

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

## Voice of Kerala Engineers

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July 2023

Price 2/-

### CHAIRMAN SPEAKS

Prof. (Dr.) M. Jayaraju FIE



As Engineers, all fellow Members will be aware of the importance of safety in design, manufacture / construction, operation and maintenance of equipments and structures. Safety is to be given the prime importance and safety should not be sacrificed for cost consideration.

In Railways, fail-safe means the equipments are based on 'fail-safe' concept or logic. If a signal fails, 'fail-safe' concept implies that the aspect of signal will show 'red' to the driver, indicating not to proceed, even though the condition may be there for signal aspect to show 'green' for the train to proceed.

When such concepts are in place, it is surprising to hear about the triple train accident on 2 June 2023 at Balasore, Orissa. With the enquiry going on, it is not possible, now, to ascertain the cause of the accident. Also, it is reported in the news that several victims were electrocuted. It remains to be seen why the Circuit Breakers of the overhead electric lines did not trip instantaneously on snapping. It is a dangerous situation, if overhead electric lines remain live after snapping. Apart from signal defect and switching defect of rail lines, the non-tripping of Circuit Breakers of the overhead electric lines is also a factor to be enquired into.

One main factor which is to be noted is that allowing higher speeds for vehicles on roads and for trains is not conducive unless the surface infrastructure is also at a higher safe level. It is well known that speed kills if precautions are not taken. There may be diverse views on this problem but motor vehicles have to meet the Crash Test Standards if speed limits are increased. In India it is heard that only very few vehicles pass the Crash Test.

Hence, whether it is road travel, train travel or air travel, safety is to be given the maximum importance. In short, what Engineers and IEI should do is to take note of accidents and find out suitable preventive measures. That should be put forwarded to the concerned authorities in order to prevent future accidents and to build a robust transportation system.

Three IEI Council Members visited Kerala State Centre for discussing the land lease issue. The 12th State Committee Meeting was held at Palghat Local Centre on 18 June 2023. The 721st Council Meeting was held on 23, 24, 25 June 2023 at Durgapur. Unfortunately, Er. C. Debnath FIE tendered his resignation as President of IEI on 26 June 2023 and Prof. Nripendra Nath Patwari, the senior most Council Member assumed charge as President from 27 June 2023. GATE 2024 Coaching will commence in July 2023.

### HONORARY SECRETARY'S DESK

Er.Roy Mathew, MIE

#### Upcoming Events

**12.07.2023** Talk on 'Applications of Composite Products in Engineering' by Dr.Krishnadasan C K, Dy Director, VSSC, Structures Entity (Retd)

**19.07.2023** Talk on 'Wealth Creation Through Stock Markets' by Mr.Padmanabhan T.V., Senior Manager, Equity Research, Capstocks & Securities (India) Pvt. Ltd.

**26.07.2023** Talk on 'Light Weight Foamed Concrete Using Industrial Waste Materials' by Dr.Sajan K Jose, Associate Professor & Head, Department of Civil Engineering, LBS Institute of Technology for Women, Thiruvananthapuram.

**02.08.2023** Talk on 'Scientific Vasthu' by Mr.Sandil Kumar E.K., Assistant Section Officer, Finance Department, Government of Kerala.

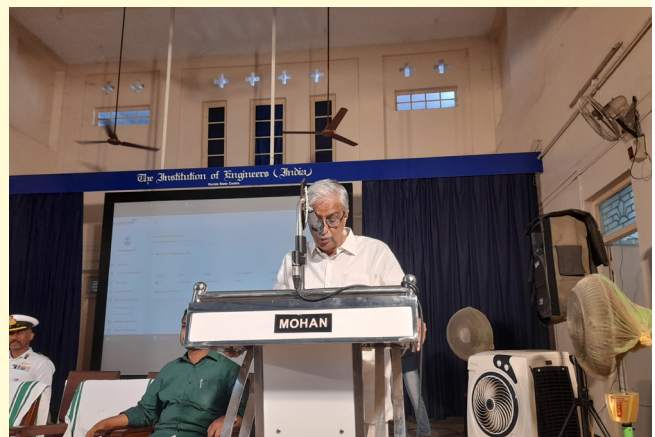


## One Day All India Seminar on 'Innovation, Implementation and Industrialisation'

The Institution of Engineers (India) Kerala State Centre organising One Day All India Seminar on 'Innovation, Implementation and Industrialisation' under the aegis of Interdisciplinary Coordination Committee, The Institution of Engineers (India) on **9<sup>th</sup> August 2023** at Visvesvaraya Bhavan, Thiruvananthapuram.

