

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

Voice of Kerala Engineers

Vol. XIV No.3

March 2023

Price 2/-

CHAIRMAN SPEAKS

Prof. (Dr.) M. Jayaraju FIE



It is with a sense of great importance in protecting the environment that I commence this month's message. India is at present home to 17% of the planet's human population and 17% of the global area in

biodiversity hotspots. Our biological wealth is essential to the future of the planet. And in this battle to protect the environment, we, Engineers have a great role to play. New development projects should come up not by destroying the environment but by least disturbing the environment. Then only it becomes development. Otherwise, it is destruction.

The World Engineering Day for Sustainable Development is observed on March 4 every year and at present, it assumes greater significance more than ever before. This year, World Engineering Day for Sustainable Development was observed on March 4 by IEI KSC in association with Mar Baselios College of Engineering and Technology, Thiruvananthapuram. Prof. K.P. Sudheer, Ex-Officio Principal Secretary, Dept. of Science & Technology, Govt. of Kerala delivered a lecture on the theme 'Engineering Innovation for a more resilient World.' The observation is meant to highlight Engineers' achievements in the modern world and to improve public understanding of how engineering and technology are important to modern life and sustainable development.

The GATE 2024 Guidance Classes will commence in June 2023. The Vacation Classes for High School Students on Science and Technology Awareness will commence in April 2023. This is a Course providing basic knowledge in technical and life skills with practical.

The 719th Special Council Meeting of IEI was conducted on 12th February at IEI Head Quarters in Kolkata. It is planned to conduct a two-day National Conference in May 2023 at Thiruvananthapuram under Mechanical Engineering Division.

HONORARY SECRETARY'S DESK

Er.Roy Mathew, MIE

Upcoming Events

08-03-2011 Talk on 'Green Hydrogen - the fuel of the future' by Er. J. Sudhakaran Nair, FIE, Former Deputy Chief Engineer, Kerala State Electricity Board.

15.03.2023 Talk by 'Universal Human Values And Ethics' by Dr S Ushakumari, Professor and Dean Corporate Relations, Mar Baselios College of Engineering, Thiruvananthapuram

22.03.2023 World Water Day Celebrations on the theme 'Accelerating Change'. Lecture by Dr. V. Subhash Chandra Bose, Former Director, CCDU (Communications and Capacity Development Unit), Government of Kerala.

29.03.2023 Talk by Er.Harikumar R, Director, Energy Management Centre-Kerala.

05.04.2023 Talk on 'Tour Destinations' by Mr Biju Vijayan, Uni Palm Holidays, Kollam



10th & 11th May 2023

National Conference on Recent Trends in Design and Application in Energy Development Programme

Organised by The Institution of Engineers (India) Kerala State Centre Under the aegis of Mechanical Engineering Division Board, IEI

25th Er.C.S. Padmanabha Iyer Memorial Lecture

08.02.2023 - 25th Er. C. S. Padmanabha Iyer Memorial Lecture was held. Er. N. Rajkumar, FIE, Past Chairman of IEI Kerala State Centre welcomed the gathering and introduced the speaker Er. P. Balakrishnan Nair, Committee Member, IEI Kerala State



Centre. Er. N. Rajkumar narrated a brief profile of Er. C. S. Padmanabha Iyer. Er. P. Balakrishnan Nair delivered the lecture on the topic "How the Kubler-Ross Model of Change Can Apply in the Workplace?". Er. Roy Mathew, MIE, Honorary Secretary, IEI Kerala State Centre proposed a vote of thanks. The function concluded with National Anthem.

A Century of Service to be Nation

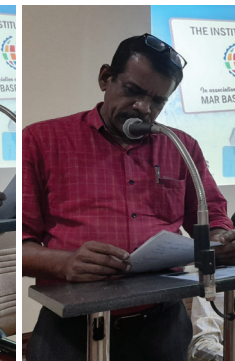
World Engineering Day Celebrations

On 04-03-2023 The Institution of Engineers (India) Kerala State Centre jointly with Mar Baselios College of Engineering and Technology, Thiruvananthapuram celebrated 'World Engineering Day for Sustainable Development' at Senatus Hall, Mar Baselios College of Engineering and Technology, Nalanchira, Thiruvananthapuram

Prof. K. P. Sudheer, Ex Officio Principal Secretary, Department of Science & Technology, Government of Kerala and Executive Vice President, Kerala State Council for Science, Technology and Environment delivered the lecture on the theme 'Engineering Innovation for a more Resilient World'.

