



# 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



I hope all Members are aware of the National Conference on 'Recent Trends in Design and Application in Energy Development Programme' being organized by IEI Kerala State Centre, Mechanical Engineering Division on 10<sup>th</sup> and 11<sup>th</sup> May, 2023 at Thiruvananthapuram.

This Seminar has special significance because it is part of the 75th Anniversary Celebrations, during 2022-2023, of the formation of The Institution of Engineers (India), Kerala State Centre.

The inauguration is by Sri.K. Krishnankutty, Hon'ble Minister for Electricity, Govt. of Kerala. The Chief Guest is Dr.S. Somanath, Chairman, ISRO and Secretary, Dept. of Space, Govt. of India, and the Keynote Address will be delivered by Dr.S. Unnikrishnan Nair, Director, VSSC. The Guest of Honour is Dr. C. Anandharamakrishnan, Director, CSIR, NIIST. The Chief Guest of the Valedictory Function is Sri.V. Sasi, Hon'ble MLA, Kerala.

At present, the world over, innovations are being made in the field of energy development. The main focus is on obtaining energy sources from natural resources and for the recovery and reuse of energy that would otherwise be wasted. Since natural resources like petroleum and water are fast depleting, design and application have to be based on minimum waste and be environmentally sustainable. Energy development has to create zero carbon emissions. Air pollution, water pollution, climate change, and waste disposal are the key factors that should be taken into account in any energy development program.

The economic development of the country is linked to energy development since the high use of energy, mainly electricity results in the overall development of the people by way of production and job opportunities.

But some factors stand in the way of energy development in India. They are variations in climate, labor problems, and a lack of sufficient coal reserves. The thermal power stations which produce the bulk of electricity depend on coal and climate change affects hydel storage. The sustainability of nuclear power remains to be seen. Hence energy conservation and energy development should go hand in

### HONORARY SECRETARY'S DESK

Er.Roy Mathew, MIE



#### Upcoming Events

**10th May 2023 and 11th May 2023** - National Conference on Recent Trends in Design and Application in Energy Development Programme Organized by the Institution of Engineers (India) Kerala State Centre Under the aegis of Mechanical Engineering Division Board, IEI

**17.05.2023** World Telecommunication and Information Society Day 2023 Celebrations on the theme 'Empowering the Least Developed Countries through Information and Communication Technologies'. Lecture by Er. R. Sajikumar ITS, Principal General Manager, BSNL Trivandrum

**24.05.2023** Talk on 'Our Earth and Our Engineer Raw Materials And Value Addition for Electric Vehicles' by Dr. R. Bhima Rao, Geo-Scientist, Metro City, Flat 33A, 5th Floor, 5th Block, Behind Kalinga Stadium, Nayapally, Bhubaneswar

**31.05.2023** Talk on Arbitration in Environment and Climate Change by Dr. K. R. S. Krishnan, Director, Karunya Institute of Science & Technology ( A deemed University)

**07.06.2023** World Environment Day Celebrations on the theme 'Solutions to Plastic Pollution

**14.06.2023** Talk on 'Accidents due to falling down in bath rooms' by Er. R. Subhash Chandra Bose, Superintending Engineer (Retd), Kerala Public Works Department

hand. The Covid-19 pandemic affected energy development but now it is over.

I hope this Seminar will bring forth worthwhile ideas that can be taken up for implementation.

The Summer Vacation Classes for High School students which commenced on 17 April 2023 will end on 17 May 2023 and GATE classes will commence in June 2023. World Telecommunication and Information Society Day will be observed on 17 May 2023. The 11th State Committee Meeting was held on 1st May 2023. The new budget was presented with allocation for the purchase of land for constructing a Guest House for IEI KSC with all facilities.

