Adi Shankara
INSTITUTE OF ENGINEERING AND TECHNOLOGY

PULSE

CAPTURING THE RHYTHM

DEPT. ELECTRONICS AND BIOMEDICAL ENGINEERING

Electronics and Biomedical Engineering
Students Association of Adi Shankara Institute of Engineering & Technology

VOLUME 3
ISSUE 2

QUATERLY NEWSLETTER OF DEPT. ELECTRONICS AND BIOMEDICAL ENGINEERING
SEPT 2025 - NOV 2025

ADI SHANKARA INSTITUTE OF ENGINEERING AND TECHNOLOGY

The Adi Shankara Institute of Engineering & Technology was founded in Kalady to offer value-added technical education that teaches students professional excellence and ethical values. The institution is managed by the Adi Sankara Trust, a registered organization that has made a name for itself in the field of education. The college, founded in 2001 and skilfully maintained by the Sringeri Mutt with the benign blessings of His Holiness Sri Sri Bharati Tirtha Mahaswamiji, is committed to a proactive approach to ensuring the student's holistic development.Adi Shankara Institute of Engineering & Technology (ASIET) is ideally situated in a picturesque environment that evokes vivid memories of Jagadguru Adi Shankara's calm presence. It is affiliated with the A P J Abdul Kalam Technological University, approved by the AICTE, and offers courses in UG, PG, and PhD levels. Four of their streams are NBA accredited (CSE, ECE, EEE & ME) which shows its commitment to quality systems. ASIET was the first self-financing technical education center in Kerala to be awarded the ISO 9001: 2008 certification. Nineteen batches of B.Tech students have passed out from this temple of education to date and they occupy responsible positions in prestigious organizations in India and abroad.

DEPT OF ELECTRONICS & BIOMEDICAL ENGINEERING

Electronics and Biomedical Engineering is an interdisciplinary branch of engineering, bridging the gap between life science and medicine with technology and engineering to create healthcare solutions, leading to the design and development of medical equipment. In collaboration with doctors and researchers, biomedical engineers develop methods and devices to tackle clinical problems using the developments in electronics and computers. Right from the development of sensors for diagnosis and analysis to the multi-dimensional aspects of diseases with the aid of high-tech equipment, biomedical engineers are indispensable. A biomedical engineer's job is not just limited to the development of some equipment and devices, but a much wider area of computer systems and software used in healthcare is also stretched out there to conquer. In short, whenever and wherever, a living being interacts with any health care equipment there is an invisible hand of a BIOMEDICAL ENGINEER, guarding and protecting lives. Biomedical engineers can find a huge volume of well-paid openings in fields like Prosthetics, Surgical devices, Imaging methods, Instrumentation, and much, much more. In the upcoming era of the Internet of Things (IoT), healthcare devices; both wearable and implanted inside the body, are being implemented to a large extent.

Opportunities for research and higher studies are available at various higher education institutions across the globe. Some of the common specializations include Bioinstrumentation, Biomaterials, Robotic Surgery, Clinical Engineering, Cellular, Tissue, and Genetic Engineering, Medical Imaging, Orthopedic Bioengineering, Rehabilitation Engineering etc.

OUR TECHNICAL ADVISORS

OUR PROFESSIONAL BODIES

MESSAGE FROM HOD

It gives me great pleasure to connect with you once again through this new edition of The Pulse, the departmental newsletter of Electronics and Biomedical Engineering. As we continue our journey toward becoming a premier centre of excellence in biomedical innovation and education, the past months have once again reflected the passion, dedication, and collaborative spirit that define our department.

This quarter has been particularly remarkable, marked by our collective achievements in academics, research, innovation, and outreach. Our department proudly organized and participated in diverse technical and community-oriented initiatives that strengthened our engagement with industry, academia, and society. Notably, our students demonstrated exceptional technical competence and leadership through hands-on workshops, add-on courses, and project exhibitions, translating classroom learning into real-world applications.

Faculty members continued to uphold our mission of quality education and innovation by contributing through publications, training programs, and active participation in professional bodies. Their continued pursuit of excellence ensures that our students receive not only knowledge but also the inspiration to create meaningful impact in healthcare technology.

Equally inspiring has been the growing enthusiasm of our students who have made their presence felt in university examinations, intercollegiate contests, and national-level forums. Their curiosity, creativity, and teamwork continue to reinforce our confidence in the bright future of this field.

As we look ahead, our focus remains on nurturing innovation-driven learning, interdisciplinary collaboration, and socially relevant research that bridges engineering and healthcare. Together, let us continue to strive toward shaping a healthier and technologically empowered society.

With warm regards,

Dr.REMYA GEORGE
HOD ,ASSOCIATE PROFESSOR
DEPT OF EBE

MESSAGE FROM FACULTY COORDINATOR

"Progress is born from curiosity, nurtured by collaboration, and realized through innovation."

It gives me immense pleasure to present The Pulse – Volume 3, Issue 2, the latest edition of our department newsletter. With every issue, The Pulse continues to evolve —not just as a publication, but as a testament to the energy, creativity, and commitment that define the Department of Electronics and Biomedical Engineering.

This quarter has been truly inspiring, marked by the remarkable synergy of students and faculty in academics, research, and outreach. From impactful technical workshops and hands-on training programs to student innovations, achievements, and collaborations with industry, the department has continued to grow as a dynamic hub of learning and innovation.

What makes this journey special is the spirit of togetherness—every achievement, event, and initiative reflects the collective effort of our EBE family. I extend my heartfelt gratitude to all contributors, editors, and participants whose dedication has made this edition possible.

As we turn these pages, may they remind us of how far we've come and inspire us to reach even greater heights in the issues ahead.