The celebration started with a prayer song by the student. Dr Abraham T Mathew, Principal, MBCET welcomed the gathering. Er.P.Balakrishnan Nair, FIE, Committee Member, MCDB, IEI Kerala State Centre addressed

the theme and introduced the speaker and Chief Guest Prof. K. P. Sudheer, Ex Officio Principal Secretary, Department of Science & Technology, Government of Kerala and Executive Vice President, Kerala State Council for Science, Technology and Environment. Er. Udaya Kumar K.S., MIE, Past Honorary Secretary, IEI Kerala State Centre felicitated the function. The celebration was inaugurated by lighting the lamp and delivering the inaugural address by Prof. K. P. Sudheer, Ex Officio Principal Secretary, S&T Department & Executive Vice President, KSCSTE. Fr. John Varghese, Bursar, MBCET delivered the address and presented the memento to the chief guest. Certificates were distributed to the student participants. Er. Roy Mathew, MIE, Honorary Secretary, IEI Kerala State Centre proposed the vote of thanks. The function concluded with National Anthem.



24-02-2023 One-Day Seminar on 'Electric And Hybrid Vehicles-Current Trends& Future'

A One Day Seminar on 'ELECTRIC AND HYBRID VEHICLES-CURRENT TRENDS& FUTURE'" was organized by the Palghat Local Centre of IEI jointly with IEI Student Chapters NSSCE on 24th



February 2023 under the aegis of Electronics and Telecommunication Engineering Division), IEI. The Seminar was inaugurated at 9.00 a.m. by Er S. Jaya Krishnan, ADRM, Southern Railway Palakkad Division.

Inaugural Session: The function started with prayer. Er.A. K.Madhana Mohan, Chairman IEI Palghat Local Centre delivered the welcome address. Dr P.R. Suresh, Principal, NSSCE delivered the presidential address He spoke about the latest developments in electric vehicle technology and the challenges that need to be overcome to increase their adoption in India. The Organizing Secretary & Hon. Secretary of the Centre Dr C. Pradip briefed about the programme. , He also stressed the importance of electric vehicles and achieving sustainable transportation. The introduction of the chief guest was made by Dr Rajesh Menon, B. Professor, MED, Hon.Jt. Secretary, IEI PGTL. Chief Guest: Er S.Jayakrishnan delivered the inaugural address in which he highlighted that Electric & Hybrid vehicles will lead to revolutionary changes in the transport sector in India in the coming decades. At the same time, in order to reduce the use of fossil fuels in proportion to the use of electric vehicles, curb air pollution and combat climate change the EVs should be recharged with electricity generated using solar and other green energy sources and such power station should be connected with EV Charging stations.

The citation was given by Er A. Ramesh, Imm. Past Hony. Secretary IEI Palghat Local Centre Er A. Kesavan Past Chairman IEI, Dr Rajeev N. HOD Mechanical Engg. NSSCE, Dr Priya G Das, HOD, Dept of EE, NSSCE and Students' Chapter members Ms A Malavika Ms Haritha, Mr Dhanam Jay Ms Shamrin S, Mr Sajesh. Dr Leena N. Convenor, proposed a Vote of Thanks.

Technical Session 1

The first invited speech was delivered by Er. Shajahan A, former Managing Director, Kerala Automobiles Limited (Govt. of Kerala) Thiruvananthapuram, Kerala

(he had demonstrated his skill as a leader, motivator, risk-taker, and entrepreneur over the course of his 27-year career) on the topic: "An Overview of e-Mobility and its Infrastructure". Electric mobility uses one or more electric motors to generate transportation. One of the main advantages of electric mobility is that it improves people's quality of life by not emitting toxic gases. For India to maintain its responsibility towards the Sustainable Development Goals (SDGs), steady penetration of electric vehicles and a proportionate decline in the sale of internal combustion engine (ICE) vehicles, are imperative.

IoT- enabled E-vehicles: The application of IoT in smart vehicles not only helps the end-users save energy, time, fuel and money but also facilitates them with a vehicle that is safer to travel and gives accurate information about the condition of the various parts of the vehicle and real-time traffic and road situation during the journey. Also, the driver's near and dear ones can track the vehicle.

