

The Institution of Engineers (India)

TAMILNADU STATE CENTRE



BULLETIN



Dr. V. KARTHIKEYAN, FIE.
Chairman

Er.D.GOKUL,MIE
Honorary Secretary

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Dear Fellow Engineers,

Dear Fellow Engineers,

It gives me delightful experience to meet you all once again through this news desk.

The 39th National Convention of Electrical Engineers and National Conference on "Green Hydrogen, Electric Vehicles and Energy Storage System" was conducted very successfully on 25 and 26 October 2024 at Rosette Convention Centre, Anna University, Chennai. The programme commenced with the inaugural session on 25th Oct 2024 with Mr.R.Chellappan, MD, Swelect Energy Systems as the Chief Guest and Dr.S.Salivahanan as the Guest of Honour. The event was graced by Dr.G.Ranganath, President, IE(I), Er.K.K Gopalakrishnan Nair, Chairman, ELDB and members of ELDB, Er.R.R.Tanwar, Dr.S.Dharmalingam, Er.A.Sekar, Dr.Raju Basak, Prof.Satishkumar Kantilal Joshi and many guests including the Council and Committee members of IE(I).

The conference proved highly insightful, featuring numerous invited talks, including M.S.Thacker Memorial Lecture, state-of-the-art lecture, panel discussions along with paper presentations and awards recognizing both eminent engineers and young engineers. The convention concluded with a Valedictory session on October 26, 2024, where 6 prizes were awarded to the paper presenters and 6 prizes were awarded to poster presenters along with certificates.

I am truly impressed by the enthusiasm and creativity displayed by the young, budding engineers, as they showcased their talents through their papers and posters. Having had the privilege of being the Chairman of IE(I), TNSC and serving as the Jury and viewing these posters, I appreciate the outstanding work done by students from various universities, engineering colleges, and polytechnics. My heartfelt thanks to Dr.G.Madhusudhanan, Convenor, Dr.N.I.Maheshwari, Organizing Secretary, Dr.L.Ramesh, Chairman of the Technical Committee, Dr.J.Balamurugan, Chairman, TLC, Er.R.Ramdoss, Past Chairman, IE(I), TNSC, Dr.D.Elango, Committee Member, Er.I.M.Micheal Raj, Committee Member, Er.D.Gokul, Hon. Secretary, Dr.C.Prabhu, Joint Secretary, and the officials of IE(I), TNSC, for their excellent cooperation in making this convention a grand success.

My special thanks to the Educational institutions and industries for their sponsorships for the successful conduct of this convention.

The IE(I) Tamilnadu State Centre is organizing All India Seminar on Digital Transformation in Healthcare in association with Thiagarajar Polytechnic College, Salem on 29 & 30 November 2024 at the TPT Alumni Auditorium in Salem. Additionally, 37th National Convention of Metallurgical & Materials Engineers and National

Seminar on “Modern Steel Manufacturing Process” will be conducted in association with Thiagarajar Polytechnic College on 6 - 7 December 2024, at the TPT Alumni Auditorium in Salem. I invite all corporate members to participate in both seminar and convention.

Dr.V.Karthikeyan,FIE.,
Chairman, IE(I) TNSC
Chairman, ENDB IE(I)

From the Hon.Secretary's Desk.....



Dear Corporate Members,

I extend my warmest greetings to all my esteemed members!

During the second quarter, we have organized One Day Seminar – 1, All India Seminars – 4, Statutory Days – 3, Lecture Meetings – 3 and Environthon 2024 successfully. In the last quarter, IEI TNSC has conducted highest no of events compare with other State Centre and all our Local Centre across Tamilnadu has conducted nearly to 90 to 100 events to per chlorate the IEI to all corporate and student engineer. I invite all the committee members and corporate members to participate and support for the upcoming events.

1. 29th & 30th November 2024 All India Seminar on Digital Transformation in Healthcare in association with Thiagarajar Polytechnic College, Salem.
2. 6th & 7th December 2024 37th National Convention of Metallurgical & Materials Engineers and National Seminar on “Modern

Steel Manufacturing Process” in association with Thiagarajar Polytechnic College, Salem.