Warm regards,

Dr. TRESA JOSEPH
FACULTY COORDINATOR
DEPARTMENT OF EBE

MESSAGE FROM STUDENT COORDINATOR

It fills me with immense pride and joy to introduce this new edition of The Pulse, our department's quarterly newsletter. Each page of this issue echoes the creativity, perseverance, and teamwork that define the spirit of the Electronics and Biomedical Engineering community at ASIET.

The past few months have been nothing short of inspiring. From national-level achievements and technical workshops to innovative projects and outreach activities, our department has continued to make its mark. What stands out most is the enthusiasm and unity of our students—always ready to learn, lead, and contribute meaningfully under the guidance of our dedicated faculty.

As a student community, we take immense pride in being part of a department that values innovation, collaboration, and compassion in engineering for healthcare. The growing recognition of our collective efforts motivates us to keep pushing boundaries and shaping ideas that make a real difference.

I extend my heartfelt gratitude to everyone who contributed to this edition—writers, designers, editors, and mentors—for turning ideas into impact. May this newsletter continue to inspire us to explore, innovate, and excel together.

Warms regards,

MISNA ABDUL MANAF
STUDENT COORDINATOR
S7 EBE

VISION

Evolve as a premier center in Electronics and Biomedical Engineering to meet the ever-increasing needs for affordable and accessible healthcare technology focusing on innovative thinking and skill enhancement.

MISSION

• Provide quality professional education at par with global standards in the field of Biomedical Engineering with excellent faculty and infrastructure.
• Foster a culture of multidisciplinary research, comprehensive practical learning, and generate pioneering innovations by collaborating with academia, industry, and clinical experts.
•Inspire biomedical engineering graduates to be responsible for addressing critical healthcare challenges with empathy and dedication for the betterment of mankind.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PRACTICE OF PROFESSION: Function as creative professionals who excel in conducting research, designing, manufacturing, and testing biomedical devices with an unwavering focus on quality and patient safety.

CAREER GROWTH: Evolve as successful engineers, entrepreneurs, and healthcare technology leaders through professional development and collaborations.

LIFELONG LEARNING AND ADAPTABILITY: Engage in continuous learning to overcome the ever-evolving challenges of biomedical technology to support healthcare industries, allied healthcare sectors, and academia.

PROGRAM SPECIFIC OUTCOMES (PSOs)

• Apply the concepts of life sciences, engineering, and technology to the design and development of indigenous medical devices.
•Demonstrate contemporary healthcare technological knowledge and skills in a multidisciplinary environment with ethics and professionalism.

CONTENT

PULSE
CAPTURING THE RHYTHM

EBSAA ,TSI AND BMESI: SHAPING TOMMOROW

Workshop on MATLAB, Simulink, and Simscape

The Department of Electronics and Biomedical Engineering, in association with BMESI, successfully organized a workshop on "MATLAB: Introduction to Simulink and Simscape" on 22nd September 2025 at the BSP Lab. The session was handled by Mr. Dhanoop K. Dhanpal, MATLAB Application Engineer from Corel Technologies Ltd., Bangalore. The workshop provided participants with hands-on experience in modeling and simulation using Simulink and Simscape, enabling them to understand practical applications of system-level design and analysis. Coordinated by Ms. Krishna S. Nair (faculty, Dept. of EBE) and Mr. S. Vinayak (student, Dept. of EBE), the program witnessed active participation from students who gained valuable insights into applying MATLAB tools for engineering problem-solving..

EBSAA ,TSI AND BMESI: SHAPING TOMMOROW

Workshop on MATLAB, Simulink, and Simscape

Advanced Imaging and Laser Technology in Interventional Cardiology

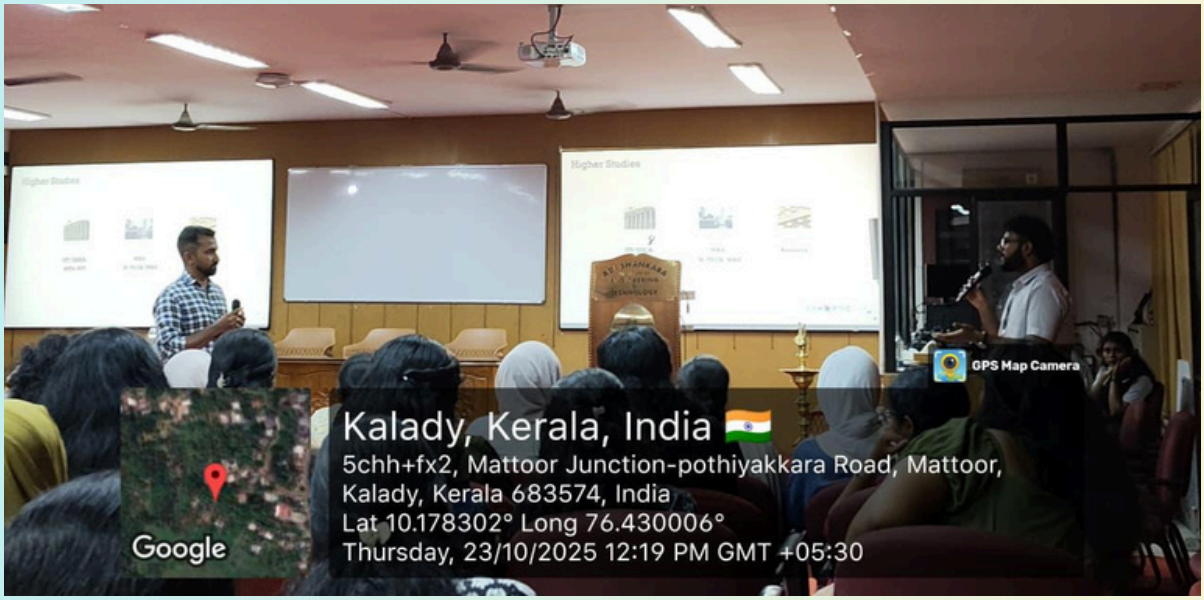
The Department of Electronics and Biomedical Engineering, Adi Shankara Institute of Engineering and Technology, in association with the Telemedicine Society of India (Kerala Chapter), organized a technical session on "Advanced Imaging and Laser Technology in Interventional Cardiology" on 21st October 2025 at the Main Seminar Hall, ASIET.The session was led by Mr. Manikandan S, Regional Manager, Philips (IGT Devices), India, who shared expert insights into the recent advancements in imaging and laser-assisted technologies that play a vital role in interventional cardiology. He explained how modern imaging modalities such as intravascular ultrasound (IVUS) and optical coherence tomography (OCT) have revolutionized cardiac diagnostics and therapeutic precision. Students gained valuable knowledge on the integration of biomedical engineering principles in designing and improving cardiac intervention systems.The interactive session provided a real-world perspective on how biomedical engineers contribute to developing life-saving technologies, thereby bridging the gap between engineering innovation and clinical applications. The event was coordinated by Mr. Aadhi Narayan G S (S5 EBE) and was well attended by S1, S3, and S5 B.Tech Biomedical Engineering students.

