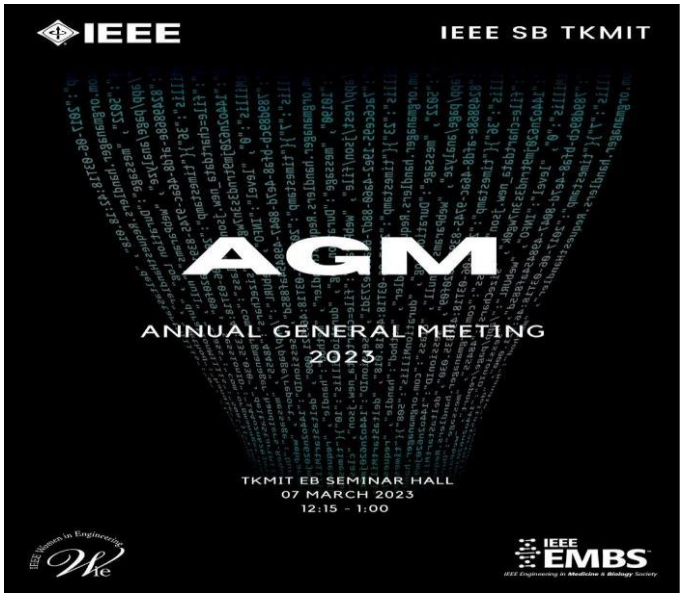
IEEE REPORT
2023-2024

IEEE EMBS TKMIT SBC (STB 63941)

REPORT 2023

1. **Annual General Meet 2023**

Venue: TKM IT EB Seminar Hall
Date: 7th March, 2023.
Time: 12:00 pm – 1:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 71 Non IEEE Members: N/A