3. 13th December 2024 One Day Seminar on The Role of Textiles in Future Space Travel in association with Thiagarajar Polytechnic College, Salem.

All the meetings are available in our IEI TNSC You Tube Channel. I request all our corporate members to visit our IEI TNSC You Tube Channel and SUBSCRIBE for further notification of technical events and kindly visit our website (ieitnsc.org) for more information.

I appeal all corporate members to introduce IEI to all non members of IEI to avail the membership and get the benefits of our centenary year institution.

Thank you all for your continuous support and participation. I look forward to our continued journey of growth and success together.

Er. D. Gokul, MIE
Honorary Secretary



CELEBRATION OF ROYAL CHARTER DAY (17.09.2024)

The Tamilnadu State Centre of the Institution of Engineers (India) organised the **Royal Charter Day** on **17th September 2024** at **6.00 pm** through



online Zoom Meeting.

At the outset, **Dr V Karthikeyan**, Chairman, IE(I) Tamilnadu State Centre delivered the welcome address. **Er S Loganathan**, Committee Member, IE(I) Tamilnadu State Centre introduced the Chief Guest **Er M Nagaraj**, Chairman, IE(I) Karnataka State Centre.

He briefed his speech with powerpoint presentation. Royal Charter granted to IEI by King George V, the King of England and Emperor of India on 9th September 1935. The Charter specifically declares IEI to be a "body corporate" having "perpetual succession"

High Courts of Calcutta, Bombay, Madras, and Allahabad were established under "Letters Patent" and even today known as "Chartered High Courts". Universities of Madras, Bombay, and Calcutta were also established by Royal Charter. IEI was incorporated under the Indian Companies Act 1913 in 1920. In 1935, when IEI was incorporated by the RC, it ceased to be a company and its name was struck off with a Gazette Notification dated May 6, 1961.

Royal Charter : After Independence .

The First Law Commission headed by Shri M.C.Setalvad, Attorney General of India in its fifth report on "British Statutes Applicable to India" dated May 11, 1957 opined that " Charter is a law in force in the territory of India" on the date of commencement of the Indian Constitution

He also opined "A written instrument containing a grant by the Crown in the form of "Letter Patent" has the effect and authority of an Act of Parliament and repeal is only possible under an Act of Parliament.

A Constitution Bench of the Supreme Court in 1960 held that,"....application of existing laws is not conditioned by the formal making of adaptations or modifications in that law by the President."

Justice K.J.Sen Gupta of the Calcutta High Court held in 1971," Letter of Patent is still in force within meaning of Article 372 read with Article 225 of the Constitution. It cannot be struck down as ultra vires the Preamble of the Constitution."

During 2010 ECI stepped up its efforts to get engineers bill passed in the parliament. In Fact, IEI participated in some discussion. However at IEI Council meeting some council members explained the danger of Engineers Bill.

"Possibility of withdrawing from the working group on draft Engineers bill headed by Sri R V Shah and pursue independently with Government of India to adopt Royal Charter.

During the Council meeting held at Kodaikanal, when presentation made by SDG, IEI regarding Engineers' Bill 2019, Some Council member opposed the bill & Informed that the passing of the Bill would be a death knell for IEI & it would not be in the interest of IEI at all.

Council members in 2014 decided to hold "Royal Charter Day" every year in all the Centres of IEI to bring about awareness of the legal importance of Royal Charter .

Er D Gokul , MIE, Honorary Secretary of IE(I) Tamilnadu State Centre proposed the vote of thanks.

This program is available in IEI TNSC YouTube channel: <https://youtu.be/5czu0WB-e-4?si=TR0eV6ragiyGnSju> .

GUEST LECTURE ON EV TECHNOLOGY (28.09.2024)

The Tamilnadu State Centre of the Institution of Engineers (India) organised the guest lecture on the topic “**EV Technology**” on **28th September 2024** at **6.00 pm** through online Zoom Meeting.

