

# The Institution of Engineers (India)

TAMILNADU STATE CENTRE



## BULLETIN



Dr. V. KARTHIKEYAN, FIE.  
Chairman

Er.D.GOKUL,MIE  
Honorary Secretary

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November 2024

### From the Chairman's Desk.....



Dear Fellow Engineers,

I am happy to reconnect with all of you through this latest news bulletin.

The IE(I) Tamilnadu State Centre conducted the 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. Sri.C.Valliappa, Chairman, TPT-SONA Institutions presided over the Inaugural Session, which was graced by Dr.D.Jayadev, M.S.,M.Ch., Consultant Plastic Surgeon, Sri Gokulam Hospitals, Salem. The event witnessed enthusiastic participation from corporate members across various engineering sectors and students, contributing to its tremendous success.

We are delighted to share that the 37<sup>th</sup> National Convention of Metallurgical and Materials Engineers and the National Seminar on "Modern Steel Manufacturing Processes" was successfully

conducted on 06-07 December 2024 by IEI, TNSC at Thiagarajar Polytechnic, Salem.

The programme commenced with the inaugural session on 6<sup>th</sup> December 2024, featuring distinguished personalities including Dr.G.Ranganath, President of IEI, Mr.Thyagu Valliappa, Vice-Chairman, TPT- SONA Institutions, Dr.R.Vijayan, Principal, Government College of Engineering, Salem and Er.Kishore Kumar Mehrotra, Chairman of MMDB, IEI. The session was attended by many esteemed guests, including Council and Committee members of IEI.

The convention was highly insightful, featuring several invited talks, including the prestigious V.Subramony Memorial Lecture, along with the paper presentations and awards honouring both eminent engineers and young engineers. The event concluded with a Valedictory Session 07<sup>th</sup> December 2024, graced by the Chief Guest Shri.V.K.Pandey, Executive Director I/C, SAIL –Salem Steel Plant. Certificates were presented to the paper presenters and participants during the session.

The Institution of Engineers (India) Tamilnadu State Centre was organized an One Day Seminar on "The Role of Textiles in Future Space Travel" in association with Thiagarajar Polytechnic College, Salem on 13<sup>th</sup> December 2024 at Salem. Dr.K.Selvaraju, Secretary General, The Southern India Mills' Association, Coimbatore was the Chief Guest and Dr.K.Ramalingam, Managing Director, ISSOJET Berner Pvt. Ltd., CEO, Kwaliti Products, Managing Director, Royal Welfit Health Club, Hosur was the Guest of Honour of the programme.

I am happy to share that the third outstation committee meeting of our Tamilnadu State Centre was successfully conducted on 30<sup>th</sup> November 2024 at Neyveli, in conjunction with the 34<sup>th</sup> National Convention of Mining Engineers, organized by the IE(I) Neyveli Local Centre.

I request all current corporate members to complete the "Know Your Membership (KYM)" form to assist us in updating and maintaining an accurate database. Your cooperation in this matter is vital for ensuring seamless communication and access to member benefits. Once completed, please submit the form to the IE(I) Tamil Nadu State Centre office in person, or email it to [ieitamilnadu@gmail.com](mailto:ieitamilnadu@gmail.com) or [tncs@ieindia.org](mailto:tncs@ieindia.org).

With immense pride, I share the milestones we have achieved so far. We successfully conducted a One-Day Seminar under the Environment Division Board and seven All India Seminars across various divisions, including Civil, Mechanical, Agriculture, and Aerospace. Also, we organized two Conventions under the Electrical & Electronics and Metallurgy

Boards. Looking ahead, we have six events planned in the coming months, further strengthening our commitment to excellence.

I extend my heartfelt gratitude to our President Dr.G.Ranganath, all the Council and Committee members, Honorary Secretary along with our partner Colleges, Universities, Industries and Organizations, for their unwavering support. Your exceptional cooperation has been instrumental in advancing our mission of uplifting the engineering fraternity and contributing meaningfully to society.

Let us continue this momentum and strive towards even greater accomplishments. Together, we will empower and elevate the engineering community!

Wishing you a Happy and Prosperous New Year 2025 in Advance!

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

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



My greetings to all and I feel very happy to meet you through this News Bulletin once again.

My wishes to all the corporate member a happy and prosperous New Year 2025. I pray the Almighty to shower his blessings on all of us for a healthy, prosperous and successful year ahead.

The Tamilnadu State Centre of the Institution of Engineers (India) was established on December 22, 1922, and marked its Centenary Year with grand celebrations on December 22, 2022. This year, the

IE(I), TNSC is set to commemorate Founder's Day on 25<sup>th</sup> January 2025, at IE(I) TNSC Auditorium, Chennai. I invite all the corporate members to participate in the celebration and make the event a grand success.

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](http://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

## ALL INDIA SEMINAR ON “AUGMENTATION OF BIO ETHANOL & BIO-HYDROGEN FROM ORGANIC WASTES” ( 05,06-10-2024)

The Institution of Engineers (India), Tamilnadu State Centre, under the aegis of Environmental Engineering Division Board, IE(I) organized **All India Seminar on "Augmentation of Bio Ethanol & Bio-Hydrogen From Organic Wastes"** on **5 & 6 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.S.V.Srinivasan**, Senior Principal Scientist, Department of Environmental Engineering, CSIR-Central Leather Research Institute, Chennai was the Chief guest presided over the inauguration of the seminar.