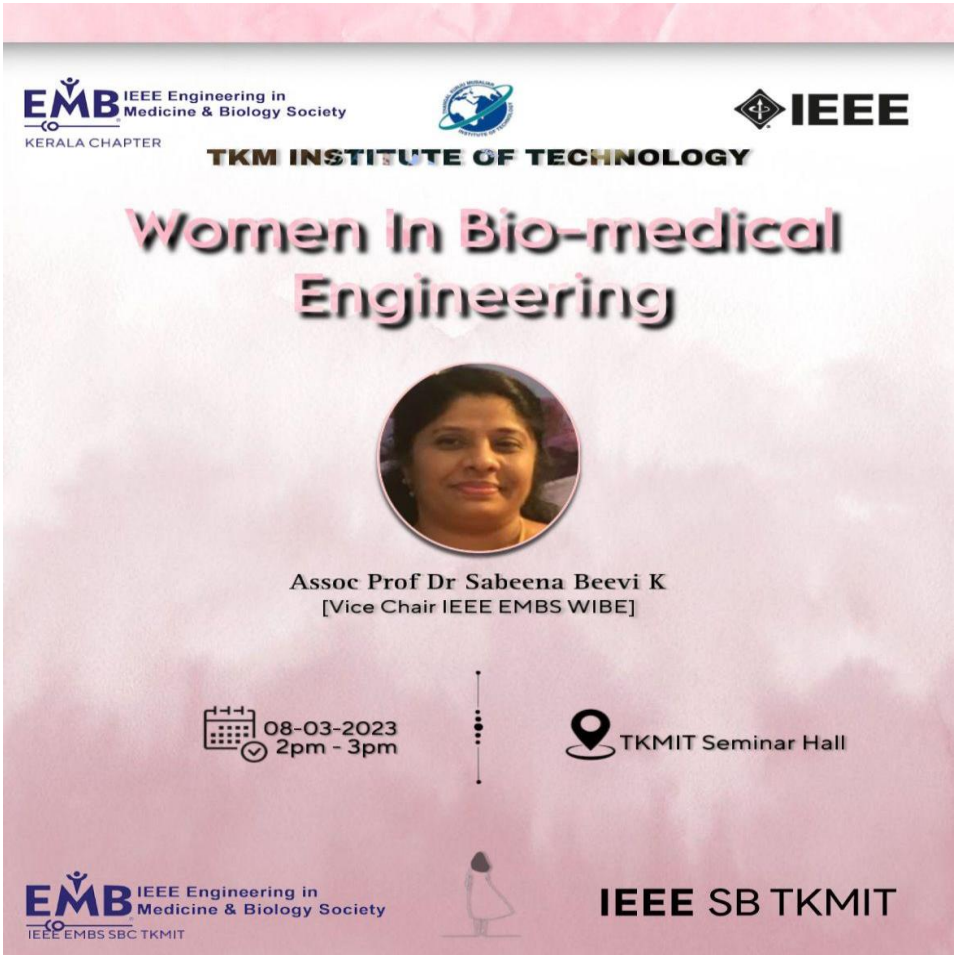


The ANNUAL GENERAL MEET 2023 was conducted by with regard to the completion of 2022 execom. The newly appointed execom members were introduced and the action plan for the upcoming year, 2023 was read. After that the certificates were distributed to 2022 execom members in recognition of their year of hard work. Finally the vote of thanks was given by Manasa R of S8 BM. By 1:00 pm we winded up the meeting. All IEEE members, other staff and students attended the meeting.

Welcome by – Dr. Nitha V Panicker
Introduction by – Jacob Varghese
Master of Ceremony – Hanna Anzar
Vote of Thanks – Manasa R

2. **Women in Biomedical Engineering**

Venue: TKM IT Administrative BLOCK Seminar Hall
Date: 9th March, 2023.
Time: 2:00 pm – 3:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 42 Non IEEE Members: 12



Mrs. Sabeena Beevi talked on the importance of international women's day and fostering the advancement of women in technical sectors. She discussed various topics related to her research. This session was very interactive and enlightening to all students who attended. Students from other institution were also given the opportunity to partake in the webinar via google meet.

Welcome by – Jacob Varghese
Introduction by – Dr. Nitha V Panicker
Master of Ceremony – Diya Lekshmi J
Talk by – Assoc. Prof. Sabeena Beevi K, Women in Bio-Medical Engineering
Vote of Thanks – Amina

3. **Spectrum Talk 1**

Venue: TKM IT EB Seminar Hall
Date: 31st March, 2023.
Time: 12:30 pm – 1:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 33 Non IEEE Members: 5

IEEE SB TKMIT organized a series of Technical Talk Sessions under the label Spectrum Talk in association with EMBS SB TKMIT and conducted a lot of informative talks. The first session of the year was on the topic "WEB3". Ms. Fida gave insight on WEB3, an idea for a new iteration of the World Wide Web and on how it offers greater control over personal data and decentralized data storage. By posing and responding to questions on the topic, the talk was made more interactive and informative.

Welcome by – Aseel Rafi
Master of Ceremony – Rushda Shaju
Talk by – Fida S, Spectrum Talk 1
Vote of Thanks – Adwaitha Darshana

FEATURES
- Open - Open-source software will be used to build content platforms.
- Trustless
- Distributed

4. **Writing A Scientific Research Article**

Venue: TKM IT EB Seminar Hall
Date: 3rd April, 2023.
Time: 11:30 am – 12:15 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 22 Non IEEE Members: N/A

Dr. Nitha, our valuable member of faculty had discussed about how to prepare a paper or journal for presenting in international conferences and the main difference between Conference papers and Journal papers. Many other aspects like LATEX, a tool used to write research papers and different types of templates for writing research papers were discussed. The session was made interactive with questions being asked and answered, also the students were given a clear idea on how to present and develop a worthy scientific article.

Welcome by – Adwaitha Darshana
Master of Ceremony – Arya Murukesan

Talk by – Dr. Nitha V Panicker, Writing a Scientific Research Article
Vote of Thanks – Nadha Nazeer