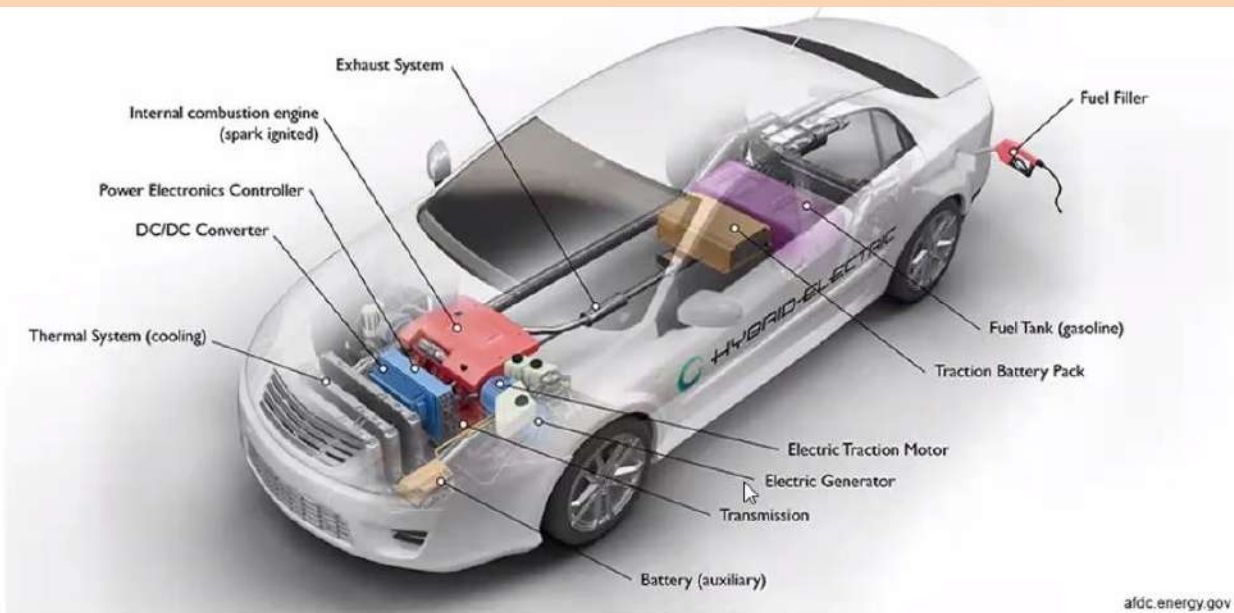


At the outset., **Dr V Karthikeyan**, Chairman, IE(I) Tamilnadu State Centre welcomed the gathering. **Dr. Subhadeep Bhattacharjee**, FIE, Associate Professor in Electrical Engineering of NIT Agartala and Chairman of the IEI, Tripura State Centre was the guest speaker.

He presented his lecture with the Powerpoint presentation. The technical talk highlights the potential of electrical vehicles in India – its opportunities and challenges. The lecture was highly informative. It was mentioned that India was world's one of the largest oil importers. But the transition on EVs will significantly reduce its oil dependency and due to its rapidly growing economy, the India is certain to be an influential player in global EV market. Also, shift towards electrical vehicle in India will have a significant impact on the environment as currently the transport sector in India is a major contributor to the pollution.

Er D Gokul , MIE, Honorary Secretary of IE(I) Tamilnadu State Centre proposed the vote of thanks.

This program is available in IEI TNSC YouTube channel: <https://youtu.be/Ho-dd0vxqys?si=2mypoqCNwStrCQ-1C>. Kindly subscribe and share with your friends and colleagues.



Hybrid electric vehicles are powered by an internal combustion engine and an electric motor, which uses energy stored in batteries. A hybrid electric vehicle cannot be plugged in to charge the battery. Instead, the battery is charged through regenerative braking and by the internal combustion engine. The extra power provided by the electric motor allows for a smaller engine. Additionally, the battery can power auxiliary loads like sound systems and headlights and reduce engine idling when stopped. Together, these features result in better fuel economy without sacrificing performance.