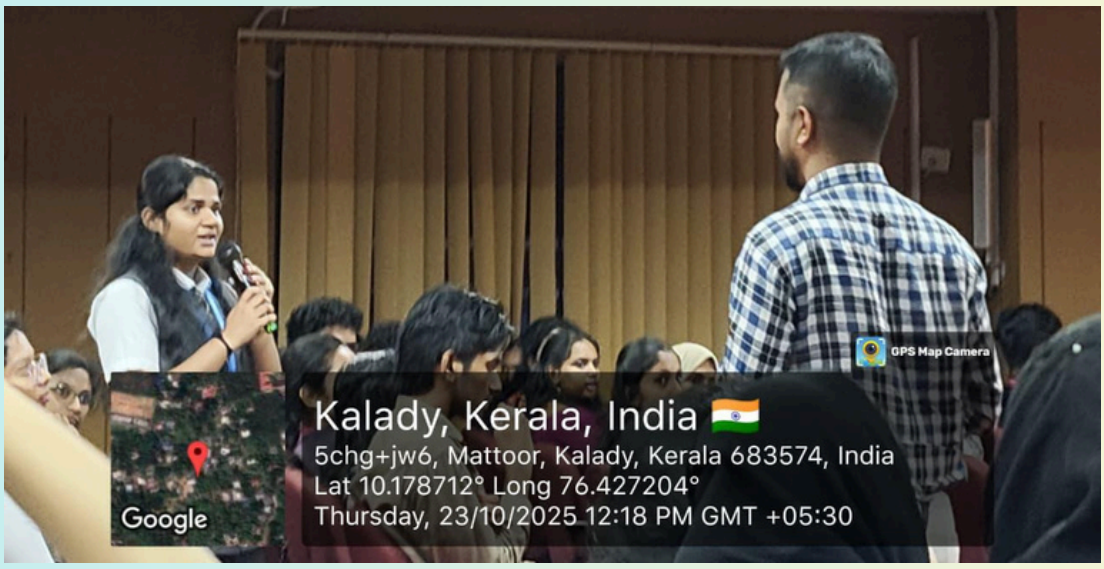
Advanced Imaging and Laser Technology in Interventional Cardiology

Career Orientation Session: "Biomedical Engineering – From Classroom to Profession"

To provide students with a better understanding of career paths and opportunities in the biomedical industry, the Department of Electronics and Biomedical Engineering, in association with the Telemedicine Society of India (Kerala Chapter), organized a Career Orientation Session on "Biomedical Engineering: From Classroom to Profession" on 23rd October 2025 at the Main Seminar Hall, ASIET.The first session, from 11.00 a.m. to 12.30 p.m., was handled by Mr. Bernin Lawrence, Founder and Director, Cynoptic Healthcare, Kochi, who shared his experiences as a biomedical entrepreneur and highlighted the importance of innovation and interdisciplinary learning. The second session, from 2.30 p.m. to 4.00 p.m., was delivered by Mr. Shino Lukose, Founder and Managing Director, LUKA Healthcare, Alappuzha. He discussed the practical aspects of biomedical product development, healthcare technology management, and startup ecosystems in India.Both sessions offered valuable career guidance and motivated students to translate classroom knowledge into impactful professional contributions. The event witnessed active participation from S1, S3, and S5 B.Tech Biomedical Engineering students, who gained inspiration to pursue excellence in the ever-evolving field of biomedical engineering.

Career Orientation Session: "Biomedical Engineering – From Classroom to Profession"





EBSAA ,TSI AND BMESI: SHAPING TOMMOROW

Lead EBSAA

The Department of Electronics and Biomedical Engineering, Adi Shankara Institute of Engineering and Technology, announced a Call for Executive Committee (Ex-Com) Members under the banner LEAD EBSAA. This initiative aims to identify and empower aspiring student leaders who are passionate about contributing to departmental activities and innovations.The call invited 3rd and 5th semester students to submit their proposals for becoming part of the EBSAA Executive Committee, offering them an excellent opportunity to enhance their leadership, coordination, and teamwork skills. Interested students were asked to submit their proposals by 10th October 2025 to the current BMESI leads.This platform encourages students to step forward, take initiative, and play an active role in shaping the future of the department's student community through meaningful engagement and leadership.

CELEBRATING EXCELLENCE: STUDENT ACHIEVEMENTS & SUCCESS MILESTONES

Team FlexCore from EBE Department Shines with Multiple Awards for Innovationt

TThe students of the Department of Electronics and Biomedical Engineering at Adi Shankara Institute of Engineering and Technology have achieved outstanding success by winning multiple awards at various intercollegiate technical events for their innovative project titled "FlexCore – Gamified Joint Rehabilitation: An Interactive Approach for Neuromuscular Patients."