*Inaugural Address by Dr.S.V.Srinivasan  
Senior Principal Scientist, Dept. of Environmental  
Engineering, CSIR – CLRI, Chennai*

**Er.D.Gokul**, Honorary Secretary, IE(I) Tamil Nadu State Center delivered the welcome address. **Er. N. Senthil Kumar**, Convener & Committee Member, IE(I) TNSC delivered the thematic address.



*Presidential Address by Dr. V. Karthikeyan  
Chairman, IE(I) TNSC and Chairman, IE(I) ENDB*

**Dr. V. Karthikeyan**, Chairman, IE(I) Tamil Nadu State Center and Chairman, IE(I) Environmental Engineering Division Board delivered the presidential address. He informed about the events organized by TNSC and also informed about the funding of grants for projects. Souvenir was released by the dignitaries.

**Dr. C. Prabhu**, Joint Secretary, IE(I) TNSC introduced the chief guest **Dr.S.V.Srinivasan**, Senior Principal Scientist, Department of Environmental Engineering, CSIR-Central Leather Research Institute, Chennai. **Dr. V. Karthikeyan**, Chairman, IE(I) TNSC and Chairman, IE(I) ENDB honoured the chief guest with shawl and memento.

**Dr. S. V. Srinivasan**, described about the uses of and benefits about the Bioethanol and Bio Hydrogen. Bioethanol fuel is a renewable energy source made from plants like corn, wheat, and some trees. It's produced by fermenting the sugars in these plants and can be used in various applications, including transportation and heating. The principle fuel used as a petrol substitute for road transport vehicles is bioethanol. Bioethanol fuel is mainly produced by the sugar fermentation process, although it can also be manufactured by the chemical process of reacting ethylene with steam. Bioethanol has a number of advantages over conventional fuels. It comes from a renewable resource i.e. crops and not from a finite resource and the crops it derives from can grow well in the UK (like cereals, sugar beet and maize). Another benefit over fossil fuels is the greenhouse gas emissions. Biohydrogen is produced by using microorganisms like bacteria and algae to convert organic matter into hydrogen gas. The biophotolysis process uses solar energy to break water into oxygen, energy, and a reducing agent, which is then used to produce hydrogen. Biohydrogen can be used in transportation, manufacturing, and other sectors that need to be de-fossilized. It can also be used in fuel cells to convert chemical energy into electricity. Climate change refers to long-term shifts in temperatures and weather patterns. Human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas. We require lot of R & D for bio ethanol and bio methane.



Sponsors of the event were also honored with memento and tree saplings. **Dr. J Balamurugan**, Organising Secretary proposed the vote of thanks.

**Er. Balaskandan Raghunathan**, Managing Director, Capital Engineering Consultancy LLC, Chennai delivered the keynote address on the topic Sustainable Development –Current and Future Trends. He explained about the waste management and Medical Waste.



*Keynote address by Er. Balaskandan Raghunathan ,  
Managing Director, Capital Engineering Consultancy LLC,  
Chennai*

The technical session of the seminar commenced with an enlightening presentation by the invited speaker **Dr. D. Elango**, Professor & Head, Dept. of Civil Engineering, SRM Valliammai Engineering College and **Dr. Kurian Joseph**, Professor, Environmental Engineering & Director, CCCDM, Anna University. 15 Papers were presented during the first technical session.

On day 2 (6<sup>th</sup> October 2024) technical session II was started by the invited talk delivered by Er. **Senthil Kumar. N**, COO & Partner Global Lab and Consultancy

Services LLP followed by the speaker **Dr.G.L.Sathyamoorthy**, Associate Dean and Professor in Civil Engineering, Kumaraguru College of Technology, Coimbatore. More than 25 papers were presented during the 2<sup>nd</sup> & 3<sup>rd</sup> Session.

The valedictory session was held at 3.45 pm at Rosette Convention Centre, Anna University, Chennai. **Er. D. Gokul**, Honorary Secretary, IE(I) TNSC welcomed the chief guest **Mr. Kaushik Palicha**, Managing Director, Entity 1 Value Emission Pvt.,Ltd., Committee Members of IE(I) TNSC and participants from various colleges. The summary report was presented by **Dr.Annam Renita. A**, Chairperson, Technical Committee. She briefly stated total numbers of research papers and participants from other institutions. **Dr. D. Elango**, Committee Member, IE(I) TNSC presented the award winners of the technical session presented on both days. Best Paper Award was distributed to the winners and paper presentation certificates were distributed to the paper presenters. Participation certificate was also distributed to the participants.

