



News Magazine of The Institution of Engineers(India), Kerala State Centre

Voice of Kerala Engineers

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CHAIRMAN SPEAKS

Prof. (Dr.) M. Jayaraju FIE



The month of August 2023 was great for India due to the achievement of the Chandrayaan-3 Mission to Moon. The Institution of Engineers (India), Kerala State takes pride in the successful landing of Chandrayaan-3 on the Moon on 23 August 2023, and Wish Congratulations to all behind the Mission. This achievement of India is due to the untiring efforts of Indian Space Research Organization (ISRO).

"India is on the Moon" announced Sri.S.Somanath, Chairman of ISRO as Chandrayaan-3 touched down on the Moon. The success of Chandrayaan-3 Mission is another one like that of ISRO's Mangalyaan Mission to Mars. The lunar space programme of India started with Chandrayaan-1 launched on 22 October 2008, followed by Chandrayaan-2, launched on 22 July 2019, and then by Chandrayaan-3, launched on 14 July 2023. The landing point of Chandrayaan-3 is Shiv Shakti at lunar South Pole. The Chandrayaan Missions have been providing valuable data like the presence of lunar water molecules, minerals, etc. and other details of lunar soil useful not only to India but to the whole world.

An All India Seminar on 'Innovation, Implementation and Industrialization' was organized by IEI KSC under the aegis of Interdisciplinary Coordination Committee, IEI on 23 August 2023. The Seminar was well attended. The Royal Charter Day will be observed on 7 September 2023. An All India Seminar on 'Creating Hope through Action' will be held by IEI KSC jointly with Sanjeevani, Thiruvananthapuram, in connection with World Suicide Prevention Day on 10 September 2023. Another Seminar is to be conducted by IEI KSC jointly with St. Thomas Institute of Science & Technology, Thiruvananthapuram on Remote Sensing & GIS Application in 'Flood Risk Management' on 12 September 2023. Engineers' Day, 2023 will be observed on 15 September 2023. IEI Winter Examination 2023 will be held from 18 - 24 September 2023.

the deliberations positively on the seminar.

The seminar was inaugurated by Dr.(Prof) K.P.Sudheer, Exe Vice President, KSCSTE, Trivandrum by lighting the lamp and delivered the Inaugural Address.

Dr (Prof) K P Sudheer, in his inaugural address briefed about the requirement of innovation. New ideas and thoughts came in during the Pandemic period. It was a negative environment during that period, but it created start ups and productivity. As is mentioned "necessity is the mother of inventions", the period has come when new thoughts and ideas are required to move further.

HONORARY SECRETARY'S DESK

Er.Roy Mathew, MIE

Upcoming Events

07-09-2023 Royal Charter Day Celebrations. Lecture by Er. N. Rajkumar, FIE, Past Chairman, IEI Kerala State Centre.

10-09-2023 IEI Kerala State Centre jointly with Sanjeevani organising One Day Seminar on 'Creating Hope Through Action' under the aegis of Interdisciplinary Coordination Committee of IEI at Visvesvaraya Bhavan.

12-09-2023 IEI Kerala State Centre jointly with St.Thomas Institute of Science and Technology, Thiruvananthapuram organizing one day seminar on Remote Sensing & GIS Application in 'Flood Risk Management' under the aegis of Civil Engineering Division Board of IEI at St.Thomas Institute of Science and Technology.

13.09.2023 There will not be Technical Talk.

15.09.2023 56th Engineers' Day Celebrations on the theme 'Engineering a Resilient Future : Building Stronger, Smarter, Safer'.

20.09.2023 Will be announced later

27.09.2023 Will be announced later

04.10.2023 World Habitat Day

11.10.2023 World Standards Day

23.08.2023 One-day All India Seminar on 'Innovation, Implementation and Industrialisation'

Prof. (Dr) M. Jayaraju, FIE, Hon Chairman, IEI Kerala State Centre, welcomed the dignitaries and other invited guests to the one-day seminar.