39TH NATIONAL CONVENTION OF ELECTRICAL ENGINEERS ON THE THEME GREEN HYDROGEN, ELECTRIC VEHICLES AND ENERGY STORAGE

The Institution of Engineers (India), Tamilnadu State Centre under the aegis of Electrical Engineering Division Board, IE(I) organized 39th National Convention of Electrical Engineers and National Conference on "Green Hydrogen, Electric Vehicles and Energy Storage Systems" on **25 & 26 October 2024** at Rosette Convention Centre, Anna University, Chennai.

The event commenced with the auspicious Tamizhthaai Vazhthu, followed by the lighting of the Kuthu Vilakku by dignitaries. **Dr. V. Karthikeyan**, Chairman, IE(I) Tamil Nadu State Center and Chairman, IE(I) Environmental Engineering Division Board delivered the welcome address and outlined the objectives of the convention. **Dr. G. Madhusudan**, Convener & Committee Member (EL), IE(I) Tamil Nadu State Centre, delivered about the convention and provided insights into the convention's agenda and its significance in the electrical engineering community. **Er. K.K. Gopalakrishnan Nair**, Chairman, Electrical Engineering Division Board delivered the presidential address and highlighted about the use of renewable energy such as Solar, Wind and Hydrogen energy and its challenges.

A video presentation by **Dr. G. Ranganath**, President, IE(I) and he has highlighted about the title of the convention and the need of the hour. He conveyed his greetings and wished to all for the successful conduct of the Convention. The proceedings of the convention are meticulously compiled and brought out as Souvenir and was released during the inaugural session. **Dr. V. Karthikeyan**, Chairman IE(I) TNSC honoured the Chief Guest, Guest of Honour and ELDB members with shawl and memento.

Dr. L. Ramesh, Chairman, Technical Committee introduced the guest of honour **Dr. S. Salivahanan**, Former Vice Chancellor, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology.

Dr. S. Salivahanan, Former Vice Chancellor, Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology shared the valuable insights of future of energy, the global challenges in climate changes, renewable energy efficiency, energy storage and energy security.

Eminent Engineers in the field of electrical engineering were awarded in the convention.

Prof P O J Lebba, Former Principal T K M College of Engineering, Kollam, Kerala, Member of Board of Governors , APJ Abdul Kalam Technological University, Kerala.

Er P C Rajan Babu, Chief Consultant.

Dr N Kumaresan, Professor & Dean (Faculty Welfare), Department of Electrical and Electronics Engineering, NIT, Tiruchirappalli.

Er K Indirani , Managing Director, TANTRANSCO.

Dr. V. Karthikeyan, Chairman, IE(I) TNSC and Chairman, IE(I) ENDB introduced the chief guest **Mr. R. Chellappan**, Founder & Managing Director , M/s.SWELECT Energy Systems. He shared on the developments of power electronic devices such as MOSFET, IGBT and its power modules in building UPS and power supply for Data Centers. Also, deliberated about the global warming, net zero and the importance of use renewable energy such as green hydrogen and etc.,

Young Engineer Award was presented to **Mr Pratik Biswas**, Deputy Chief, Central Electricity

Regulatory Commission (CERC) , **Dr Sreedhar Madichetty**, Associate Professor, Department of Electrical and Computer Engineering, Ecole Centrale School of Engineering, Mahindra University, Hyderabad, **Dr Ranjan Jha** Senior Scientist, CSIR-Central Scientific Instruments Organisation, Biomedical Application Division, Punjab. Sponsors for the convention were also honoured with shawl and memento. **Er D Gokul**, Honorary Secretary, IE(I), TNSC delivered the vote of thanks.

M.S. Thacker Memorial Lecture was delivered by **Dr. K. Boopathi**, Director & Division Head, National Institute of Wind Energy, Chennai. He delivered on the topic Emerging Trends in Wind and Hybrid Energy Technology. His extensive knowledge and experience in the field provided a valuable perspective on the future of renewable energy in the country.

State of Art Lecture was delivered by **Dr.G.A.Pathanjali**, Managing Director, High Energy Batteries (India) Ltd, Tiruchirappalli on the topic Hydrogen production and Energy Storage. He has focusing on the significance of hydrogen as a clean energy source and the various technologies available for energy storage. His expertise in the field provided valuable perspectives on current challenges and advancements.