**Mr. Kaushik Palicha**, Managing Director, Entity 1 Value Emission Pvt.,Ltd., delivered the valedictory address and appreciated the efforts taken by the team for the successful conduct of the seminar. All the dignitaries were honoured with shawl and memento. **Dr. J Balamurugan**, Organising Secretary proposed the vote of thanks and the programme concluded with National Anthem

## GLIMPSES OF ALL INDIA SEMINAR ON “AUGMENTATION OF BIO ETHANOL & BIO-HYDROGEN FROM ORGANIC WASTES”



*Invited Talk – 1 by Dr. D. Elango Professor & Head,  
Dept. of Civil Engineering, SRM Valliammai Engineering  
College*



*Invited Talk – 2 by Dr. Kurian Joseph, Professor,  
Environmental Engineering & Director, CCCDM,  
Anna University*



***Invited Talk- 3 by Mr Rajaram S , Bio Energy Consultant, (Former TEDA Bio Division Head)***



***Invited Talk – 4 by Er. Senthil Kumar., COO & Partner Global Lab and Consultancy Services LLP***



***Invited Talk – 5 by Dr.G.L.Sathyamoorthy, Associate Dean and Professor in Civil Engineering, Kumaraguru College of Technology, Coimbatore***



***Honouring the Valedictory Chief Guest Mr Kaushik Palicha, Managing Director, Entity 1 Value Emission Pvt.,Ltd.,***



***Paper Presentation by Students***



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

## CELEBRATION OF WORLD HABITAT DAY (07-10-2024)

(Theme: "Engaging Youth to Create a Better Urban Future")

The Institution of Engineers (India) Tamilnadu State Centre observed the World Habitat Day on the theme Engaging Youth to Create a Better Urban Future on 7<sup>th</sup> October 2024 through online zoom meeting. **Dr V Karthikeyan**, Chairman, IE(I), TNSC delivered the welcome address and expressed his gratitude to the Chief Guest **Ar Akbar Bashu**, Design Head, Bangalore Studio, IMK Architects, Bangalore.



*Dr V Karthikeyan, Chairman, IE(I), TNSC delivering the welcome address*

**Ar J Umanambi**, Committee Member (AR), IE(I) TNSC introduced the chief guest **Ar Akbar Bashu**, Design Head, Bangalore Studio, IMK Architects, Bangalore.

**Ar Akbar Bashu** thanked the institution for giving the opportunity as guest speaker for the World Habitat Day. The theme focuses on addressing the challenges and opportunities of rapid urbanisation. It aims to encourage the youth to engage in urban planning and decision-making to foster more inclusive, resilient, and sustainable urban environments. Engaging youth in creating a better urban future not only empowers them but also ensures that our cities are designed with the needs of future generations in mind. By fostering innovation, participation, and collaboration, we can build more sustainable and inclusive urban environments together. The theme highlighted the importance of young people in creating a better urban future because by 2030, 60% of urban residents will be under the age of 18.

He explained about the ways to engage young people in urban planning that include:

- Investing in education
- Expanding digital skills
- Fostering entrepreneurship

- Promoting youth-led initiatives on climate action, affordable housing, and durable mobility
- Including young people in decision-making



*Chief Guest Ar. Akbar Bashu delivering the lecture*

The urban development to engage young people in following ways:

- **Co-design spaces**

Involve young people in designing and installing urban spaces, such as benches, playing structures, and art installations.

- **Use technology**

Technology can help young people participate in community consultations. However, it can also perpetuate inequalities if it doesn't address access, financial barriers, and language.

- **Provide opportunities**

Provide opportunities for young people to participate in decision-making processes.

Equipping youth with leadership skills through workshops, training programs, and mentorship opportunities can empower them to take ownership of environmental initiatives, mobilize their peers, and drive change within their communities.

Building urban resilience is crucial to avoid human, social and economic losses while improving the sustainability of urbanization processes is needed to protect the environment and mitigate disaster risk and climate change.

**Er D Gokul**, Honorary Secretary, IE(I) TNSC delivered the Vote of Thanks.



**The Institution of Engineers(India)**  
**Tamilnadu State Centre**  
**102<sup>nd</sup> ANNUAL GENERAL MEETING**

**MINUTES** of the 102<sup>nd</sup> Annual General Meeting of the Tamilnadu State Centre held on **26<sup>th</sup> October 2024** at 6.00 pm at the IEI, TNSC Auditorium, 19 Swami Sivananda Salai, Chepauk, Chennai 600005.

**Dr V Karthikeyan**, Chairman, IEI TNSC welcomed the gathering and then the agenda was taken up one by one.

**1. To Confirm the Minutes of 101<sup>st</sup> Annual General Meeting held on 5<sup>th</sup> November 2023.**

Chairman informed that the minutes of the 101<sup>st</sup> Annual General Meeting held on 5<sup>th</sup> November 2023 was circulated to the members through the News Bulletin of September 2024 issue which may be taken as read.

As no comments were received, **Er D Arulselvan**, FIE proposed that the Minutes may be confirmed. **Dr E Bhaskaran**, FIE seconded the same.

The Minutes of the 101<sup>st</sup> Annual General Meeting was confirmed.

**2. To Approve the Audited Accounts and the Annual Report for the year ended 31<sup>st</sup> March 2024**

Chairman informed that the Audited Accounts and the Annual Report for the year ended 31<sup>st</sup> March 2024 was circulated to the members through the News Bulletin of September 2024 issue which may be taken as read.

As no comments were received from the members on the audited accounts and the annual report, **Er I Maria Michael Raj**, FIE proposed that the Audited Accounts and the Annual Report for the year ended on 31<sup>st</sup> March 2024 may be confirmed. **Er P Velu**, FIE seconded the same.