His session also covered Fossil fuel consumption & Its effect, as data related to Mostly polluted cities in the world. He said that a recent study estimates that more than 30 per cent of vehicles in India will be electric by the year 2030 and explained the benefit of EVs for carbon emission reduction in such a scenario. He also briefed the challenges and solutions.

He also highlighted the need for developing indigenous technologies and the importance of public-private partnerships in creating a sustainable electric vehicle ecosystem.

This session was followed by a demo session on "Propelling Hybrid Electric Vehicles in India" by Amaana Toyota.

Technical Session 2:

The second technical session was on "Emerging Trends in Battery Technology for EV," which was chaired by Er. K. Madhana Mohan, IRSEE, FIE, Former Deputy Chief Electrical Engineer, Indian Railways (Integral Coach Factory Chennai) & Chairman of the Local Centre.

In his presentation he highlighted Emerging trends in battery technology for electric vehicles (EVs) including solid-state batteries, lithium-sulphur batteries, and flow batteries, among others. The speaker emphasized how these batteries have increased safety, energy density, and faster charging times, as well as reduced cost and environmental impact, and also how advanced battery management systems also play a crucial role in optimizing battery performance, improving efficiency, and extending battery life for EVs.

This session was followed by an intermediate session on "Electric Vehicles and their Penetration in the Indian Market" by KVR TATA.

Technical Session 3:

The third technical session was conducted virtually by Er. Betta Chandran C on "Software development cycle and job opportunities in electric vehicles". She is employed by APTIV Technical Centre India, a global technology company that creates safer, greener, and more connected solutions that enable the future of mobility, as the engineering group manager for the Advanced Safety product line. She's well-established in automotive project management, people management, and leadership expertise in directing software engineering projects in the ADAS product line owing to more than 19 years of work experience. She explained the steps that the software development teams follow to design, build, and maintain software applications. The cycle includes planning, analysis, design, implementation, testing, deployment, and maintenance. The speaker also emphasized that job opportunities in electric vehicles for software developers are increasing as EVs become more advanced and incorporate more software components. These job opportunities include developing software for battery management systems, powertrain control, and advanced driver assistance systems (ADAS).

This session was followed by a demo session on "futuristic e-bikes by Ather Space. They talked about how electric two-wheelers can rule the automobile sector and how the lifestyle of the common man can be improved.

Technical Session 4

The last technical session was conducted by Dr Ajay Babu on the "Implications of Plug-In Electric and Hybrid Electric Vehicles." (He is an Asst. Professor; the EEE dept of NSSCE completed his PhD from the National Institute of Technology Calicut in the year 2016. He had worked as a JTO for BSNL before moving on to KSEB as an Assistant Engineer. He is presently an IEEE Senior Member and an IETE Life Member. He also serves as the chapter's adviser for IEEE VTS at NSSCE.)

The speaker explained how, from an energy perspective, PHEVs and HEVs offer increased energy efficiency and reduced dependence on fossil fuels; from an environmental perspective, they can help reduce greenhouse gas emissions and air pollution; although their overall environmental impact depends on the source of electricity used to charge them; from a societal perspective, PHEVs and HEVs can offer improved transportation options, increased energy

security, and job opportunities in the electric vehicle industry.

Valedictory Function

The valedictory session was at 3.45 p.m. Chairman Er K. Madhan Mohan delivered the welcome address. Organizing Secretary Dr C. Pradip summed up the proceedings of the technical session. Participation Certificates were also distributed to all participants. Er Dr B. Rajesh Menon, Honorary Jt. Secretary proposed a vote of thanks followed by the National Anthem.

28-01-2022 Forum (Group discussion) on the topic "India poised to push semiconductor manufacturing in a big way to become a global player. Prospectus of India becoming a global player"



The Palghat Local Centre organized a Forum (group discussion) on 28th January 2023

at the Seminar Hall of the Local Centre at 6.00 p.m. Prof. C. Somasekharan, Former Principal, NSS College of Engineering and Former Chairman of IEI Palghat Local Centre was the moderator. The theme for discussion was "India poised to push semiconductor manufacturing in a big way to become a global player. Prospectus of India becoming a global player."

The function started with a silent prayer. Er. K. Madhan Mohan, Chairman welcomed all members to the meeting and give a brief introduction to the topic. He explained what is a semiconductor and how is it used, the Semiconductors Industry, Semiconductor Fabrication, investment in the Semiconductors Industry and the Indian scenario.