## World Hydrographic Day Celebration

**21.06.2023** IEI Kerala State Centre associated with Hydrographic Survey Department celebrated World Hydrographic Day at Visvesvaraya Bhavan, Thiruvananthapuram. Dr. Saji Gopinath, Digital University of Kerala Vice Chancellor, inaugurated the technical session. During the inauguration of the Technical session Dr. R. Murukesan, FIE, IEI Member participated in the function. Er. Roy Mathew, MIE, Honorary Secretary, IEI Kerala State Centre delivered the felicitation during the inauguration of the Celebrations. Shri Antony Raju, Hon'ble Minister for Transportation presided over the meeting. Inauguration by Shri. Ahamed Deverkovil, Hon'ble Minister for Port, Museum and zoo. Shri Saji Cherian, Hon'ble Minister for Fisheries and Cultural, Hon'ble MP Shri. Sashi Taroor, Shri V K Prasanth, Hon'ble MLA, Shri P Nandakumar, Smt Arya Rajendran, Hon'ble Mayor, Corporation of Thiruvananthapuram.





**17-05-2023** An International Conference on Sustainability 'RESILIENCE 360' was conducted by "The Institution of Engineers (India), Kollam Local Centre" in association with the "Department of Civil Engineering, Providence College of Engineering, Chengannur". The conference was inaugurated by Dr. Sunil Kumar B, Director, IICC, Chavara on 17th May 2023 at Einstein Seminar Hall of Providence College of Engineering. This conference was intended to bring together the various facet of science and approach the issues of sustainability in a holistic manner. The conference proceedings were unveiled by Dr. B Sunil Kumar and Dr. V John Kurian. Many invited speakers were present at the conference from different parts of the world. The invited talks were arranged in such a manner that the discussion topic covers a broader perspective of sustainability. The talks were mainly regarding the various aspects of sustainability like Anthropology, Construction Practices, Green Chemistry, Food, Rural Development, etc... There were oral presentations on each day that are evaluated by respective session chairs, and based on the evaluation the best paper award was also declared. In the valedictory function Dr. M G Gracious, Rtd. The principal, of MA College, Kothamangalam made the keynote address, and Dr. Santhosh Simon, the Principal, of Providence College of Engineering, presided over the function. Head of the department Dr. Sainu Franco, Coordinators of the event, Ms. Jain Suzan Zachariah, Ms. Reshma Rajendran B, and Mr. Nibin Varghese graced the occasion.

Day-1 (Forenoon) Inaugural Session. Keynote address by: Dr. Santhosh Muralidhar Pingale (Scientist, National Institute of Hydrology). Topic: Assessment of submarine groundwater discharge in selected coastal regions of India

(Afternoon) Invited Talk I. Paper presentations Lecture by Dr. Bharathi Karri (Assoc. Prof., Sambalpur University). Topic: Sustainability and Anthropology. The oral presentation I at Seminar Hall of Einstein block, Kalam block, and MBA block

Day-2 (Forenoon) Invited Talk II Lecture by: Dr. SulaphaPeethambaran, (Prof. Clarkson University, USA). Topic: Low Carbon Sustainable Geopolymer Concrete from Calcined Clay and Natural Puzzolans

Invited Talk III Lecture by: Dr. Liza Abraham (Ambrose University, Canada). Topic: Green Chemistry



(Afternoon) Invited Talk IV Lecture by: Dr. Biju George, (Hon. Secretary, IMarEST, London). Topic: Zero Carbon and Alternative Fuels

Invited Talk V Lecture by: Dr. Gulam Hazan Shah, (Prof. Arba Minch University, Ethiopia)

Topic: Role of post-harvest management for sustainable food and nutritional security.

Oral presentation II at Seminar Hall of Einstein block, Kalam block, and MBA block

Day-3 (Forenoon) Invited Talk VI Lecture by: Ms. Binu Chandy, (Director, OBRD, USA)Topic: Land reuse: A developed nation's dilemma and role of Brownfield redevelopment

Invited Talk VII Lecture by: Dr. Nisha Rani (Director, Geological Survey of India). Topic: Sustainability from a Geosciences perspective.