*A Century of Service to be Nation*

## Palghat Local Centre

Report on Forum (Group discussion) on the topic "ROARING ENERGY CONSUMPTION -SOURCE AND COST OF ENERGY-AN OVERVIEW"

The Palghat Local Centre organized a Forum (group discussion) on 28th April 2023 at the Seminar Hall of the Local Centre at 6.00 p.m. Er. K. Madana Mohana, Chairman of IEI Palghat Local Centre was the moderator



the theme for discussion was "Roaring energy consumption -source and cost of energy- an overview" The function started with a silent prayer. Er K. Madhan Mohan, Chairman welcomed all members to the meeting and gave a brief introduction of the topic. He explained the renewable energy alternative for power generation namely solar, wind, and small hydel projects. He said that coal/petroleum products will continue to be the fuel for the base load requirements. Solar energy is abundantly available during the daytime. However, the requirements of the night have to be met either by storage devices or from base load plants that used nonrenewable fuels. Er. Sudhir P.I. Former G.M. Thermax Ltd on his address added that solar panels have to be maintained through proper cleaning for which robotic methods can be apt especially when it is difficult for manpower to reach the installed locations. He also added that solar alone cannot be the solution for the upcoming energy requirements, since the efficiency of solar energy generation is very less. Dr. C. Pradip, Honorary Secretary presented a brief on the Indian energy scenario for 2022 and the share of various energy sources. The energy prices were also presented to the group. Regulations have to be formed so that it becomes statutory for large

industrial organizations shall set up solar power plants at least 10% of their total demand, said Dr. K K Babu, Ombudsman, MGNREGS & PMAY (G), Palakkad District and Former Principal Jyothi Engineering College. Dr. Pradip. C, Hon. Secretary added that rooftop domestic solar plants have to be set up not looking into their economic aspects but considering their environmental aspects and individual commitment to attain sustainability. The upcoming ToU tariff can be

disadvantageous to customers installing rooftop solar plants he added. Er. A V Rajappan, Managing Director, Navabharath Systems and Devices Pvt. Ltd stressed the need for harvesting solar energy to its maximum since it is the cleanest source of renewable energy. Technology is advancing and nuclear power definitely can be an option to cater to the increasing energy demand opined Dr. K K Babu. The experiments with hydrogen fuels on automobiles were presented to the group by Er. Madanamohan. Modernization of thermal plants to enhance their efficiency, better battery technologies for storage of solar power, usage of solar concentrators for energy generation, private participation in renewable energy generation, and enhancing power transmission efficiency were also discussed in the meeting. Besides the above dignitaries, Er C. Radhakrishnan, Former Manager (Project), Apollo Tyres Ltd., Er N. M. Ravindranath, Former Head, BPL Group of Companies, Er A. Kesavan, Former Senior Manager, FCRI, Palakkad Er K. Unnikrishnan, Exec. Engineer-PWD (Retd.); Er R. Ramadas, GM (Retd.), National Aluminum Company Limited (NALCO) participated in the discussion.

**Report on the observance of "World Water Day 2023."**  
IEI Palghat Local Centre observed World Water Day



2023 on 23-03-2023 at Hotel Gazala, Palakkad at 6. p.m. Dr Keerthy M. Simon, Asst. Professor, Civil Engg Dept NSS College of Engineering, Palakkad was the guest speaker who delivered a talk on the theme of the Day “Accelerating Change for Water Sustainable Future”. Er K. Madhana Mohan, Chairman Chaired the meeting and delivered the welcome address. After welcoming the speaker and The audience said that World Water Day raises awareness and inspires action to tackle the water and sanitation crisis. He spoke on the relevance of this year’s theme also.