The team comprising Sreejith Ramachandran, Misna Abdul Manaf, Shamnad M, and S Vinayak (2022–2026 Batch, EBE) developed an interactive rehabilitation system that integrates gaming principles into physiotherapy routines. The project aims to enhance patient motivation and engagement during neuromuscular recovery by combining biomedical engineering concepts with interactive technology.

The team, under the expert guidance of Dr. Remya George, Professor and Head of the Department of EBE, has brought laurels to the institution through the following remarkable achievements:

- 🥇 First Prize at INNOVISTA 2025, conducted by the Department of Electronics and Communication Engineering, Mar Athanasius College of Engineering, Kothamangalam, winning a cash prize of ₹8000.
- 🥇 First Prize in the Exhibition as part of EMMERZO 25–26, organized under Vyvidh 25–26 by the Department of AI & ML, Vidya Academy of Science and Technology, securing a cash prize of ₹6000.
- 🥈 Second Prize at TECH TRAVERSE, conducted by IEDC x IIC MACE at Mar Athanasius College of Engineering, with a cash award of ₹7000.

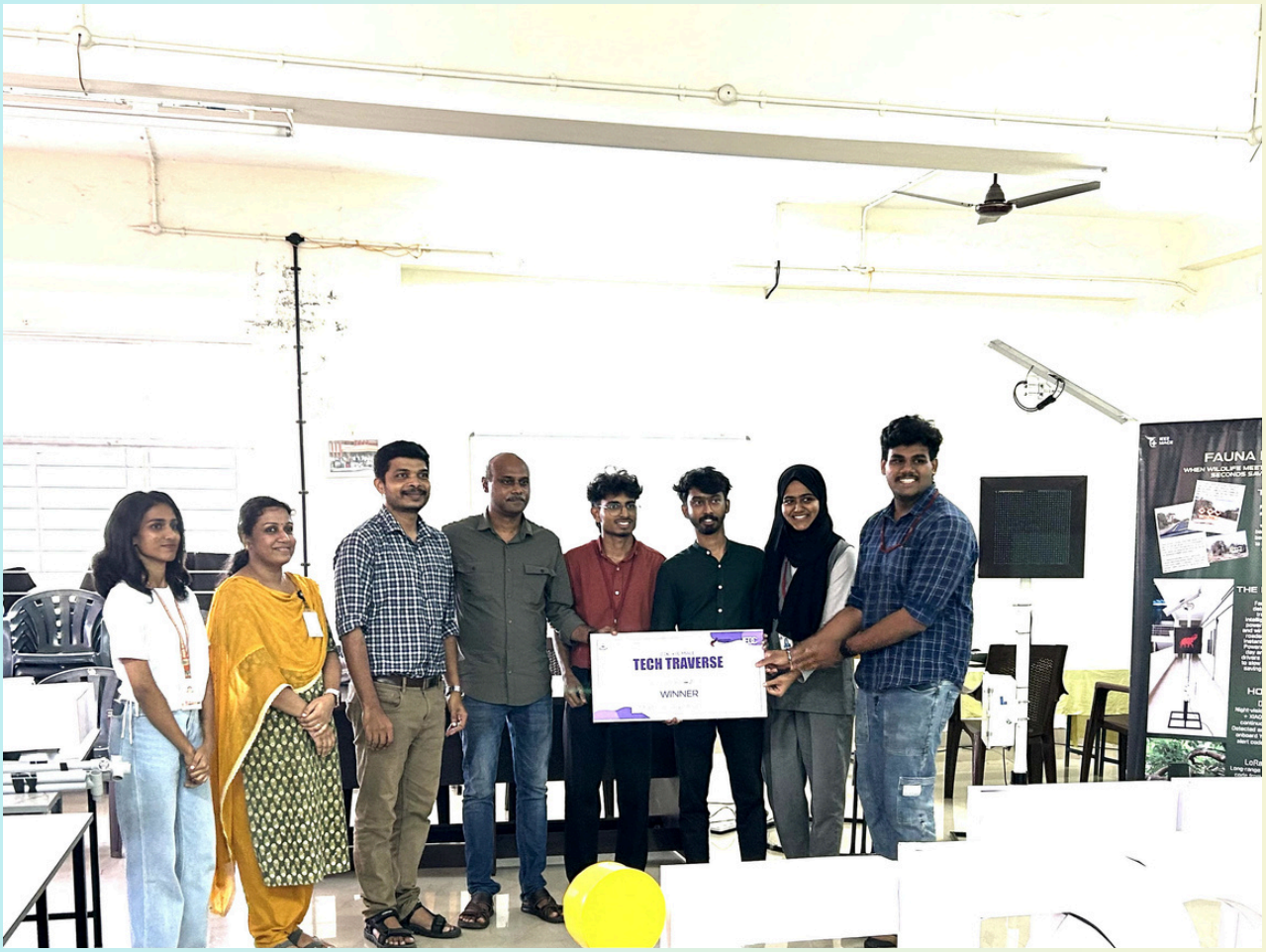
These consecutive wins reflect the team's creativity, technical competence, and dedication to addressing real-world healthcare challenges through engineering innovation.