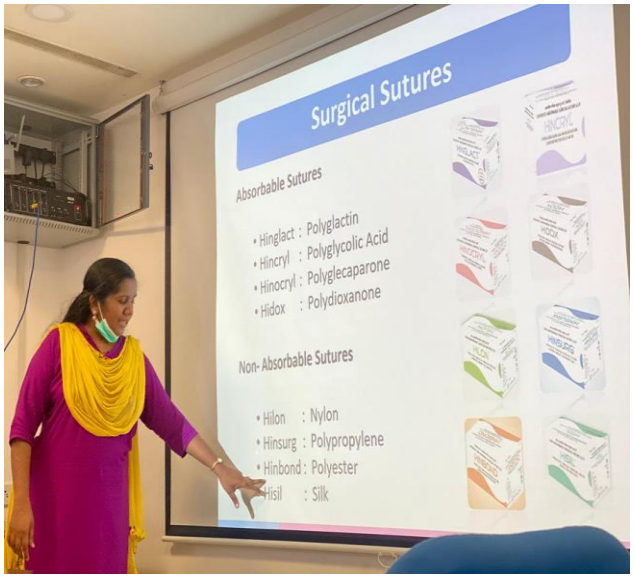
5. **HLL IV**

Venue: HLL Lifecare Limited, Thiruvananthapuram.
Date: 11th April, 2023.
Time: 9:00 am – 2:00 pm
Participants/Attendees:
Professional Members(IEEE) : 1 Non IEEE Members: N/A
Student Members(IEEE): 35 Non IEEE Members: N/A

The Industry is an Indian Healthcare Product manufacturing company based in Thiruvananthapuram. An introductory presentation was held first in which the students were familiarized with their products which included blood bags, sutures and intrauterine devices. Following this, a brief tour of the industry was held during which the labs and manufacturing of the aforesaid products were shown. Afterwards the students had the opportunity to visit the industry's R&D section and the labs including synthetic polymer labs, Clinical Instrumentation Reaction room. Through interactions with diverse professionals, the students were able to gain practical expertise regarding the workings in several laboratories while also learning about the numerous ongoing studies and the tools and equipment utilised for the same. Any further queries were cleared at the conclusion of the visit.

Welcome by – Arya Murukesan

Introduction by – Dr. Nitha V Panicker
Vote of Thanks – Jacob Varghese



6. **A Walk Down The Road**

Venue: TKM IT EB Seminar Hall
Date: 24th April, 2023.
Time: 12:30 pm – 2:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 42 Non IEEE Members: N/A

IEEE EMBS SB TKMIT had organized an interactive orientation session for the SB members on 24th April 2023, at the EB Seminar Hall. The session was handled by Mr. Rizwan Sulaiman, Director, Zwan Studios. Mr Rizwan was the ex-chairperson of the SB and also held various positions in the Zone, as the assistant hub driver and other coordinating roles. The program had a good participation count of 35 students from 1st,2nd and 3rd year. Mr Rizwan gave an ice-breaking session to the participants by dividing them into five groups and assigning them several activities. The interactive session was indeed a new experience for the students. The meeting started at 12:30pm and concluded at 2:00pm.

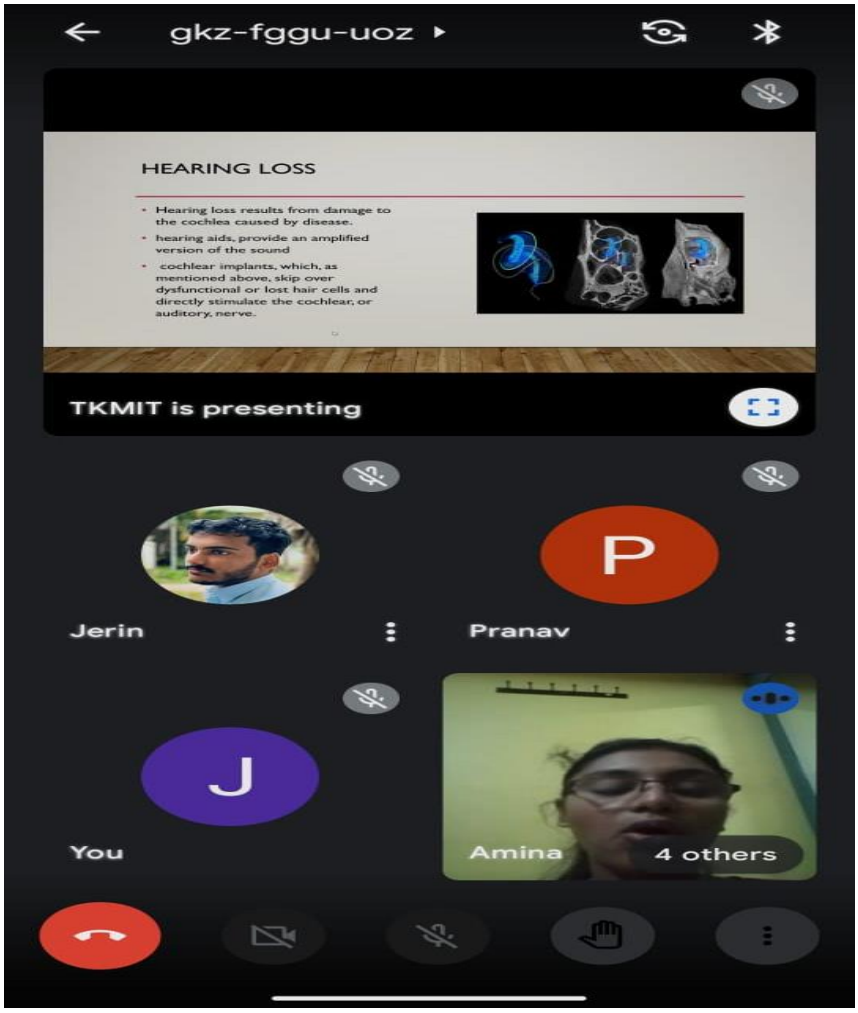
Welcome by – Nadha Nazeer
Introduction by – Nourin N
Master of Ceremony – Jacob Varghese
Talk by – Mr. Rizwan Sulaiman, A Walk Down The Road
Vote of Thanks – Sai Krishna T S