Er. P. Balakrishnan Nair, FIE, Member, MCDB and Organising Convenor, briefed the participants about the theme of the conference, and sub-themes and urged all to take part in





Innovation is a very valuable thought. Lots of opportunities emerge when one thinks out of the box. He also advised that “if your innovative ideas did not bring desired results, then analyse what went wrong rather than abandoning the idea.” Some of the innovations that came into the world were air purifiers, Ola and Uber taxi services, health care industries etc. There is no limit for innovation. Innovations can be in a product and thinking about innovation is very much important.

Forenoon:

Technical Session-1: Dr Nidhi M B, Associate Professor, Mar Baselios College of Engineering and Technology, Trivandrum. Topic: Green and Smart Manufacturing.

Dr Nidhi presented the topic on “Green and Smart Manufacturing” and its importance on the present day aspects on engineering development. She began the talk with the initial history of manufacturing that was started from 1800 in the stone age period. Manufacturing is the process of turning raw materials into finished goods. Today the customers are environmentally conscious and so the manufacturing also has become green from a chaotic stage. The customers always look for the cost and quality with a focus on sustainability and this the criteria of green manufacturing.

The Industry 5.0 looks for Green Manufacturing with SMART techniques applied. This also leads to Circular Economy with Sustainable Design. Green is not just a one-day affair and Extended Producer Responsibility has become the need for Green Manufacturing conditions. World Class Manufacturing has already turned towards green manufacturing approach that aims to achieve excellence in manufacturing and thus an overall performance enhancement enabled by technology innovation.

Technical Session-2: Dr C George Varghese, Regional Deputy Director (Retd), Ministry of Textiles, Government of India. Topic: Rural Industrialisation.

Dr C George Varghese gave a presentation on the rural industrialisation scenario whereby a number of artisans create world class models and are instrumental for the economic development of the country. Rural industrialisation promotes developing industries in rural areas by utilising local resources in the most optimum manner to meet local needs. This shift promotes self-employment by bringing about innovation with sustainability in the community. This will also promote rural entrepreneurship.

One of the major advantages of the rural industrialisation is the low capital investment. These cottage industry

units also develop new innovative and value-added eco-friendly products to meet the market demand. Rural industrialisation will help to preserve the traditional skills of rural artisan community. Coordination and support of all stake holders including government agencies, banks, rural youth etc are very much essential for the implementation of various Rural Industrialisation projects

Technical Session-3: Dr Ajith Prabhu, Chief Scientist, KSCSTE, Trivandrum. Topic: Supply Chain Management in Industry 5.0 – Issues and Challenges.

At the outset, the speaker mentioned that India is a land of innovation. The global supply chain market is \$ 15.85 billion. In order to boost the profits of organisation, there is a need to reduce the supply chain operations from 11 to 4%. Industry 5.0 is human centric. Sustainability and Resilience are two features that should be in place in the modern day operations. One of the major challenge is the skill gap in the work force. Also, Ethical and security risks posed by Artificial Intelligence are other challenging issues in the Supply Chain Management. Collaborative Robots or Cobots and Internet of Every Thing (IoET) have emerged as the need of the hour to be in the market race.

Dark factory is now on its way to become the new norm of mass production. Articulated robots can work in dark and non-climate controlled environment thereby conserving utilities. Lights out manufacturing is a sustainable manufacturing strategy which reduces environmental impacts. A single robot can complete tasks being done by large numbers of people can help boost plant productivity with good quality. This also eliminates labour shortages. Technocrats and business managers are working on solutions posed by Artificial Intelligence to adopt change management scenario.

Afternoon:

Technical Session-4: Dr (Prof) S Rani / Dr. Gopakumar and Dr. Muhammed Arif, College of Engineering, Trivandrum. Topic: Biodiesel from waste cooking oil for Transportation / Power generation Applications

Today, the whole world is looking forward to eagerly replace the fossil fuels with green products for a sustainable and eco-friendly environment. Bio-diesel refers to a clean – burning fuel made from vegetable oil, animal fats and biomass feedstock. Biodiesel is created through transesterification process using short-chain alcohol.

Vegetable oil is emerging as a possible alternative to diesel fuel because of their renewable nature and ability to be generated locally in an environment friendly methods.