In the presentation, Dr. Keerthy M. Simon explained that water scarcity, poor water quality, and Inadequate sanitation is an ongoing issue that impacts the health, well-being, and livelihoods of the world’s people. Individuals are at risk of contracting waterborne illnesses, malnutrition, and economic hardship if they do not have access to safe and reliable sources of water. Sustainable water management is a critical area of focus, which entails implementing measures to conserve and protect water resources while also ensuring equitable access for all. Additionally, we must prioritize efforts to improve sanitation and hygiene in order to prevent the spread of waterborne diseases and infections. This includes the construction and maintenance of sanitation facilities, the promotion of hygiene education, and the expansion of access to affordable and effective sanitation products. To achieve these objectives; we must foster collaboration and partnerships among various stakeholders and sectors. This includes utilizing the private sector’s resources and expertise to develop and implement innovative solutions, as well as collaborating with communities and civil society organizations to ensure that their voices and perspectives are heard in decision-

making processes. We can help promote the health, well-being, and economic prosperity of individuals and Communities around the world by accelerating change towards a water-sustainable future, while also protecting our most valuable resource for future generations.

The program concluded at 8.15 p.m. with a vote of thanks by Dr. C. Pradip, Honorary Secretary.

#### Kochi Local Centre

WORLD ENGINEERS DAY 2023 (STATUTORY DAY) ENGINEERING INNOVATION FOR A MORE RESILIENT WORLD on 04.03.2023 at 7.00 p.m. (Online Platform with Link <https://meet.google.com/udt-tbfs-jth>) Speaker Prof. (Dr) N Anantharaman FIE. Former Professor (HAG)



and Dean (Academic) NIT Trichy. The webinar started with a welcome address by P A Salahudheen Chairman of IEI Kochi Local Center. He welcomed Prof (Dr) N Anantharaman FIE Former Professor (HAG) and dean (Academic) NIT Trichy to the webinar. Chairman also welcomed all senior members and other dignitaries to the webinar. He mentioned the importance of World Engineers Day and its importance in the present contest with brief history and evolution of the engineering profession. Prof (Dr) G Madhu introduced the speaker with a description of details of the speaker's experience both in academic and research areas and his important achievement in the field of his expertise and expertise. Speaker Prof (Dr) N Anantharaman started his speech with a general description of the subject with the importance of World engineers day in general and sustainable development in particular. He started his speech with the definition of sustainable development with various examples from the practical field. During the course of his speech speaker elaborated on the subject of Innovation for sustainable development with sustainable development goal (SDG) published by the UN. His speech was very much elaborative and informative in the field of innovation and development. At the conclusion of his discussion speaker cleared all the doubts raised by the participants. After the discussion vote of Thanks was expressed by the Hon Secretary of Kochi LC Er K S Babu. The webinar ended at 09.40 p.m.

22-03-2023

**WORLD WATER DAY 2023 ACCELERATING CHANGE**  
The webinar started with a welcome address by Er. P A Salahudheen, IEI Kochi Local Center chairman. He welcomed Prof (Dr) S. Shrihari FIE Professor Department of Civil Engineering NIT Surathkal, Karnataka to the webinar. Chairman also welcomed all senior members and other dignitaries to the webinar. He narrated the historical background of water day observance and current situation and the importance of the water crisis in various locations. Prof (Dr) G Madhu introduced the speaker with a description of details of the speaker's experience both in academic and research areas and his important achievement in the field of his expertise and experience in the various government agencies involved in environmental issues speaker Prof (Dr) S Shrihari started his speech with a new year greetings to

all participants in connection with Ugadi festival. The speaker started his speech with details of the situation demanded to observe such a world water day by the UN general assembly in 1993 and also correlated with various Sustainable development goals established by the UN and its relation with World water day etc. The speaker started explaining the subject by explaining the term sustainable development from various perspectives to understand its importance in multiple development activities Then speech progressed to other areas of the subject He detailed various sources of water and the qualitative and quantitative aspects of the importance of water purification and importance and its limitations of RO water purification etc. The speaker explained various water purification methods employed in various locations of the world and its Modern Technological innovations and developments. The speaker explained the details of various modern water purification methods such as Nanotechnology Various membrane technology such as Biomimetic membrane Technology, Acoustic methods, etc. The speaker concluded his speech by summing up all the points he explained. He also clarified various queries raised by the participants. After the discussion vote of Thanks was expressed by the Hon Secretary of Kochi LC Er K S Babu. The webinar ended at 07.00 p. m.