Dr C. Pradip, Honorary Secretary presented a brief on global requirements of semiconductor chips and presented the leading manufacturing companies in the world. He said that now planning to manufacture semiconductors for global requirements. But India is one of the leading countries with an exceptional semiconductor design talent pool that makes India up to 20% of the world's semiconductor design engineers. Over one lakh VLSI Design Engineers in India are largely working in global semiconductor companies and domestic design service companies, and are involved in cutting-edge chips as part of the global teams and independently as well. Now India has the right time to push semiconductor manufacturing in a big way taking the advantage of global political and technological changes. He highlighted the efforts taken by the union government in enhancing infrastructure to attract

global semiconductor manufacturers. He opined that this is the right time for India to grab the opportunity to become a leading semiconductor manufacturer in the world.

It was concluded that semiconductor manufacturing requires huge amounts of power and water. The industry is a technology-intensive sector involving huge capital investments, high risk, long gestation and payback period. Since technologies are susceptible to rapid changes the industry warrants sustained investments too.

The Indian potential lies in its human resource which includes design engineers, other human resources, availability of raw materials and high domestic demand to facilitate make-in-India products.

Dr N. C. Balakrishnan, Former MD/ CEO of various PSUs; Er A. V. Rajappan, MD. Navabharath System and Devices Pvt. Ltd., Er N. M. Ravindranath, Former Head, BPL Group of Companies, Er A. Kesavan, Former Senior Manager, FCRI, Palakkad and Er A. Ramesh, Chief Manager (Maintenance), Arya Vaidya Sala Factory Complex, Palakkad; K.A. Vijayaraghavan, Former GM. KAMCO, Kanjikkod; Er K. Unnikrishnan, Exec. Engineer-PWD (Retd.); Er R. Ramadas, GM (Retd.), National Aluminium Company Limited (NALCO) participated in the discussion.

Kollam Local Centre

16-03-2023 UKF College of Engineering and Technology, Kollam has started the "Students' Chapter of Institution of Engineers (India) for the Civil Engineering Department with an initial registration of 76 student members from the branch.



The Inaugural Ceremony began with a prayer by Ms Sreelekshmi S.

Prof. Suja S Nair, HOD in Charge of, the Civil Engineering Department, welcomed the gathering. She motivated students to participate in various activities of IEI and take advantage of the opportunity for enhancing their knowledge and skills. She also highlighted the other benefits of being a member of the student chapter, like interaction with Industry professionals and research support.

A brief introduction of the activities being carried out in the Institute for accelerating the learning of the students was given by Dr E. Gopalakrishna Sarma, Principal in his presidential address. He also spoke about the various

events being organized for the students for multi-face development. He shared his vision of creating opportunities through various technical events for the students in collaboration with IEI.

The official inauguration of the chapter was done by the lighting of the lamp by the dignitaries. The Chief Guest, Er. Rajan K, Chairman, of IEI Kollam Local Centre gave a brief introduction about the Institution of Engineers (India) in his inaugural address. He also highlighted the other benefits of being a member of the student chapter, like interaction with Industry professionals and research support.

The other dignitaries on the dais, Prof. Jibi Varghese, Executive Director, UKFCET and Prof. Aneesh V N also addressed the gathering.

The membership certificate was then unveiled by Er. Rajan K and handed over the same to Prof. Jibi Varghese. Later as a token of gratitude, a memento was given to the chief guest, Er. Rajan K, Chairman Kollam Local Centre by Prof. Jibi Varghese.

The function ended with the National anthem. The function was followed, after refreshments, by an Expert Lecture, arranged under IEI activity for Civil Engineering on the topic of "Diagnosis of Failures in Concrete Structures" by Dr N. Ganesan, Prof (HAG), Dean (Rtd), NIT Calicut, Kerala. A memento was given to the guest as a token of gratitude by Dr E Gopalakrishna Sarma, Principal, UKFCET

09-02-2023

The Institution of Engineers (India), Kollam Local Centre organized the official inaugural ceremony of the Electrical student chapter of TKM College of Engineering, Kollam. The event was organized at APJ Hall, TKM College of Engineering, Kollam. The program started at 2.00 pm. Dr Sheeba R (Hon. Secretary, IEI Kollam Local centre) delivered a welcome address and also mentioned IEI and its establishment. During the session, she talked about the importance of IEI, the student chapter and the benefits of students being members of the IEI student chapter etc. The second session was a keynote speech. Dr Anoop George, Assistant Professor, Department of Humanities and Social Sciences, IIT Palakkad delivered the keynote speech.