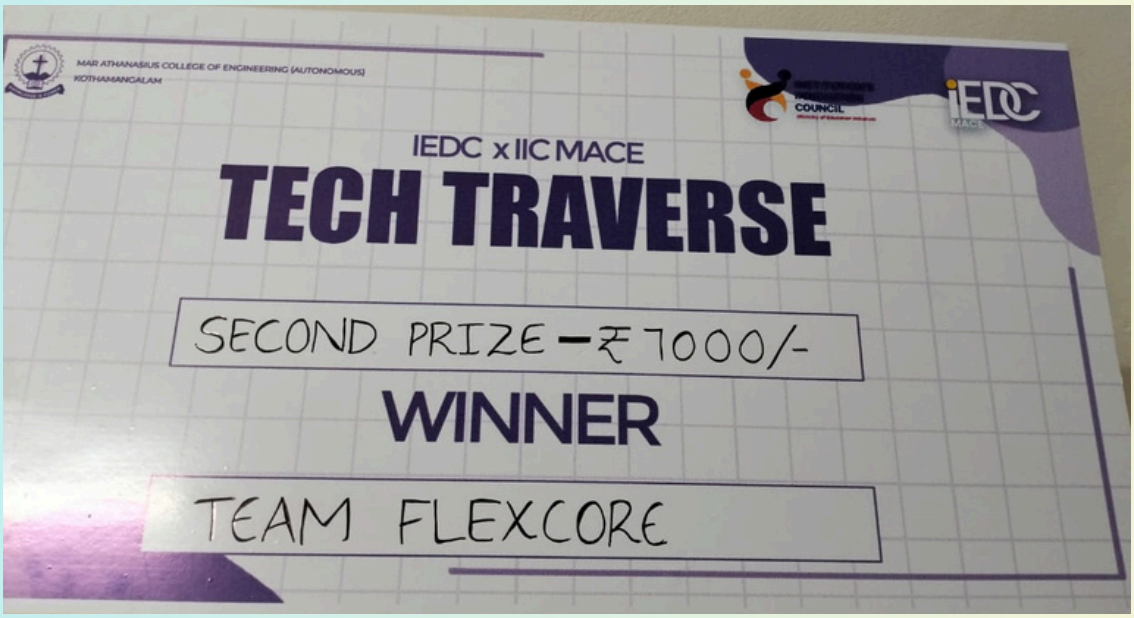
CELEBRATING EXCELLENCE: STUDENT ACHIEVEMENTS & SUCCESS MILESTONES

Event 1: INNOVISTA 2025 – Mar Athanasius College of Engineering

Event 2: EMMERZO 25–26 – Vidya Academy of Science and Technology

Event 3: TECH TRAVERSE – IEDC x IIC MACE



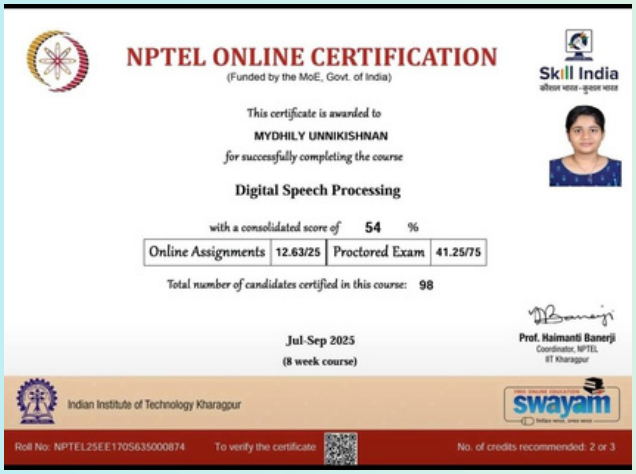


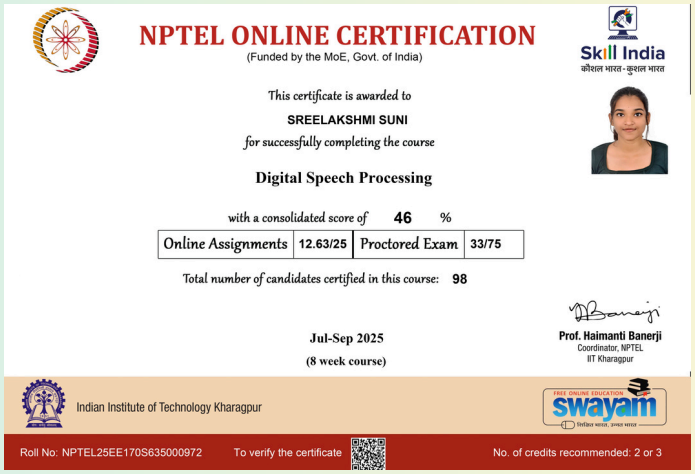
Prestigious Junior Research Fellowship (JRF) at DRDO

NAKSHATHRA ANIRUDHAN

Nakshathra Anirudhan (2021–2025 Batch, EBE) achieve the prestigious Junior Research Fellowship (JRF) at the Defence Research and Development Organisation (DRDO).

Excellence in Learning





Mydhily Unnikrishnan and Sreelakshmi Sunil, talented S5 students (2023 Batch) of EBE Department have successfully completed the prestigious NPTEL Online Certification course on Digital Speech Processing (Jul–Sep 2025).

Sreejith Ramachandran of S7 EBE (2022 Batch) ave successfully completed the prestigious NPTEL Online Certification course with Elite certification on Automation in Production Systems and Management

TSI Talks — A New Initiative Flagged Off with Excellence

ARDHRA DEV T S

PAVITHRA S NAIRt

Ms. Pavithra S. Nair and Ardhra Dev T. S. of S3 Student's (2024 Batch) of EBE Successfully delivered an insightful Presentation on 'QUANTUM ENTANGLEMENT' at KIMS HEALTH, Trivandrum on 21/10/2025 under the banner of ASIET-TSI (K) Talks as part of institute - industry interaction fostering knowledge exchange and shaping future collaborations.Our student members voluntarily present industry-focused sessions on emerging technological trends.