Spectrum Talk 2

Platform : Online
Date: 5th May, 2023.
Time: 7:00 pm – 7:30 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 15 Non IEEE Members: N/A

In the series of Spectrum Talk, the 2nd lecture is purely based on the contents mentioned in Spectrum magazine. The second session of the spectrum talk was held on 5th May 2023 in online platform. The speaker for the session was Ms. Amina from S4 biomedical department. The topic for the session was 'Hearing using Sound Beams'. There were around 15 participants for the session. The session started at 7:00pm and concluded at 7:30pm.

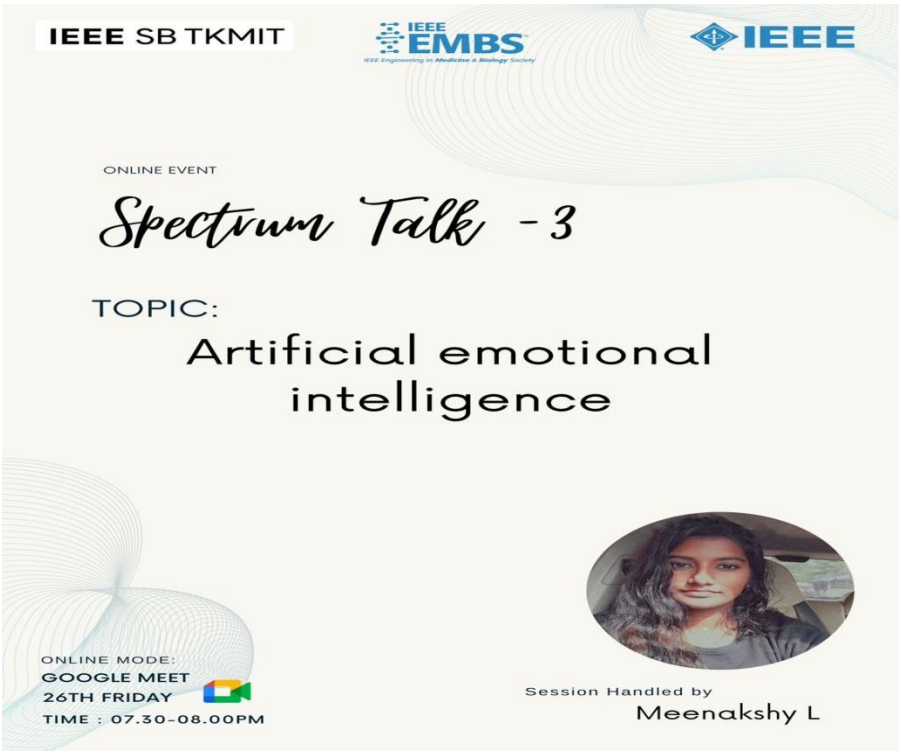
Welcome by – Jacob Varghese
Master of Ceremony – Lekshmi D
Talk by – Amina, Spectrum Talk 2
Vote of Thanks – Rushda Shaju



7. **Spectrum Talk 3**

Platform : Online
Date: 26th May, 2023.
Time: 7:30 pm – 8:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A