28.03.2023

**SOLID WASTE MANAGEMENT FOR SUSTAINABLE DEVELOPMENT**  
The webinar started with a welcome address by Er. P A Salahudheen, IEI Kochi Local Center chairman. He welcomed Prof (Dr) KURIAN JOSEPH, Professor - center for environmental studies Department of Civil Engineering CEG complex, Anna University Chennai to the webinar. Chairman also welcomed all senior members and other dignitaries to the webinar. He narrated the importance of the subject of the recent fire accident at Bhrahmapuram municipal waste processing center in Kochi. Prof (Dr) G Madhu introduced the speaker with details of the speaker's experience both in academic and research areas and the important position held by the speaker in various missions both national and international levels in environmental and other similar issues by speaker Prof (Dr) Kurian Joseph started his speech with a slogan as my waste is my responsibility. The speaker started his speech with the current situation of waste generation

and disposal methods in various important civic bodies including the Municipal Corporation of Cochin. The speaker broadly classified Municipal solid waste as Biodegradable, incinerable, recyclable, and hazardous waste and also explained the method of its disposal. The speaker also reiterated as waste management is not a simple term for waste disposal but it is a high-profile employment potential involving multinational industrial and business opportunities. The speaker elaborated on the need for waste-to-energy projects in feasible locations. The speaker stressed the need for decentralized waste disposal to avoid an accumulation of waste and related environmental and social issues. The speaker appreciated the decentralized waste disposal method with the involvement of the Kudumbasree Organization in various parts of Kerala state in municipal waste disposal. The speaker concluded his speech by summing up all the points. He stated that the success of Solid waste management depends on Political will and public participation, management commitment, technical ability, and financial resources. He also clarified various queries raised by the participants. During the conclusion of the speech, some participants requested IEI Kochi Local Centre to take the initiative to awareness of the subjects to the Public by way of conducting a short-term training program. After the discussion vote of Thanks was expressed by the Hon Secretary of Kochi LC Er K S Babu. The webinar ended at 09.00 p. m.

04.04.2023

ONE-DAY SEMINAR ON DURABLE CONCRETE. The seminar started with a welcome address by Er K S Babu Hon Secretary IEI Kochi Local Center. He welcomed the speaker Er SHYJU NAIR CEO of DH Academy and Treasurer of Indian Concrete Institute, Kochi & Dr. ELSON JOHN, Professor Civil Engineering MA College of Engineering Kothamangalam, Er P A Salahudheen Chairman Kochi Local Centre who joints the seminar from Bangkok through online, Prof (Dr) G Madhu and Dr Anil Joseph IEI Council Members and Narayana Potti, Convener student chapter. Hon secretary also welcomed all the participants and students from various Engineering Colleges from various locations of Ernakulam and Alleppey districts, Hon secretary during his speech briefly narrated the seminar subjects and express his special thanks for the efforts taken by

the Civil Engineering department of Carmel College of Engineering and Technology Alleppey. P A Salahudheen, Chairman of Kochi Local Centre delivered the Inaugural address, Dr Anil Joseph delivered Felicitation speech And Er Narayan Potti expressed the vote thanks during the Inaugural session. Seminar proceedings were initiated with the introduction of speakers by Prof (Dr) G. Madhu. The subject presentation in the Seminar started with a lecture class by Dr Elson John he started with the historical background of Concrete and its evolution. He described various types of concrete and their various use. He detailed present concrete and it applies not only to the static structure but even to Dynamic simple machinery. The speaker briefly mentioned modern research in the field of concrete. After the first session, Er Shyju Nair talked about the core topic Durability of Concrete its technical details were explained very nicely. Subsequently, Er K S Babu, Hon Secretary, Er ACK Nair, EC member IEI Kochi, Pro. (Dr) Susan Jacob HOD Civil department Carmel College of Engineering spoke and sum up the seminar subject in the valedictory function. Students' chapter convener Mr. Akshay of Carmel College of Engineering expressed a Vote of Thanks and the Seminar ended at 2.30.p. m. followed by Lunch.