Invited Talk 1: Dr. S.Dharmalingam, Formerly General Manager, BHEL, Tiruchirappalli and Visiting Faculty, NIT, Tiruchirappalli presented on the topic Energy Storage Revolution to Unlatch Renewable Potential. He has presented about present scenario of use of renewable and energy storage. His insights provided a thorough understanding of the current landscape and the future possibilities for energy in India.

Invited Talk – 2 : Dr. K. Selvajyothi , Associate Professor , IIITDM, Kancheepuram, Chennai

delivered an insightful invited talk on the various types of batteries used for propulsion applications, particularly in Electric Vehicles (EVs). The lecture provided a deep dive into the functionality, safety aspects, and management systems related to batteries in EVs. Dr.K. Selvajyothi's expertise and through presentation offered valuable insights for attendees, particularly in the areas of battery design, failure mechanisms, and EV performance optimization.

Dr. K. Selvajyothi's lecture provided an in-depth understanding of the critical aspects of battery technology in electric vehicles. Her detailed explanations of battery design, failure mechanisms, management systems, and safety protocols were highly valuable for anyone interested in the field of electric propulsion. The lecture not only highlighted the technological challenges involved but also the potential solutions that could drive the future of EVs. Overall, it was an informative and engaging session that deepened the attendees' understanding of this rapidly evolving field.

Panel discussion were held on the topic: Comprehensive discussion on the current state and future of green hydrogen, electric vehicles, and energy storage systems.

Mr. Gopinath K, Director, Srivari Enterprises, Adithy Technologies, Tiger Automobiles Company was the moderator and **Mr Muthukumar Subramaniam**, General Manager, Product Development , Qmax Test Equipments Pvt Ltd. **Dr C.Sharmeela** , Professor, Department of EEE, Anna University, Chennai . **Dr. K. Gayathri**, Associate Professor, Dept.of EEE, Faculty of Engineering and Technology, Annamalai University. And **Dr.Padmanathan K**, Director, EVNEXUS Private Limited, Chennai were the speakers of the panel discussion.

- **Industry Experts:** Representatives from leading companies in green hydrogen, EV manufacturing, and energy storage.
- **Academics:** Researchers specializing in sustainable energy technologies.
- **Government Officials:** Policy makers involved in energy regulation and sustainability initiatives.
- **Environmental Advocates:** Representatives from NGOs focused on climate change and sustainable development.

Invited Talk 3: Dr. A. Jagadeeshwaran, Professor of Electrical and Electronics Engineering at Sona College of Technology, Salem, delivered an insightful invited talk on the Significance of Energy Storage Systems (ESS). His presentation focused on various energy storage technologies, their applications, and the evolving landscape of energy storage systems in India and globally. The session also addressed key aspects of the National Electricity Plan (NEP) 2023 and the role of emerging technologies like machine learning in predicting the Remaining Useful Life (RUL) of energy storage systems.

36 papers and 35 posters presentation were presented during the convention. Best paper and poster were awarded with certificates and prizes.

Valedictory session was held on 26th October 2024 at 4.00 pm at Rosette Convention Centre, Anna University, Chennai. **Dr. V. Karthikeyan**, Chairman, IE(I) Tamil Nadu State Center and Chairman, IE(I) Environmental Engineering Division Board delivered the welcome address. He thanked to the Educational institutions and industries for their sponsorships for the successful conduct of this convention. He expressed the enthusiasm and creativity displayed by the young, budding engineers, as they showcased their

talents through their papers and posters. He appreciated the outstanding work done by Convener, Organising Committee, Technical Committee, council members, committee members Er.D.Gokul, Hon. Secretary and Dr.C.Prabhu, Joint Secretary, for their excellent cooperation in making this convention a grand success. **Dr.G. Madhusudhanan**, Convener & Committee Member, IE(I) TNSC summarized the two days convention briefly. **Dr L Ramesh**, Chairman, Technical Committee briefed about the paper presentation and poster presentation presented by the presenters. He thanked the technical committee members and students team for their effortless support for making the convention a grand success. **Er.K.K.Gopalakrishnan Nair**, Chairman, ELDB,IE(I) delivered the valedictory address and appreciated the efforts taken by the team for the successful conduct of the convention. **Er.R.R.Tanwar, Dr.S.Dharmalingam, Er.A.Sekar, Dr.Raju Basak, Prof.Satishkumar Kantilal Joshi** Electrical Engineering division board members were delivered the felicitation address in the convention. The participants were awarded certificates for their contribution to this convention.