Student Members(IEEE): 20 Non IEEE Members: N/A

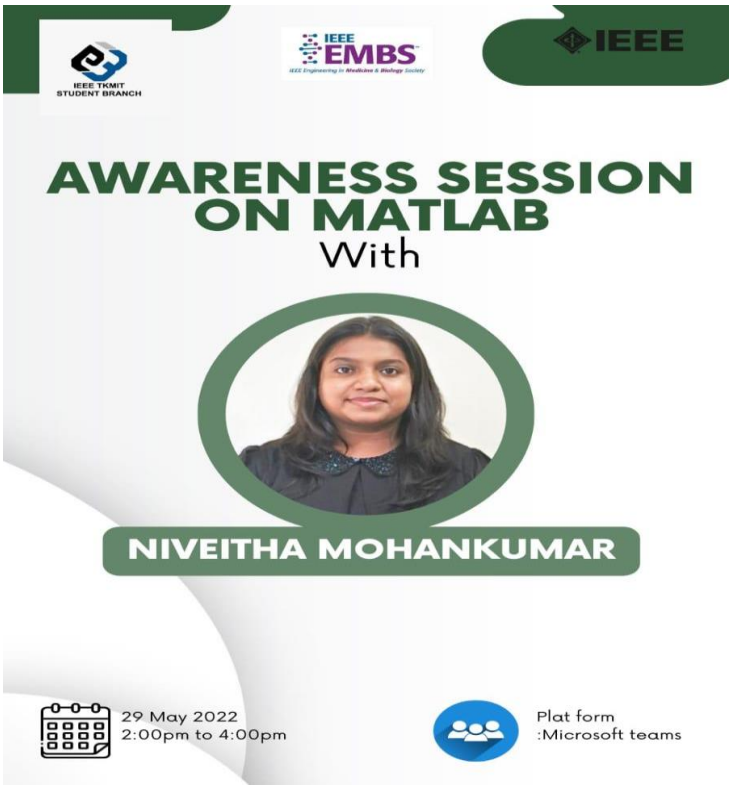


The session on Artificial Emotional Intelligence (AEI) was held on May 26, 2023, from 7:30 PM to 8:00 PM. It was organized by the IEEE Student Branch of TKMIT as part of Spectrum Talk-3. The objective of the session was to provide students with an overview of the utilization of Artificial Intelligence (AI) in understanding and simulating human emotions. During the session, Meenakshy L covered various aspects of Artificial Emotional Intelligence, including its significance, applications, and challenges. The session aimed to broaden the students' understanding of how AI can be utilized to comprehend, simulate, and respond to human emotions. The session concluded with a question-and-answer segment where students had the opportunity to interact with Meenakshy L and clarify their doubts regarding Artificial Emotional Intelligence. The event enabled students to understand the potential of AI in comprehending and simulating human emotions, paving the way for future innovations and advancements in the field.

Welcome by – Devayani Rajesh
Master of Ceremony – Rushda Shaju
Talk by – Meenakshy L, Spectrum Talk 3
Vote of Thanks – Dona Matthews

8. **Awareness session on MATLAB**

Platform: Online
Date: 29th May, 2023
Time: 2:00 pm – 4:00 pm
Participants/Attendees:
Professional Members(IEEE) : 2 Non IEEE Members: N/A
Student Members(IEEE): 30 Non IEEE Members: N/A
Topic: Awareness session on MATLAB