The Audited Accounts and the Annual Report for the year ended 31<sup>st</sup> March 2024 was approved.

**3. To Report on the composition of the Committee for the sessions 2024-2025**

Chairman informed that the existing committee would take charge for the session 2024-2025 and the members are

- **Dr V Karthikeyan, FIE**, Chairman, IE(I) TNSC and Principal, Thiagarajar Polytechnic College, Salem
- **Er D Gokul, MIE**, Honorary Secretary, IE(I) TNSC and Scientist-SF, Sathish Dhawan Space Centre, ISRO

The Following Members will serve in the Committee (Representing the Engineering Divisions given in the parenthesis)

1. **Er C S Karunakaran**, Manager, StepUp, Incubation Centre, SIMATS School of Engineering, SIMATS University(Aerospace Engineering Division)
2. **Dr A Tajuddin**, Professor and Head, Department of Agricultural Engineering , Saveetha Engineering College, Chennai(Agriculture Engineering Division)
3. **Ar J Uma Nambi**, HOD/ Architecture, Department of Architecture, Thiagarajar Polytechnic College, Salem(Architectural Engineering Division)
4. **Er I Maria Michael Raj**, Former Scientific Officer / G, Department of Atomic Energy, Tuticorin (Chemical Engineering Division)

5. **Dr F Antony Xavier Bronson**, Associate Professor, Department of Computer Science and Engineering, Dr M G R Educational and Research Institute, Chennai(Computer Engineering Division)
  6. **Dr D Elango**, Professor & Head (Civil Engg. Department) SRM Valliammai Engineering College, Kanchepuram (Civil Engineering Division)
  7. **Er S Loganathan**, Former HOD (Civil Engg Department), Thiagarajar Polytechnic College, Salem (Civil Engineering Division)
  8. **Er K Vijayakumar**, Romex Consultancy, Government Registered Engineer & Valuer, Madurai(Civil Engineering Division)
  9. **Dr G Madhusudhanan**, Associate Professor, Department of Electrical and Electronics Engineering, SRM Valliammai Engineering College, Chennai(Electrical Engineering Division)
  10. **Dr N I Maheshwari**, Former Lecturer, (EEE Department) Thiagarajar Polytechnic College, Salem(Electrical Engineering Division)
  11. **Dr K Senthil Kumar**, Joint Registrar, Dr M G R Educational and Research Institute, Chennai (Electronics and Telecommunication Engineering Division)
  12. **Er D Arulselvan**, Former HOD, Electronics and Telecommunication Engineering, Thiagarajar Polytechnic College, Salem (Electronics and Telecommunication Engineering Division)
  13. **Er N Senthil Kumar**, COO & Partner, Global Lab and Consultancy Services, Salem(Environmental Engineering Division)
  14. **Dr M Ganesan**, Joint Registrar, Dr M G R Educational and Research Institute, Chennai (Mechanical Engineering Division)
  15. **Er D Kumar**, Senior Manager (Retd), BHEL(Mechanical Engineering Division)
  16. **Er G Balasivarama Subramanian**, Former HoD/Production Engineering, Thiagarajar Polytechnic College, Salem (Mechanical Engineering Division)
  17. **Er R Muthusamy**, Technical Consultant, Marine(Marine Engineering Division)
  18. **Er S Natarajan**, Retired Deputy General Manager, SAIL, Salem Steel Plant, Salem (Metallurgy and Material Science Engineering Division)
  19. **Dr C Prabhu**, Workshop Instructor/ Mechanical Engineering, Thiagarajar Polytechnic College, Salem(Production Engineering Division)
  20. **Prof. Dr P Mohanraj**, Professor, National Institute of Fashion Technology , (NIFT), Chennai (Textile Engineering Division)
- EX-OFFICIO MEMBERS:**
- Dr G Ranganath**, President, IE(I) and Principal, Adhiyamaan College of Engineering, Hosur.
- Er S Kannan**, Immd. Past Chairman, Consulting Engineer, Chennai
- Er K N Sivaraju**, Immd. Past Honorary Secretary, Consulting Engineer, Salem
- Dr J Arivudainambi**, Council Member, IE(I) TNSC
- Dr R Venkatesan**, Council Member, Mechanical Engineering Division, IE(I)
- Er A Sekar**, Council Member, Electrical Engineering Division, IE(I)
- Dr S Dharmalingam**, Council Member, Electrical Engineering Division, IE(I)
- Dr K Padmini**, Council Member, Mechanical Engineering Division, IE(I)
- Er M Venkatachalam**, Director (Power), NLC India Limited, Neyveli (Chairman, Neyveli Local Centre)



**Dr J Krishnamoorthi**, Professor and Head, Department of Metallurgical Engineering, PSG College of Technology, Coimbatore (Chairman, Coimbatore Local Centre)

**Dr S Ravimaran**, Professor and Head, Department of Artificial Intelligence and Data Science, Saranathan College of Engineering, Tiruchirappalli (Chairman, Tiruchirappalli Local Centre)

**Dr P Udhayakumar**, Professor and Head / Mechanical Engineering & Training and Placement Officer, K.L.N. College of Engineering, Madurai (Chairman, Madurai Local Centre)