Oral presentation III at Seminar Hall of Einstein block, Kalam block, and MBA block.

(Afternoon) Invited Talk VIII Lecture by: Dr. Venkata Ravibabu Mandla, (Head and Assoc. Prof. National Institute of Rural Development, Hyderabad). Topic: Role of GIS in Sustainable Development.

**05.6.2023** The Institution of Engineers (India), Kollam Local Centre and Department of Civil Engineering, Sree Buddha College of Engineering jointly organized a one-day live water quality testing and distribution of sapling in nearby areas of Pattoor on 5th June 2023 as part of world environment day celebrations. The inauguration of the program was done by Dr. Gouri Antherjanam (HoD, CE, SBCE) at Govt. L.P. School, Pattoor by 10.30 am. During inaugural session Dr. Sheeba R (Hon. Secretary, IEI KLC) delivered inaugural address. After the inauguration, water quality testing of the sample from school was conducted by the students there itself. Water quality parameters such as pH, conductivity and turbidity of water were tested. Thereafter, water quality certificate was provided. Then, sapling was distributed to the students of L.P. School, Pattoor in the presence of the concerned school teachers. Later on, different samples were collected & tested from the nearby



localities of Pattoor and certificates with tested values were issued to the concerned persons. Then saplings were distributed to more than 10 houses nearby Pattoor, as a part of the program. The program ended by 1.30 p.m. World Environment Day Celebration 2023“Live Water Quality Testing & Distribution Of Sapling”

#### Kochi Local Centre

**17.05.2023** Celebrated World Telecommunication Day Celebration 2023 in webinar mode.

The webinar started with a welcome address by P.A. Salahudheen, Chairman, of IEI Kochi Local Center. He welcomed Er Gopalan ITS, Dy Director General Services, and compliance Kerala LAS. During the inaugural speech, Chairman mentioned the difference in the Telecom scenario between the present and past about 40 years back Chairman concluded his inaugural address by welcoming all the dignitaries to the webinar, including all the national council members and senior engineers from various fields.

Prof (Dr) G Madhu introduced the speaker with details of the speaker's experience both in academic achievements and the critical position he had held by the speaker in the field of the Telecommunication department and other government agencies and missions.

Chief guest Er Gopalan ITS started his speech with a historic background of the celebration of World Telecom and information society day. Subsequently, he introduced the Theme of the world telecommunication day celebration for the current year as “Empowering the least developed countries through information and communication Technology”.



He continued his speech with definitions of various terminologies involved in the theme statement such as least developed country and empowerments etc

The speaker clearly narrated how to empower undeveloped countries through Telecom technology. The speaker clearly explained the development in the field of communication, health care, education, and general administration

The speaker concluded his speech by summing up all the points he explained and mentioned.

The speaker answered all the 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 about 08.35 p. m.

**23.05.2023** Webinar on Construction Safety, Practical Aspects.

The webinar started with a welcome address by P ASalahudheen, chairman, of IEI Kochi Local Center. He welcomed Prof (Dr) D K Sahoo Professor Safety & Fire Engineering and Principal School of Engineering, CUSAT; Kerala During the inaugural speech, Chairman mentioned the reason for the conduct of this webinar. And he mentioned the recent fatal accident of Er Suresh Kumar, an eminent construction Engineer while performing his site inspection duty at a construction site. He mentioned that this webinar paid homage to Er Suresh Kumar. . Chairman also mentioned the various accident he witnessed during his carrier as an engineer in different situations. He welcomed all the eminent engineers to join the webinar.

Prof (Dr) G Madhu introduced the speaker with details of the speaker's experience both in academic achievements and the various positions he had held by the speaker in the field of the construction industries and academic field.

Chief guest Dr DK Sahoo started his speech with a tribute to Er Suresh Kumar who sacrificed his life while performing his



professional duty.

Speaker Dr. D K Sahoo started his speech with an explanation of the basic principles of safety in its practical application and its definition. He narrated that safety doesn't happen on its own and It required wishful thinking and meticulous planning. The speaker explained all the points with examples

from his experience as a construction engineer. He subsequently explained the various aspect which may lead to accidents in the construction field and same categorized them as Technological, Organizational, and Behavioral. Speakers elaborate his speech about Human factors causing various types of accidents.