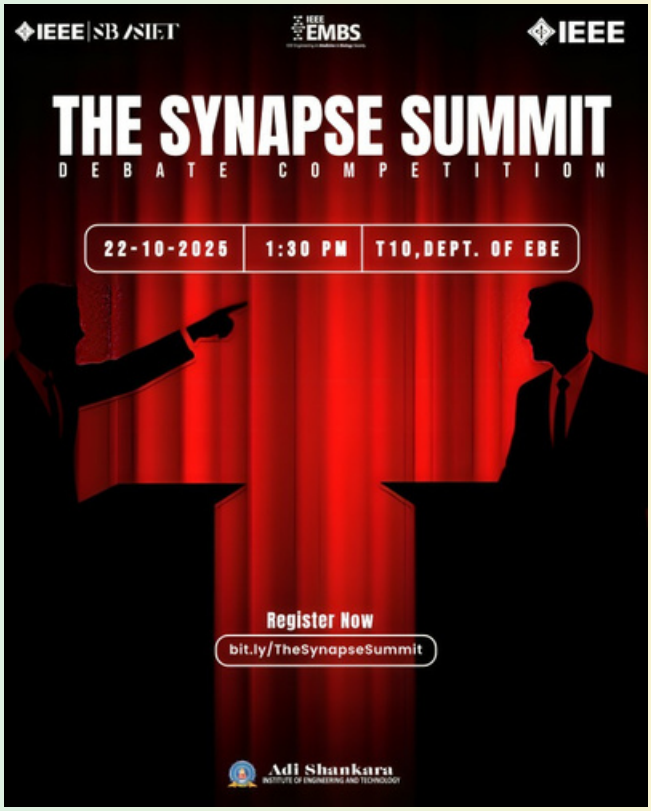
EBE Student Selected as NRPF Regional Coordinator

JINUSREE

Ms. Jinusree M of S5 EBE (2023 Batch) has been selected as the NRPF Regional Coordinator (Eranakulam Region) for the APJAKTU NSS Cell. This prestigious role recognizes her dedication, leadership, and commitment to community service. Jinusree truly exemplifies the spirit of leadership and excellence fostered in our department

The Synapse Summit: Debate Competition

The IEEE EMBS Student Chapter of Adi Shankara Institute of Engineering and Technology organized "The Synapse Summit – Debate Competition" on 22nd October 2025 at 1:30 p.m. in T10, Department of Electronics and Biomedical Engineering. The event provided a vibrant platform for students to express their viewpoints, challenge ideas, and engage in constructive discussions on contemporary and thought-provoking topics related to technology and society.Participants showcased exceptional communication skills, critical thinking, and confidence as they debated on various perspectives with clarity and conviction. The competition encouraged students to think analytically, articulate logically, and respect diverse opinions—skills essential for both professional and personal growth.The event was well-coordinated by the IEEE EMBS Student Branch Chapter of ASIET, under the Department of Electronics and Biomedical Engineering, and received enthusiastic participation from students across semesters. The spirited debates and insightful arguments made The Synapse Summit a memorable and intellectually enriching experience for all.Abiya Ivan (S1 EBE, 2025 Batch) secured the second prize, while Mydhili Unnikrishnan (S5 EBE, 2023 Batch) earned the third prize, marking an impressive display of intellect and articulation.



MYDHILY UNIKRISHNAN

ABIYA IVAN

ASIET Women's Volleyball Team Secures Interzone Runner-Up Title

The ASIET Women's Volleyball Team showcased an outstanding performance at the APJ Abdul Kalam Technological University Interzone Women Volleyball Championship 2025–26, securing the Runner-Up position. A special mention goes to Bhama(S3 EBE-2024 Batch) and Angel(S5 EBE, 2023 Batch) for their remarkable contribution and consistent performance, which played a vital role in the team's success.

Student-Led IEEE EMBS Session on "Neuro Connect: BCI Basics

The IEEE EMBS Student Branch Chapter of Adi Shankara Institute of Engineering and Technology (ASIET) organized an online session titled "Neuro Connect: BCI Basics" on 30th September 2025 at 7:30 PM via Google Meet. The session was led by Mini S. Nair, Vice Chairperson, IEEE EMBS SBC ASIET, who introduced participants to the fundamentals and applications of Brain-Computer Interface (BCI) technology. The event aimed to spark interest in neural engineering and its significance in bridging the gap between the human brain and technology. We are delighted to note that our students took the lead in organizing and delivering this insightful session, reflecting the department's commitment to fostering student leadership and technical excellence.

PARTICIPATIVE LEARNING: BEYOND THE LECTURE

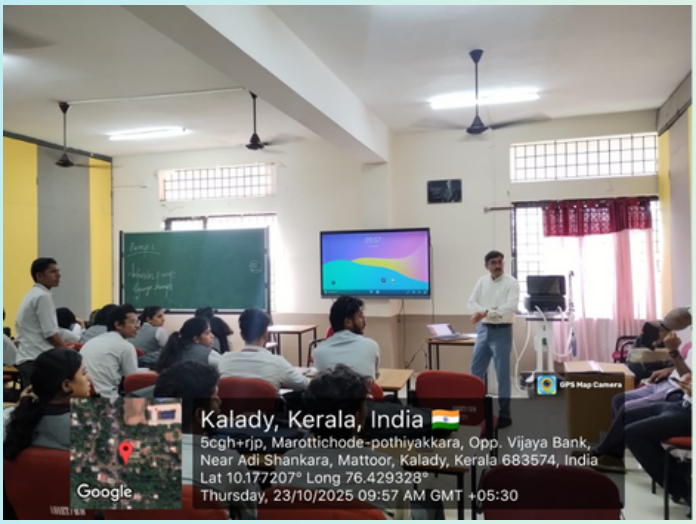
5-Day Hands-on Workshop on Biomedical Equipment Testing and Calibration

The Department of Electronics and Biomedical Engineering, Adi Shankara Institute of Engineering and Technology (ASIET), in association with the Telemedicine Society of India (TSI) Kerala Chapter, EBSAA, and i-CET Biomedical Engineering Skill Development Centre, Inscon Medical Solutions Pvt. Ltd., Kochi, successfully organized a 5-Day Hands-on Workshop on "Biomedical Equipment Testing and Calibration" from 21st to 25th October 2025. The program was designed to enhance the technical competency and industry readiness of final-year biomedical engineering students through intensive practical training on hospital-grade equipment and international safety standards.The workshop covered the calibration, operation, and preventive maintenance of key biomedical instruments such as ventilators, anesthesia workstations, electrosurgical units, and infusion pumps. Certified clinical engineers and industry professionals from i-CET and Inscon led the sessions, providing participants with valuable insights into real-time clinical engineering practices.