**Dr K Viswanathan**, Scientific Officer, IGCAR, Kaplakkam (Chairman, Kalpakkam Local Centre)

**Dr Thangaraj K**, Associate Professor / IT, Sona College of Technology, Salem (Chairman, Salem Local Centre)

**Er D John Thirithuvadoss**, Manager/Marketing/C&PR BHEL/BAP Ranipet (Chairman, Ranipet Local Centre)

**Er Justin Jagadeep Kumar**, Retired Chief Engineer, Tuticorin Thermal Power Station, Tuticorin (Chairman, Tuticorin Local Centre)

**Dr K Ramalingam**, Managing Director, ISSOJET Berner Pvt Ltd., CEO, Kwaliti Products, Managing Director, Royal Welfit Health Club, Hosur (Chairman, Hosur Local Centre)

**Dr R Kumaravelan**, Professor and Head/ Mechanical Engineering, Velalar College of Engineering and Technology, Erode (Chairman, Erode Local Centre)

**Dr N Venkatachalapathy**, Professor and Head, Department of Food Engineering, National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur (Chairman, Thanjavur Local Centre)

**Dr S Avudaiappan**, Principal, St. Xavier's Polytechnic College, Seydunganallur (Chairman, Tirunelveli Local Centre)

**Er S Bright Selvin**, Former Superintending Engineer (RTD), TWAD Board, Nagercoil (Chairman, Kanyakumari Local Centre)

**Dr S Ramesh**, Professor & Principal, Jerusalem College of Engineering, Kancheepuram (Chairman, Kancheepuram Local Centre)

**Dr J Balamurugan**, Assistant Executive Engineer, TANGEDCO, Senior Manager, TEDA, Chennai (on deputation) (Chairman, Tiruvallur Local Centre)

**Prof. (Dr.) K.Vijayakumar**, Professor & Dean I/C, School of Electrical and Electronics Engineering, SRM Institute of Science & Technology, Kattankulathur (Chairman, Kattankulathur Local Centre)

#### **4. To Appoint the Auditors for the year 2024-2025 and to fix their remuneration**

Chairman informed that confirmation was received from M/s S Shankar & Associates, Chartered Accountants & Associates, Flat No: 1, M N R Apartment, No : 7A/1, Nadar Street, Velachery , Chennai – 600 042 to continue as Auditors for the year 2024 - 2025 at the remuneration of **Rs.17500/= + GST 18%**.

**Er S Natarajan**, FIE proposed that the services of the existing Auditors may be continued for the year 2024 - 2025 at the remuneration of Rs.17500/= + GST 18%.

**Er K N Sivaraju**, FIE seconded the same.

**Er D Gokul**, Honorary Secretary, IEI TNSC proposed the Vote of thanks.

**Er D Gokul**, MIE  
Honorary Secretary

**Dr V Karthikeyan**, Chairman, IEI TNSC and **Er D Gokul**, Honorary Secretary, IEI TNSC



## ALL INDIA SEMINAR ON “DIGITAL TRANSFORMATION IN HEALTHCARE” ( 29,30-11-2022)

### DAY – 1 (29-11-2024)

The Institution of Engineers (India), Tamilnadu State Centre, under the aegis of **Electronics & Telecommunication Engineering Division Board, IE(I)** in association with Thiagarajar Polytechnic College(Sona Institutions), Salem organized All India Seminar on "**Digital Transformation in Healthcare**" on 29 Nov 2024 at TPT Alumni Auditorium, Thiagarajar Polytechnic College, Salem – 636005

The event commenced with the auspicious Tamizhthaa Vazhthu at 10:00 AM on November 29, 2024, followed by the lighting of the Kuthu Vilakku by dignitaries.

**Dr. V. Karthikeyan**, Chairman of IE(I) Tamil Nadu State Centre and Principal of Thiagarajar Polytechnic College, delivered the welcome address. He welcomed the chief guest, committee members, and participants, and he expressed his gratitude to Dr. G. Ranganath, IE(I) President, for approving the All India seminar on **Digital Transformation in Healthcare**. He highlighted the importance of digital transformation and it helps to improve patient care, enhance operational efficiency, and streamline administrative processes.

**Er.D.Arulselvan**, Convener and Committee member of IE(I), TNSC, briefed about the theme and sub themes of the seminar. He highlighted the significant impact of the event. He mentioned that the seminar received a total of 107 papers from various colleges, demonstrating the widespread interest in the various topics. Moreover, the seminar benefited over 250 students, faculty members, and research scholars, providing them with valuable insights and knowledge about the latest advancements in digital healthcare.

**The Souvenir Release:** One of the most anticipated moments of the seminar was the release of the meticulously compiled proceedings in the form of a souvenir. This significant event took place during the inaugural session, marking a key milestone in the day's proceedings. The souvenir, a testament to the seminar's scholarly depth, contains the abstract of 107 papers covering eight crucial themes related to

Digital Transformation in Healthcare, providing a comprehensive overview of this emerging field. The honor of releasing this valuable compilation fell to the chief guest, Sri.C. Valliappa and Dr.D.Jayadev. He was accompanied by Dr. V. Karthikeyan, Chairman of IE(I), TNSC, and Principal of Thiagarajar Polytechnic College, along with IE(I) committee members. The release was met with enthusiastic applause, acknowledging the collective effort that went into its creation. This souvenir serves not only as a memento of the seminar but also as a valuable resource for future reference and research in Digital Transformation in Healthcare, representing a wealth of knowledge and innovation in the field.