In the further speech, the speaker narrated the role of various Governmental agencies to minimize the accident in the construction industries

The speaker concluded his speech with advice on precautions to be taken in the construction site to avoid accidents with the importance of using personal proactive equipment and other statutory safety tackles recommended for the specialized situation



The speaker answered all the 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 about 08.55 p.m.

**05.06.2023** Celebrated World Environment Day 2023 on the theme 'Beat Plastic Pollution' in webinar mode.

The webinar started with a welcome address by P ASalahudheen, Chairman, of IEI Kochi Local Center. He welcomed Prof (Dr) S Bijoy Nandan Professor of Marine Biology and Biochemistry & Dean Faculty of Marine Science, CUSAT, Kerala. In the Inaugural speech, Chairman mentioned the importance of environmental protection and the abuse of Plastic harming nature and living organisms, predominantly aquatic life. He warmly welcomed all the eminent engineers, Council Members, and committee members in the webinar.

Prof (Dr) G Madhu introduced the speaker with details of the speaker's experience both academics and experts in the field of environmental engineering, especially Marine biology. He also mentioned his research work in the field of Marine Biology and Biochemistry

Chief guest Dr. Bijoy Nandan started his speech with an

explanation of world environment day observation and its significance as well as the historical background of the observation of world environment day.

Speaker Dr. S Bijoy Nandan continued his speech with an explanation of the evolution of society from the Stone Age to the Plastic Age. He described Plastic as a necessary Evil which is now an unavoidable part of human life. Same time such necessary Plastic creates challenges to the ecosystem He also explained that the per capita Production of plastic is about 48 kg per year The amount of Plastic Produced worldwide over very high and we can estimate the impact of such Plastic on the environment.

He explained with visuals about plastic waste production and its mismanagement and impact on water bodies and oceans. Then he explained what is Marine litter its impact on fish and the presence of microplastics in fish and kinds of seafood and to Human body. He explained the presence of Microplastics not only in the marine organism but in the Human body. Human blood and even in Human sperm. The Speaker reiterated as the situation is very much alarming which causes various issues in human metabolism and causes various types of Cancers to Human beings. Then He explained about various type of Plastic debris dumped in the oceans such debris create plastic Island in the oceans which is a serious threat to nature in general and aquatic life.

The speaker explained the Indian scenario in microplastics and its consequence on the environment and marine life Through the life cycle same affects human beings through the consumption of Marine products

The speaker concluded his speech with ways and means to compact the plastic menace in general and steps taken to minimize the abuse of Microplastics in particular.

He continued his speech for about one Hour and 30 Mints. The speaker answered all the 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 9.15 p.m.

Visit to Trinity College of Engineering and Technology

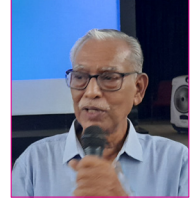
**26.06.2023** Dr. V. Ganesan, Director, CERCON, and Er. P. Balakrishnan Nair, FIE, Committee Members, Mechanical Engineering Division, IEI Kerala State Centre visited Trinity College of Engineering and Technology. The final year Mechanical Engineering students' team who had successfully participated in the recent IEI National Conference on "Recent Trends in Design and Application in Energy Development Program" has completed their project work. Now that the project is finished visit the campus to see the demonstration to express our immense gratitude to the team members.



**07.06.2023** Talk on 'Pendula Sastra and Its Use - A Live Demonstration' by Prof. Dr.V. Rajendra Babu, Former Professor & Head (Civil), Dean (P.G. Studies), College of Engineering, Thiruvananthapuram



**21.06.2023** Talk in Malayalam on 'AashayavinimayathileVelluvilikal – Kudumbapachathalathil' by Er. MatusVengal, Director, Sanjeevani, and Dr. G. Jayakumar, Former Principal, MG College and Deputy Director, Sanjeevani



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



**05.07.2023** Talk on 'Good Laboratory Practices in Medical Device Manufacturing' by Er. Venugopal S, FIE, General Manager (Quality Assurance), HLL Lifecare Limited, Peroorkada, Trivandrum



## 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 August 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.

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