College of Engineering, Trivandrum in association with Kerala State Electricity Board is engaged in a project for developing biodiesel from waste cooking oil that exhibited similar fuel properties and performance compared to that of diesel. The aim of the project is to power up the vehicles and machineries and also in power generation applications using the developed biodiesel.

Technical Session-5: Dr V Anil Kumar, DGM, MPA/MME, VSSC, Trivandrum. Topic : Metal Additive Manufacturing for Space – Recent Advances and Future Trends.

Metal additive manufacturing is a disruptive technology which becomes beneficial on cost and time savings while manufacturing complex and intricate shaped sub-assemblies and components in Space applications. Metal additive manufacturing has got tremendous potential in the space components which are being manufactured indigenously. The role of design for Additive manufacturing in weight reduction of systems were briefly discussed.

Laser powder bed fusion, Electron beam powder bed fusion, Laser directed energy deposition, Wire-fed electron beam additive manufacturing and their applications on specific to space applications were presented. However, after development, the functional test before introducing the components in the programme has been emphasized. It was also mentioned that certification is a major challenge before application.

In the Valedictory Session Prof.(Dr.) M.Jayaraju, FIE, Chairman, IEI KSC welcomed the gathering. Er P. Balakrishnan Nair, FIE, Member MCDB and Organising Convenor, briefed the gathering on the presentations done by eminent speakers during the seminar. Chief Guest Er. R.Harikumar, Director, Energy Management Centre, Trivandrum delivered the valedictory address.

In the valedictory function, Er R Harikumar, has stressed the importance of innovation as the whole world is looking forward to introduce new designs and applications. Moving away from the fossil fuels has become the need of the hour as diesel or petrol leaves behind pollution in the atmosphere. As per the policies of the Government, electric vehicles have already rolled into the market. Clean energy is an innovation. Efforts should be made to ensure sustainable and green environment by innovative methods.

Certificates were distributed to all participants. Er.Roy Mathew, MIE, Honorary Secretary, IEI, KSC proposed the vote of thanks. The seminar concluded with National Anthem.



Kochi Local Centre

15.08.2023 The Institution of Engineers (India), Kochi Local Centre celebrated the 76th Independence Day at Kochi. Er. E Kurien Mathew, FIE, Past Chairman of the Centre hosted the flag in the presence of Chairman Er. P A Salahudheen, FIE, and Er. K S Babu, FIE, Hon. Secretary and other Committee Members & dignitaries.

He also inaugurated the commissioning of a 25 KVA Diesel Generator which was installed at the Centre.



Palghat Local Centre

The Palghat Local Centre of IEI celebrated Independence Day in a grand manner on 15th August 2023 at IEI office premises. Chairman Er. K. Madanmohan hoisted the national flag at 9 a.m. Honorary Secretary Dr. C. Pradip administered Swachh Bharat pledge. The Chairman wished everyone to work for the progress of India. Then all the participants sang the National Anthem. Honorary Secretary Dr. C. Pradip proposed the vote of thanks.



Trichur Local Centre

15-08-2023 Celebrated Independence day. Prof. Dr. C. P. Sunil Kumar, FIE hoisted National Flag in the Local Centre Campus and gave message relevant to the Day.

25.08.2023 Technical talk " Solid waste disposal- Challenges and way forward" by Cyriac M G, Executive Engineer (Retd), Kerala Water Authority.

The Institution of Engineers (India)

Kerala State Centre

Call for Quotation

Auditing of Accounts for Financial Year 2023-24

The Institution of Engineers (India), Kerala State Centre hereby call for quotation for carrying out the Audit of Accounts for the Financial Year 2023-24. The report to be prepared in the prescribed format provided from our HQ at Kolkata. The date of submission of audit report to our HQ is immediately after the end of the Financial Year (31st March 2024). We are using Tally for our accounting and auditing to be done at our office.

Interested CA firms, please contact directly to our office for further details or over phone on all working days during the office hours (10:00 am to 5:00 pm). The last date of submission of quotation for the same are fixed on 25-09-2023.

Er.Roy Mathew, MIE

Honorary Secretary

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