**Dr.D.Jayadev, M.S., M.Ch., Consultant Plastic Surgeon, Sri Gokulam Hospital**, delivered the inaugural address at the All India Seminar on Digital Transformation in Healthcare. In his insightful speech, he highlighted the transformative impact of digital technologies on the field of medicine.

He emphasized the critical role of Electronic Health Records (EHRs) in streamlining patient data management. By digitizing patient records, healthcare providers can access essential information quickly and efficiently, leading to improved decision-making and patient care. He also discussed the potential of telemedicine in bridging geographical gaps and providing timely healthcare access to remote populations. He emphasized the benefits of remote consultations and monitoring, especially for patients with mobility limitations or those residing in rural areas.

Furthermore, he explored the application of Artificial Intelligence (AI) in healthcare, particularly in the realm of medical image analysis and predictive modelling. AI-powered diagnostic tools can assist doctors in detecting diseases early and accurately, enabling timely interventions and better patient outcomes. He concluded his address by urging healthcare professionals to embrace digital transformation as a means to enhance patient care, improve efficiency, and revolutionize the practice of medicine.

**Sri C. Valliappa**, Chairman, Sona Group of Institutions delivered Presidential address. He focused on the transformative power of digital technology and artificial intelligence in the field of plastic surgery. He emphasized how AI is revolutionizing preoperative planning, surgical precision, and postoperative recovery. By transferring human expertise into digital form, AI algorithms are enabling more accurate diagnoses, personalized treatment plans, and improved patient outcomes. Sri Valliappa's insights highlighted the exciting future of plastic surgery, where technology and human expertise converge to deliver exceptional care.

### **Keynote Address: Empowering Healthcare with Digital Transformation: Bridging AI-Driven Technology and Medical Science**

Dr. B. Sathiyabhama, a distinguished professor and head of the Department of Computer Science and Engineering at Sona College of Technology, delivered a thought-provoking keynote address on "Empowering Healthcare with Digital Transformation: Bridging AI-Driven Technology and Medical Science." Her presentation delved into the transformative potential of digital technologies in revolutionizing healthcare delivery.

Dr. Sathiyabhama emphasized the crucial role of AI in addressing pressing healthcare challenges. She highlighted how Sona College of Technology is at the forefront of this technological revolution, actively engaged in pioneering research and development. The keynote showcased several compelling case studies that exemplified the practical applications of AI in healthcare. These included: Early Disease Detection Systems: AI-powered algorithms capable of analyzing medical images, such as X-rays and MRIs, to identify early signs of diseases like cancer and cardiovascular conditions. Remote Patient Monitoring Tools: Innovative wearable devices and mobile applications that enable continuous monitoring of vital signs and patient data, facilitating timely intervention and remote care. Personalized Treatment Plans: AI-driven algorithms that analyze patient data to develop tailored treatment plans, optimizing therapeutic outcomes and minimizing

adverse effects. Beyond the technical advancements, Dr. Sathiyabhama underscored the importance of ethical considerations and data privacy in the implementation of AI-driven healthcare solutions. She emphasized the need for responsible AI development and deployment to ensure patient safety and trust.

### **Invited Lecture – 01: Artificial Intelligence for Health Care (Through Online)**

Mr. Ramkumar Venkatesan Chief Executive Officer, Simmer Fremont, California, USA , has talk about Artificial intelligence (AI) is transforming healthcare in numerous ways. One notable example is the implementation of AI in US hospitals using Neat Data bases. This technology enables healthcare professionals to collect and analyze vast amounts of patient data, leading to more accurate diagnoses, personalized treatment plans, and improved patient outcomes.

#### **Key Highlights of AI Implementation in US Hospitals:**

Enhanced Data Management: Neat Data bases provide a centralized platform for storing and managing patient data, including electronic health records, medical images, and lab results. This enables healthcare professionals to access and analyze patient information seamlessly. Improved Diagnostic Accuracy: AI algorithms can analyze medical images, such as X-rays, CT scans, and MRIs, with greater accuracy than human radiologists. This can lead to earlier detection of diseases and more effective treatment strategies. Personalized Treatment Plans: AI can analyze a patient's individual characteristics, such as age, medical history, and genetic profile, to recommend the most appropriate treatment options. This can lead to more personalized and effective care.

Predictive Analytics: AI can analyze patient data to identify patterns and trends that may indicate future health risks. This allows healthcare providers to proactively intervene and prevent the onset of diseases. Enhanced Efficiency: AI can automate routine tasks, such as administrative work and data entry, freeing up healthcare professionals to focus on patient care. This can lead to increased efficiency and improved patient outcomes.

## Paper Presentation - I

A technical paper presentation event commenced at 3:00 PM, engaging approximately 120 students who presented on diverse themes. The event was overseen by distinguished chairpersons.