5-Day Hands-on Workshop on Biomedical Equipment Testing and Calibration

Across five days, students actively engaged in hands-on sessions using professional testing tools, calibration analyzers, and safety compliance equipment. The initial sessions focused on the working and calibration of anesthesia workstations and ventilators, followed by detailed training on electrosurgical units and infusion pump calibration. . The final day emphasized integrated calibration practices and included an interactive session on professional communication, documentation, and teamwork — essential skills for biomedical engineers in healthcare settings.The workshop not only provided a strong foundation in IEC 60601 and 62353 safety standards but also offered students a platform to apply theoretical knowledge in real-world scenarios. Participants gained confidence in testing and maintaining critical biomedical equipment, ensuring both performance accuracy and patient safety.The event was coordinated by Dr. Tresa Joseph, Assistant Professor, Department of Electronics and Biomedical Engineering, along with student coordinators Mr. S. Vinayak and Ms. Misna Abdul Manaf (S7, 2022–26 batch). All participants received certificates of completion from i-CET and Inscon Medical Solutions Pvt. Ltd.The workshop was highly appreciated by students for its practical relevance and professional approach. It served as an important step in bridging the gap between classroom learning and clinical practice, aligning perfectly with the department's mission to promote skill-based learning, innovation, and industry engagement in the field of Biomedical Engineering.

5-Day Hands-on Workshop on Biomedical Equipment Testing and Calibration -A Glimpse



5-Day Hands-on Workshop on Biomedical Equipment Testing and Calibration -A Glimpse

OUR FINESSE

S2 RESULT- BATCH 2024-28

FACULTY SPOTLIGHT: A BEACON OF INSPIRATION

International Conference Presentation – IJCACI 2025

Dr. Tresa Joseph , Assistant professor of the EBE Department has successfully presented her research paper titled "Power Efficient Realization of Gating Units in LSTM Networks" at the 9th International Joint Conference on Advances in Computational Intelligence (IJCACI 2025). The conference was organized by Washington University of Science and Technology, USA, and RV Institute of Management, Bangalore, with Springer as the publishing partner. This achievement highlights her outstanding contribution to the field of computational intelligence and her commitment to advancing innovative research at an international level.

9th International Joint Conference on Advances in Computational Intelligence (IJCACI 2025)

organized by
Washington University of Science and Technology (WUST), Alexandria, United States
and
RV Institute of Management (RVIM), Bangalore, India

Certificate of Presentation

This is to certify that

Tresa Joseph

has presented the paper titled **"Power Efficient Realization of Gating Units in the LSTM Networks"** authored by **Tresa Joseph, Bindiya T. S** in the 9th **International Joint Conference on Advances in Computational Intelligence (IJCACI 2025)** held at Washington University of Science and Technology (WUST), Alexandria, United States and RV Institute of Management (RVIM), Bangalore, India during **August 23-24, 2025**.

Dr. Noor Firdoos Jahan
RV Institute of Management (RVIM), Bangaluru
(General Chair)

Prof. Touhid Bhuiyan
Washington University of Science and Technology
(General Chair)

Prof. Mohammad Shorif Uddin
Jahangirnagar University, Bangladesh
(General Chair)

Springer

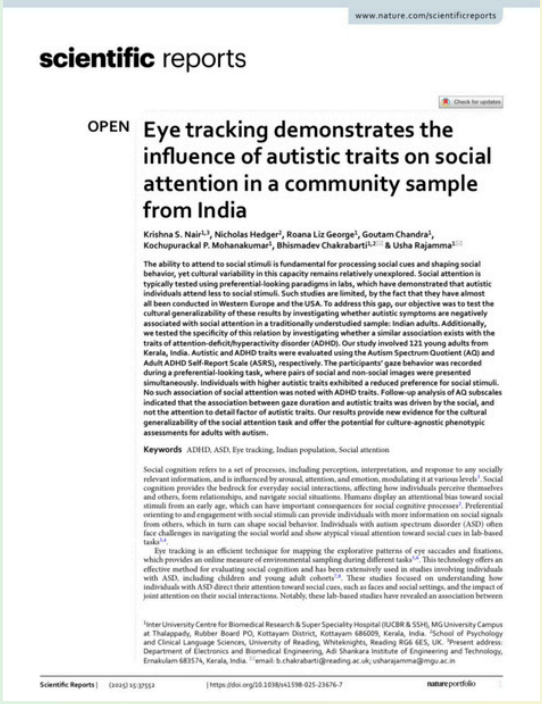
https://scrs.in/conference/ijcaci2025

Patent Filing and Examination – Innovation in Sustainable Technology

Dr.Tresa Joseph and Dr.Remya George of EBE Department has successfully progressed their innovative project work in sustainable technology by filing a patent titled "Automated Device for Deactivation of Superabsorbent Polymers and Recovery of Reusable Materials" with the Intellectual Property India authority.