Er D Gokul, Honorary Secretary, IE(I) TNSC proposed the vote of thanks and the programme concluded with National Anthem. More than 150 members / students were participated in the convention.

This event is available in IEI TNSC Youtube channel :

<https://www.youtube.com/live/5UJdY7Wdr8M?si=Gme44-kMnH9APuea> and

<https://www.youtube.com/live/4BDL-DKDA2s?si=ggDaJMoZs1oQDnhp>

GLIMPSES OF 39TH NATIONAL CONVENTION OF ELECTRICAL ENGINEERS ON THE THEME GREEN HYDROGEN, ELECTRIC VEHICLES AND ENERGY STORAGE



Lighting the Kuthu villakku



Honouring the Chief Guest Mr. R. Chellappan, Founder & Managing Director , M/s.SWELECT Energy Systems



Releasing of Souvenir



Inaugural Address by the Chief Guest



Presidential Address by Er. K.K. Gopalakrishnan Nair, Chairman , IE(I) ELDB



Address by Guest of Honour
Dr. S. Salivahanan, Former Vice Chancellor,Vel Tech



M.S. Thacker Memorial Lecture delivered by Dr. K. Boopathi, Director & Division Head, National Institute of Wind Energy, Chennai



State of Art Lecture delivered by Dr.G.A.Pathanjali, Managing Director, High Energy Batteries (India) Ltd, Trichy



Poster Presentation by students



Technical Session - 1



Honouring the ELDB members



Honouring the Panel Discussion Speakers



Dr V Karthikeyan, Chairman addressing the gathering



Technical Committee Chairman Dr L Ramesh, delivered the summary of convention



Award of certificates by Dr.V.Karthikeyan, Chairman IEI,TNSC and other dignitaries



Er D Gokul, Honorary Secretary, IEI, TNSC delivered the Vote of thanks

MEMBER IN THE NEWS

Dr. V. SUNDAR has been honored with the prestigious Hamaguchi Award for the Enhancement of Tsunami and Coastal Disaster Resilience, presented by the Minister of Land, Infrastructure, Transport & Tourism, Japan, on October 30, 2024. He began his efforts with an extensive survey of the tsunami-affected coastal regions of Tamil Nadu and Kerala in the first week of January 2005. This work laid the groundwork for a comprehensive analysis of the damage and the unique challenges faced by these coastal communities. Their findings culminated in the preparation and submission of a detailed master plan outlining proposed mitigation measures to enhance disaster preparedness. This document has since remained a valuable resource for both states, guiding ongoing efforts to strengthen resilience and safeguard vulnerable areas against

future coastal hazards. This is the first time an Indian has been awarded.

Dr. V. SUNDAR superannuated as Professor in the Department of Ocean Engineering, IIT Madras in Jun2 2018, completed his term as Professor Emeritus in June 2023 and since then has been working as Advisory Consultant. He has contributed 33 Ph.D and 14 M.S theses. He has ten distinguished awards amongst the scientific community to his credit, of which, Honorary doctorate from University of Wuppertal, Germany is one of them. He has served as chairman of the Asia Pacific division of International Association of Hydro environment Research, (IAHR) during 2007-11. He was elected as Fellow of IAHR in 2023. He has completed close to 300 projects in the general area of Coastal Engineering and has delivered lectures to the media, educational institutions and several other agencies all over the globe.

Forthcoming Technical Activities

Date	Title	Venue
29,30-11-2024	All India Seminar on “ Digital Transformation in Healthcare”	Thiagarajar Polytechnic College, Salem
06,07-12-2024	37 th National Convention of Metallurgical & Materials Engineers and National Seminar on “Modern Steel Manufacturing Process”	
13 -12-2024	One Day Seminar on “The Role of Textiles in Future Space Travel”	

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Bulletin

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