### Theme Details

Theme	Chairperson	No of Papers Presented
IoT in Telemedicine	Dr. J. Dhayanithi, Associate Professor, Dept. of Computer Sciences and Engineering, Sona College of Technology	25
Blockchain for Healthcare Security	Dr. Prabhu, Professor & Head, Dept. of Bio Medical Engineering, Mahendra College of Engineering, Namakkal	7
Data Security and Privacy	Dr. S. Prabakar , Professor & Head, Dept of Bio medical Engineering Sona College of Technology	9
Use of Artificial Intelligence in Healthcare	Mr. M. Saravanan, Professor & Vice Principal, Dept. of Computer Sciences and Engineering, AVS College of Technology, Salem	10

### Day – 2 ( 30-11-2024)

#### Invited Lecture II: Digital Health Innovations: Improving Patient Outcomes

Er. V. Saranya, Head of the Department of Computer Engineering at Thiagarajar Polytechnic College, Salem, delivered an insightful lecture on "Digital Health Innovations: Improving Patient Outcomes." This lecture highlighted the transformative impact of technology on healthcare and its potential to revolutionize patient care.

#### Key Points from the Lecture

##### 1. Telemedicine and Remote Monitoring:

- **Benefits:**
  - Increased accessibility to healthcare, especially for rural and underserved populations.
  - Reduced healthcare costs by minimizing unnecessary visits.
  - Improved patient engagement and adherence to treatment plans.
- **Challenges:**
  - Ensuring data security and privacy.
  - Overcoming technological limitations, particularly in areas with poor internet connectivity.

##### 2. Wearable Devices and Health Tracking:

- **Benefits:**
  - Continuous monitoring of vital signs and physical activity.
  - Early detection of health issues.
  - Personalized health insights and recommendations.
- **Challenges:**
  - Data accuracy and reliability.
  - User compliance and data interpretation.

##### 3. Artificial Intelligence and Machine Learning in Healthcare:

- **Benefits:**
  - Accurate and efficient disease diagnosis.
  - Personalized treatment plans.
  - Drug discovery and development.
- **Challenges:**
  - Ethical considerations and bias in AI algorithms.
  - Data privacy and security.



#### 4. Blockchain Technology for Secure Healthcare Records:

- **Benefits:**

- Immutable and tamper-proof medical records.
- Enhanced data security and privacy.
- Efficient and transparent data sharing.

- **Challenges:**

- Technical complexity and scalability.
- Regulatory challenges.

#### 5. Internet of Medical Things (IoMT):

- **Benefits:**

- Real-time monitoring of patient health.
- Remote patient care and management.
- Improved patient outcomes.

- **Challenges:**

- Interoperability and data standardization.
- Security and privacy risks.

### Invited Lecture III: Digital manufacturing in the healthcare Applications

Mr. G. Guru Prasanth, the CEO and Founder of Medsby Healthcare & Engineering Solutions, Coimbatore, sheds light on how advancements in 3D printing, bioprinting, and other digital manufacturing technologies are revolutionizing healthcare.

#### Key Points Addressed:

##### 3D Printing in Healthcare:

- **Applications:**

- Creation of custom prosthetics and orthotics.
- Printing of anatomical models for surgical planning.
- Fabrication of medical devices and implants.
- Production of personalized medications.

- **Benefits:**

- Improved patient outcomes through personalized care.
- Reduced surgical risks with accurate planning models.
- Increased accessibility to complex medical devices.

- Faster development and prototyping of new medical technologies.

##### Bioprinting:

- **Applications:**

- Printing of human tissues and organs for transplants.
- Drug discovery and testing on bioprinted tissues.
- Development of personalized skin grafts.
- Challenges:
- Difficulty in replicating complex vasculature and organ functions.
- Ethical considerations regarding bioprinting human tissues.
- Bioavailability and biocompatibility of bioprinting materials.

##### Other Digital Manufacturing Techniques:

- Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM): Used for designing and manufacturing complex medical devices with precise accuracy.
- Laser Cutting and Milling: Employed for creating customized medical instruments and implants.
- Robotic Surgery: Enables minimally invasive procedures with improved precision and control.

##### The Future of Digital Manufacturing in Healthcare:

- Increased adoption: Wider integration of digital manufacturing technologies across the healthcare industry.
- Advanced materials: Development of biocompatible and functional materials for 3D printing and bioprinting.
- Personalized medicine: Utilization of digital manufacturing for creating patient-specific treatment plans and medications.
- Remote manufacturing: On-demand production of medical supplies and implants in healthcare facilities.

## Paper Presentation - II

The Paper Presentation - II event appears to be a focused academic gathering centered around advancements in healthcare technology. The event was structured into three distinct themes, each dedicated to a specific area of healthcare innovation.

### Theme Details

Theme	Chairperson	No of Papers Presented
<b>Electronic Health Records Optimization</b>	Mr. M. Saravanan, Professor & Vice Principal, Dept. of Computer Science & Engineering, AVS College of Tech, Salem	14
<b>Digital Twin Technology in Healthcare</b>	Chair: Mr. P. Sathishkumar, Founder & CEO, i18n Solutions, Organizer Google Developers Group, Salem	5
<b>Robotics in Surgery and Rehabilitation</b>	Mr. Muhammadu Sathik Raja, HoD, Department of Medical Electronics, Sengunthar Engineering College, Tiruchengode.	11

## Paper Presentation - III

<b>5G and Its Impact on Healthcare Delivery</b>	Dr. K. Senathipathi, Lecturer ( Selection Grade – II), Dept of Electrical & Electronics Engg , Thiagarajar Polytechnic College, Salem	7
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### Key Takeaways and Observations:

**Diverse Topics:** The event showcased a wide range of technical topics, demonstrating the growing interest and innovation in the field of healthcare technology.

