#### ELIGIBILITY REQUIREMENT

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

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

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

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

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

## Upgradation of Membership

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

For details, please contact

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

✉ [dd.membership@ieindia.org](mailto:dd.membership@ieindia.org)

## 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>.

# IEI AWARDS

## CALL FOR PAPERS

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

The topics for the year 2024 are given hereunder.

### SAIL AWARD

**Decarbonizing Indian Steel Industry,  
Opportunities and Challenges**

### DR M VISVESVARAYA AWARD

**Use of Technology and processes in  
systematic contractual safety management  
in Steel Industry**

The Coal India Ltd (CIL) had instituted an Award to perpetuate the memory of **Late J G Kumaramangalam**, its first Chairman to be awarded every year during the Indian Engineering Congress to author/s of the articles adjudged best on a selected topic. The topic for the year 2024 is given below.

### COAL INDIA (J G KUMARAMANGALAM MEMORIAL) AWARD

**Energy Transition: Challenges & Opportunities for Coal Sector**

The articles preferably restricting to 3000 words along with good quality photographs may be submitted along with a Declaration Form to [award@ieiindia.org](mailto:award@ieiindia.org) within **October 30, 2024**.

The template of the paper and the Declaration Form are enclosed, which are also available under the following link:  
[https://www.ieindia.org/webui/IEI-Activities.aspx#Call\\_Papers](https://www.ieindia.org/webui/IEI-Activities.aspx#Call_Papers)

Intending contributors are requested to send the soft copy of the paper by email to [award@ieiindia.org](mailto:award@ieiindia.org) (with subject heading Paper for SAIL/Dr M Visvesvaraya Award) and submit four nos. printed copies of their articles to :

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

## Know-Your- Member (KYM)

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

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

**Deputy Director (Membership)**

The Institution of Engineers (India)

8 Gokhale Road, Kolkata 700020

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

The form is available on IEI Website:

[https://www.ieindia.org/WebUI/ajax/Downloads/WebUI\\_PDF/HIGHLIGHTS\\_DOCUMENT-3332.pdf](https://www.ieindia.org/WebUI/ajax/Downloads/WebUI_PDF/HIGHLIGHTS_DOCUMENT-3332.pdf)

## Newsletter Editorial Committee

**Dr J Krishnamoorthi FIE**  
Chairman, IEI CLC

**Dr G Madhan Mohan FIE**  
Honorary Secretary, IEI CLC

**Dr M Senthilkumar FIE**  
Committee Member, IEI CLC

**Dr T Ramesh MIE**  
Committee Member, IEI CLC

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