Research Excellence

Ms. Krishna S Nair Asst. professor, Dept. EBE has published her research article titled, "Eye tracking demonstrates the influence of autistic traits in social attention in a community sample from Indian " in Scientific Reports published by Springer Nature



www.nature.com/scientificreports

scientific reports

OPEN

Eye tracking demonstrates the influence of autistic traits on social attention in a community sample from India

Krishna S. Nair[1,3], Nicholas Hedger[2], Roana Liz George[1], Goutam Chandra[1], Kochupurackal P. Mohanakumar[1], Bhismadev Chakrabarti[1,2] & Usha Rajamma[1]

The ability to attend to social stimuli is fundamental for processing social cues and shaping social behavior, yet cultural variability in this capacity remains relatively unexplored. Social attention is typically tested using preferential-looking paradigms in labs, which have demonstrated that autistic individuals attend less to social stimuli. Such studies are limited, by the fact that they have almost all been conducted in Western Europe and the USA. To address this gap, our objective was to test the cultural generalizability of these results by investigating whether autistic symptoms are negatively associated with social attention in a traditionally understudied sample: Indian adults. Additionally, we tested the specificity of this relation by investigating whether a similar association exists with the traits of attention-deficit/hyperactivity disorder (ADHD). Our study involved 121 young adults from Kerala, India. Autistic and ADHD traits were evaluated using the Autism Spectrum Quotient (AQ) and Adult ADHD Self-Report Scale (ASRS), respectively. The participants' gaze behavior was recorded during a preferential-looking task, where pairs of social and non-social images were presented simultaneously. Individuals with higher autistic traits exhibited a reduced preference for social stimuli. No such association of social attention was noted with ADHD traits. Follow-up analysis of AQ subscales indicated that the association between gaze duration and autistic traits was driven by the social, and not the attention to detail factor of autistic traits. Our results provide new evidence for the cultural generalizability of the social attention task and offer the potential for culture-agnostic phenotypic assessments for adults with autism.

Keywords ADHD, ASD, Eye tracking, Indian population, Social attention

Social cognition refers to a set of processes, including perception, interpretation, and response to any socially relevant information, and is influenced by arousal, attention, and emotion, modulating it at various levels[1]. Social cognition provides the bedrock for everyday social interactions, affecting how individuals perceive themselves and others, form relationships, and navigate social situations. Humans display an attentional bias toward social stimuli from an early age, which can have important consequences for social cognitive processes[2]. Preferential orienting to and engagement with social stimuli can provide individuals with more information on social signals from others, which in turn can shape social behavior. Individuals with autism spectrum disorder (ASD) often face challenges in navigating the social world and show atypical visual attention toward social cues in lab-based tasks[3,4].

Eye tracking is an efficient technique for mapping the explorative patterns of eye saccades and fixations, which provides an online measure of environmental sampling during different tasks[5,6]. This technology offers an effective method for evaluating social cognition and has been extensively used in studies involving individuals with ASD, including children and young adult cohorts[7,8]. These studies focused on understanding how individuals with ASD direct their attention toward social cues, such as faces and social settings, and the impact of joint attention on their social interactions. Notably, these lab-based studies have revealed an association between

[1]Inter University Centre for Biomedical Research & Super Speciality Hospital (IUCBR & SSH), MG University Campus at Thalappady, Rubber Board PO, Kottayam District, Kottayam 686009, Kerala, India. [2]School of Psychology and Clinical Language Sciences, University of Reading, Whiteknights, Reading RG6 6ES, UK. [3]Present address: Department of Electronics and Biomedical Engineering, Adi Shankara Institute of Engineering and Technology, Ernakulam 683574, Kerala, India. [2]email: b.chakrabarti@reading.ac.uk; usharajamma@mgu.ac.in

Scientific Reports | (2025) 15:37552 | https://doi.org/10.1038/s41598-025-23676-7 nature portfolio

FACULTY SPOTLIGHT: A BEACON OF INSPIRATION

Learning Excellence

Dr. Lakshmi M Hari , Associate professor of the EBE Department have successfully completed the prestigious NPTEL Online Certification course with Elite certification on Neurobiology

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

DR LAKSHMI M HARI

for successfully completing the course

Neurobiology

with a consolidated score of 70 %

Online Assignments	21.67/25	Proctored Exam	48/75

Total number of candidates certified in this course: 449

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Aug-Sep 2025
(4 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

swayam

Roll No: NPTEL25BT77S655901162 To verify the certificate No. of credits recommended: 1 or 2

Dr. Surya Das , Assistant professor of the EBE Department have successfully completed the prestigious NPTEL Online Certification course with Elite certification on Neurobiology

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

SURYA D

for successfully completing the course

Neurobiology

with a consolidated score of 65 %

Online Assignments	22.5/25	Proctored Exam	42/75

Total number of candidates certified in this course: 449

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Aug-Sep 2025
(4 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

swayam

Roll No: NPTEL25BT77S555901553 To verify the certificate No. of credits recommended: 1 or 2

EXPERIENTIAL LEARNING: EXPLORE, ENGAGE, EVOLVE

PLACEMENTS

ASHIF ASHARAF-2021 BATCH

As Trainee Engineer in
Sharp Medical Enterprises

MARY ANSTEENA JOSEPH-2021 BATCH

As Sales Engineer in
Matrix Nedical System

DEEPESH T B-2021 BATCH
As Sales Executive in
Nidra Associates

MADHAV M NAIR-2021 BATCH
As Sales and Service
Engineer in Trading
Corporation

EXPERIENTIAL LEARNING: EXPLORE, ENGAGE, EVOLVE

INTERSHIPS

Meenakshi M Menon (S5 EBE) and Devika G A (S5 EBE), 2023 BATCH HAS successfully secured and completed the internships at Nanograf Pvt. Ltd. and the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST).

Devika G A

Meenakshi M Menon

PULSE
CAPTURING THE RHYTHM

EDITORIAL TEAM

DR.TRESA JOSEPH
ASST. PROFESSOR, EBE

MYDHILY UNNIKRISHNAN
S5 EBE

MINI S NAIR
S5 EBE

MEENAKSHI M MENON
S5 EBE

ANUSREE SATHEESH
S3 EBE

AGINA ROY
S3 EBE

SUKRITHA A
S3 EBE

V RADHIKA KAMMATH
S3 EBE

SREEPARVATHY PREETH
S3 EBE

GAYATHRI JAYAN KRISHNA
S3 EBE

SAYOOJYA SANTOSH
S3 EBE

ALEENA N
S3 EBE