It was followed by a talk session on "Professional Ethics" by Dr Anoop George. This was an interactive session. The session was very much useful for all the students. The event had immense participation and positive responses from the side of students.

Kerala State Centre- WEDNESDAY TALKS - Glimpses

15.02.2023 Talk on ' How to Safeguard Your Money? Answer: Financial Planning ' by Mr. Renjith Sasidharan, Certified Financial Planner, Regional Head ITI Mutual Fund.



01.03.2023 Talk on ' Legal Aspects for Startup ' by Adv Bindu Sankarapillai, Founder Member & Chief Legal Officer, 2nd Innings.



22.02.2023 Talk on ' Project Viability ' by Er. N. Rajkumar, Past Chairman, IEI Kerala State Centre.



Member in News

President IE(I) nominated Prof (Dr) M. Jayaraju, FIE, Chairman, IE(I) Kerala State Centre as Chairman of Committee of Re-Instatement of Corporate Members / Membership Growth (CRCMMG), IE(I) for the Session 2022-23.

COURSES

Guidance Class for GATE

Guidance Classes for GATE 2024 Examination for the following Engineering Branches

- Civil Engineering
- Electronics & Communication Engineering
- Electrical Engineering
- Computer Science & Information Technology
- Mechanical Engineering

Classes will commence from May 2023 (Course Duration: 9 months)

The registration fee has to be paid in one instalment by cash / Cheque / Demand Draft in favour of "The Institution of Engineers (India), Kerala State Centre" payable at Thiruvananthapuram along with the application.

Registration Fee Rs. 16520/-

Summer Vacation Training Programme For High School Students

Summer Vacation training programme for High School students from 17th April to 12th May 2023. The training programme includes both theory and practical. Theory classes Science education in simple and practical ways Alternate sources of include Management of Liquid Energy and Energy Management & Solid Waste including Rain Water Harvesting, plastic Sustainable Development. Practices including new trends in Agricultural & Dairy. Mechanization and Environmental Safety Practices, Fire Protection. & Rescue Operations, Industrial Safety, First Aid & Food Safety and Road Safety Life Saving, & Driving Personality Development and Personal hygiene manners & Environmental sanitization.

Duration : 21 Days (17th April to 12th May 2023)

Class Timings: 9.30 am to 1.00 pm (Monday to Saturday)

Registration Fee: Rs 1200 /- (including GST)

Registration starts from 20th March 2023

For details contact:

The Institution of Engineers (India), Kerala State Centre, Visvesvaraya Bhavan,
Opposite Kanakakunnu Palace, Thiruvananthapuram 695 033,
Telephone: 04712322991, 2322992 Mobile: 9447696486, 8078027563
Email: ieitvm@gmail.com, keralasc@ieindia.org, Web: www.ieitvm.org

Voice of Kerala Engineers

March 2023

To

Date of Publication : 07-03-2023

If undelivered please return to:

The Institution of Engineers (India)
Kerala State Centre
Visvesvaraya Bhavan
Opposite Kanakakunnu Palace
Thiruvananthapuram - 695 033

Phone: 0471-2322991, Fax: 0471 - 2322992
E-mail: ieitvm@gmail.com, keralasc@ieindia.org
Web: www. ieitvm.org

Disclaimer: The Institution of Engineers (India) Kerala State Centre, as a body, accepts no responsibility for the statements made by individuals.

Editorial Board : Er.Sarat Kumar K, MIE, Editor, Er.Balakrishnan Nair P, FIE, Er.K.R.Suresh Kumar, MIE, Er. R.K.Subramoniam, MIE, Prof. (Dr.) M. Jayaraju, FIE, Chairman-KSC, Er.Roy Mathew, MIE, Honorary Secretary-KSC

Printed and published by Prof. (Dr.) M. Jayaraju, FIE, Chairman on behalf of The Institution of Engineers (India) Kerala State Centre. Printed at Akshara Offset, Kunnumpuram, Thiruvananthapuram (Ph: 0471-2471174). Published at IEL-KSC, Visvesvaraya Bhavan, Opposite Kanakakunnu Palace, Thiruvananthapuram. Editor: Er. Sarat Kumar K.