**Student Engagement:** The participation of nearly 200 students highlighted the enthusiasm and talent within the student community.

**Expert Guidance:** The presence of experienced chairpersons from renowned institutions provided valuable insights and feedback to the presenters. **Future Implications:** The discussions and presentations during the event shed light on potential advancements in healthcare technology, such as remote patient monitoring, secure data sharing, and AI-powered diagnostics.

The Paper Presentation event seems to have been a valuable platform for researchers, clinicians, and industry professionals to exchange knowledge and ideas on cutting-edge healthcare technologies. The diverse range of topics covered in the three sessions reflects the rapid pace of

### The Valedictory Session

Er. D. Arulselvan, Convener & Committee Member, IE(I) TNSC, extended a warm welcome to all

dignitaries, committee members from IE(I), participants, and students from various departments. He then proceeded to present a comprehensive summary report of the All India Seminar.

Totally 107 papers received from various institutions like Government College of Engineering, Erode , Dr.M.G.R University, Sona College of technology , SRM University, Sengunthar College of Engineering, Tiruchengode and more papers were received from Thiagarajar Polytechnic College. 88 Papers were presented during the seminar. Best Paper in each theme were honored during valedictory function. The participants were awarded with certificates for their contribution of this seminar.

Dr.V.Karthikeyan, Chairman of IE(I) Tamilnadu State Center and Principal of Thiagarajar Polytechnic College delivered the valedictory address and appreciated the efforts taken by the team for the successful conduct of the seminar. The chairpersons were honoured with shawls and mementoes.

Er.S.Mahendran, HoD/ ECE TPT, proposed the vote of thanks and the programme concluded with National Anthem.

## GLIMPSES OF ALL INDIA SEMINAR ON “ DIGITAL TRANSFORMATION IN HEALTHCARE”

### Inaugural Session



*Lighting the Kuthuvillakku*



*Inaugural Address by  
Dr.D.Jayadev, M.S., M.Ch.,*



*Welcome Address by Dr.V.Karthikeyan Chairman, IEI, TNSC*



*Honouring Dr.D.Jayadev, M.S., M.Ch.,  
by Chairman, IE(I) , TNSC*



*Presidential Address by  
Sri.C.Valliappa , Chairman, Sona Group of Institutions,  
Salem*



*Honoring Sri.C.Valliappa , Chairman, Sona Group of  
Institutions, Salem by Chairman, IE(I), TNSC*



*Keynote Address by Dr. B.Sathyabama*



*Honoring Dr.B.Sathyabama by Sri C. Valliappa, Chairman,  
Sona Group of Institutions*



## Technical Sessions



**Invited Talk by Ms.V.Saranya, HoD/ Computer Science and Engg, Thiagarajar Polytechnic College, Salem**



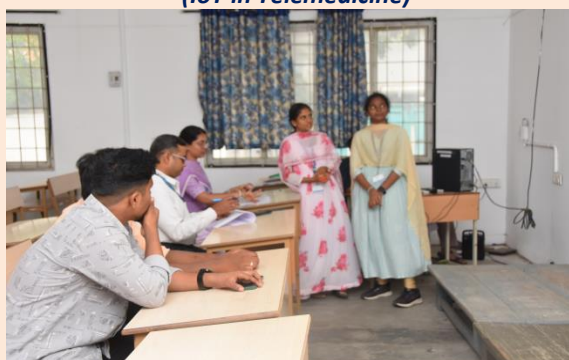
**Invited Talk by Mr. G. Guru Prasanth, the CEO and Founder of Medsby Healthcare & Engineering Solutions, Coimbatore**



**Paper Presentation: Theme 1  
(IoT in Telemedicine)**



**Paper Presentation: Theme 2  
(Block Chain for Health Care Security)**



**Paper Presentation: Theme 3  
(Data Security and Privacy)**



**Paper Presentation : Theme 4  
( Use of Artificial Intelligence in Health Care )**



**Paper Presentation: Theme 5  
(Electronic Health Records Optimization)**



**Paper Presentation: Theme 6  
(Digital Twin Technology in Healthcare)**





**Paper Presentation: Theme 7  
(Robotics in Surgery and Rehabilitation)**



**Paper Presentation: Theme 8  
(5G and Its Impact on Healthcare Delivery)**



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



## Forthcoming Technical Activities

Date	Title	Venue
24-01-2025	One Day Seminar on "Harnessing Solar Energy for sustainable Marine Developmet: Aligning with SDG14" "39 <sup>th</sup>	AMET University , Chennai
25-01-2025	Founder's Day Celebration	TNSC Auditorium, Chennai
14,15-02-2025	All India Seminar on " Bio-Mimicry in Architectural Engineering"	Thiagarajar Polytechnic College, Salem

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