20.04.2023

NATIONAL MARITIME DAY CELEBRATION 2023. The webinar started with a welcome address by P A Salahudheen, IEI Kochi Local Center chairman. He welcomed Prof. (Dr) Cdr. Dr. Bhaskar Bhandarkar FIE, Chairman MRDB was the chief guest, and Prof (Dr) K A Simon FIE Director Alberts maritime institution the Keynote speaker for the webinar. During the inaugural speech, Chairman mentioned the glorious heritage of Kerala coast not only for maritime sailing but also famous for shipbuilding with the help of special wood called Nilambur Teak. Chairman concluded his inaugural address by welcoming all the dignitaries to the webinar. Prof (Dr) G Madhu introduced the speaker with details of the speaker's experience both in academic and research areas and the important position held by the speaker in various missions. Dr. G Madhu first introduced Chief Guest Dr. Prof. (Dr) Cdr. Dr Bhaskar Bhandarkar mentioned his experience as a member of the Indian Navy and his laurels received in various capacities Then Dr G Madhu Introduced

Prof (Dr) K A Simon FIE Director of Alberts Maritime institution with his extract of experience onshore as well as offshore and experience in both in the cargo ships and Passenger ships, and his experience under DGS as well as his academic experience. Chief guest Dr. Bhaskar Bhandarkar started his speech with his experience in Kochi as his initial days of his profession He told the Indian heritage in the field of maritime. He expressed his gratitude to IEI and its council members who helped to celebrate Maritime Day as one of the statutory days by the Institution Engineers (India). Dr. K A Simon delivered the keynote speech and mentioned about the Indian Heritage and maritime references in the ancient scriptures. The speaker also mentioned the importance of the maritime day celebration and its history and circumstance to start the National Maritime Day celebration in commemorating the sail of the first Indian Own ship SS Loyalty. He mentioned the historic reference to our ancient scriptures. And also the circumstance of the mariner's life on shore and he exhibited the difficulties through some video clips. The speaker also mentioned climate-friendly ship fuels and other legislation related to environmental safety The speaker concluded his speech by summing up all the points he explained and mentioned the service rendered by the mariners for our international trade which is back born of the national economy Participants asked doubts about the current issues fancied by the Mariners all over the world. After the discussion vote of thanks was expressed by the Hon Secretary of Kochi LC Er K S Babu. The webinar ended at 08.55 p. m.

#### **Kollam Local Centre**

##### **Report of Non-sponsored Activities**

The Institution of Engineers (India), Kollam Local Centre organized a workshop on PIC microcontrollers on 2nd May 2023 in association with EEE Students Chapter TKM College of Engineering, Kollam from 10 a.m. to 4 p.m. The session was handled by GowthemR and it was a basic introductory-level workshop on PIC for beginners. He is currently the student mentor of idea lab TKMCE.

The workshop was intended for 3rd-year students and had almost 25 participants from various years and branches. All the registered candidates for this workshop were enthusiastic and the session received

a positive response from their side. A hardware kit including a microcontroller and other components necessary to work on the workshop was given to the participants. The program ended up with refreshments for the participants

28-04.2023

##### **Report of Non-sponsored Activities**

The Institution of Engineers (India), Kollam Local Centre, and IEI Kollam Local Centre EEE Students Chapter TKM College of Engineering Jointly conducted an IoT (Internet of Things) workshop on 28th April 2023 from 10 a.m. to 4 p.m. The program was started at 10.00 a. m. with an inaugural address by Dr. Sheeba R (Hon. Secretary, IEI Kollam Local Centre). The session was handled by Ajesh J S. He is the Student mentor of C-rob TKMCE. It was basically an introductory level workshop on basic concepts of IoT and the integration of hardware and software using IoT.

IoT is a vastly growing field with applications ranging from agriculture, Health care, robotics, defense, etc. The workshop was open to all years and branches, having 50 Participants registered for this workshop. The event was evoked with vibrant and energetic participants, receiving a positive response throughout. Hardware kits and refreshments were provided to all the registered Participants.

25.-04.2023

##### **Report of Non-sponsored Activities**

##### **Brief Details about the Programme:**

The Institution of Engineers (India), Kollam local Centre, and IEI Electrical and Electronics Engineering Students Chapter, TKM College of Engineering conducted a workshop on "Advanced Control Systems using Beam balance" on 25th April 2023 from 10 a.m. to 4 p.m. The session was handled by Mohammed Salmun and it covered basic concepts of control systems with a hands-on session. Mohammed Salmun is a Junior Engineer at Techosa Robotics, Kollam. The workshop was open to all students and had 60 participants from various years and branches. The workshop overall received a positive response and helped the attendees to achieve basic knowledge on various aspects of designing a system from a control system point of view. Students were insisted to bring laptops for better analysis and refreshments were provided to them.

# AMBEDKAR JAYANTHI CELEBRATIONS

On 14.04.2023 IEI Kerala State Centre associated with the Ambedkar Jayanthi celebrations organized by All India DOS SC/ST Employees Association.

Guest of Honour was Shri. V. Sasi Hon'ble Member of Legislative Assembly, Kerala. Special Guests were Shri. S.M. Vijayanand IAS (Rtd) Former Chief Secretary, Kerala, and Shri. M.G. Rajamanickam, IAS Special Secretary – Devaswom & Principal Director, Local Self Government Department.

Welcome by Shri. B.S. Binu Kumar General Secretary, Kerala SC/ST Employee's Association. Presided by Shri. S. Murugan President, All India DOS SC/ST Employee's Federation, National General Secretary, Dalit Sena.

Er. Roy Mathew, MIE, Honorary Secretary, IEI Kerala State Centre addressed the audience.

Vote of thanks by Shri. M. Narayanaswamy General Secretary, All India DOS SC/ST Employee's Association.



## Kerala State Centre- WEDNESDAY TALKS - Glimpses

**12-04-2023** Talk on “Reusable Launch Vehicles – An Overview” by Dr. Krishnadasan C. K, Dy. Director, VSSC, Structures Entity (Rtd).



**19-04-2023** Talk by “Chat GPT: A Paradigm Shift in AI” by Mr. Satish Babu, Co-Founder & President, InApp, Technopark, Thiruvananthapuram.



**26-04-2023** Talk by “Quality - in the Medical Device Domain” by Mrs. Sarada Jayakrishnan, General Manager (Operations), Terumo Penpol Limited, Thiruvananthapuram.



**03-05-2023** Talk on ‘Hidden Messages of Water’ by Prof. (Dr.) Rajendra Babu, Retd Professor, Department of Civil Engineering, College of Engineering, Trivandrum.



## INAUGURATION OF SUMMER VACATION CLASS FOR HIGH SCHOOL STUDENTS

On 17th April 2023 Inauguration of the Summer Vacation Class for High School Students was held at Visvesvaraya Bhavan. Er. Udaya Kumar KS, FIE, Past Honorary Secretary, IEI Kerala State Centre. Er. P. Balakrishnan Nair, FIE, Committee Member, IEI Kerala State Centre. Mr. Sanal Kumar G, Faculty Member, Vacation Class, and Dr. R. Murukesan, FIE, Chief Engineer (Retd), Kerala PWD attended the function.



## CERCON

**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 June 2023 (Course Duration: 9 months)

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

**Coaching class for PSC written examination for the selection of following posts in the Government Departments.**

- Assistant Engineer, Civil, PWD
  - Lecturer, Polytechnic College
  - Assistant Professor, Engineering College
- Apply within 25.05.2023

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