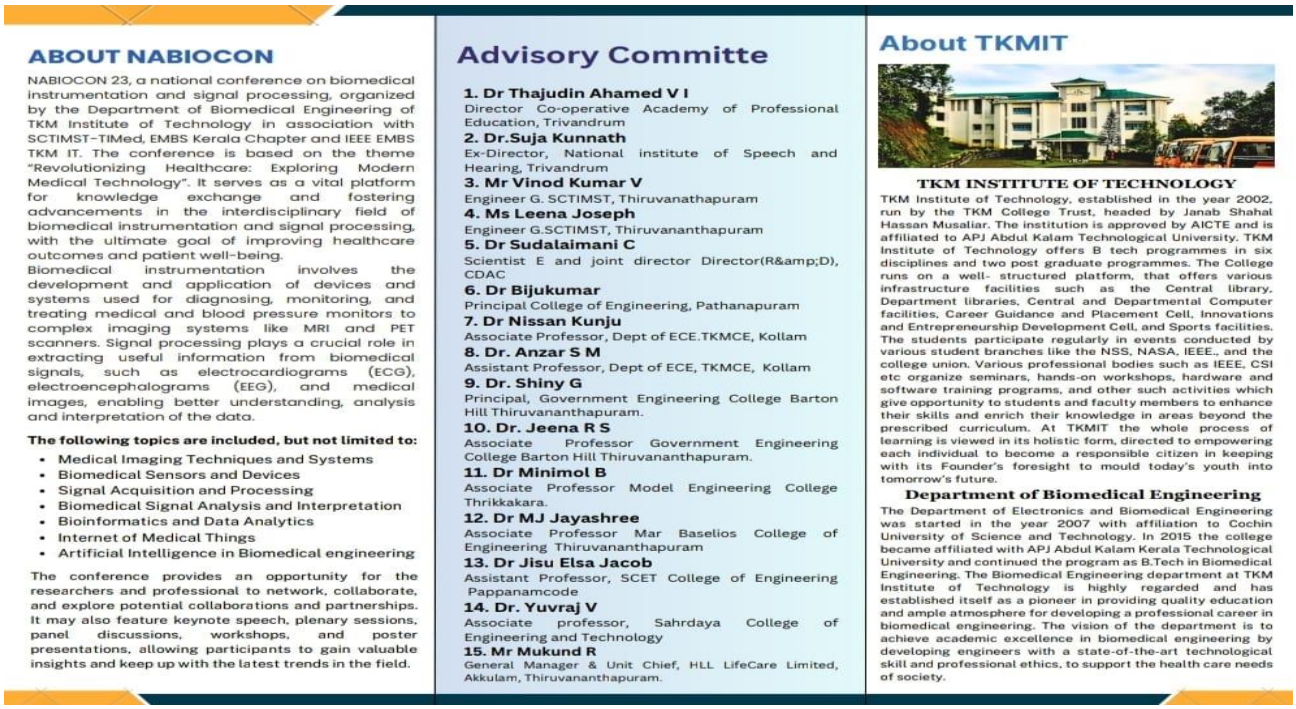
A programing language is like a natural human language that favors certain metaphors, images and ways of thinking. IEEE EMBS TKMIT organized a webinar on Awareness session on MATLAB programing language. The webinar provided an invaluable opportunity to dive into the world of programing and acquire substantial knowledge. Ms. Niveitha Mohankumar provided a platform that helped in the better understanding of a concept required in abundant use in the near future. This provided participants with an opportunity for to understand and rise into world of programing with zeal and passion.

Welcome by – Sai Krishna T S
Master of Ceremony – Devayani Rajesh
Talk by – Niveitha Mohankumar, Awareness session on MATLAB
Vote of Thanks – Dr. Nitha V Paniker

9. **NABIOCON'23**

Venue: TKM IT Administrative Block Seminar Hall, EB Project Lab
Date: 26th - 27th June, 2023.
Time: 9:30 am – 3:30 pm
Participants/Attendees:
Professional Members(IEEE) : 6 Non IEEE Members: 16

Student Members(IEEE): 42+ Non IEEE Members: 36+



ABOUT NABIOCON

NABIOCON 23, a national conference on biomedical instrumentation and signal processing, organized by the Department of Biomedical Engineering of TKM Institute of Technology in association with SCTIMST-TIMed, EMBS Kerala Chapter and IEEE EMBS TKM IT. The conference is based on the theme "Revolutionizing Healthcare: Exploring Modern Medical Technology". It serves as a vital platform for knowledge exchange and fostering advancements in the interdisciplinary field of biomedical instrumentation and signal processing, with the ultimate goal of improving healthcare outcomes and patient well-being.

Biomedical instrumentation involves the development and application of devices and systems used for diagnosing, monitoring, and treating medical and blood pressure monitors to complex imaging systems like MRI and PET scanners. Signal processing plays a crucial role in extracting useful information from biomedical signals, such as electrocardiograms (ECG), electroencephalograms (EEG), and medical images, enabling better understanding, analysis and interpretation of the data.

The following topics are included, but not limited to:

- Medical Imaging Techniques and Systems
- Biomedical Sensors and Devices
- Signal Acquisition and Processing
- Biomedical Signal Analysis and Interpretation
- Bioinformatics and Data Analytics
- Internet of Medical Things
- Artificial Intelligence in Biomedical engineering

The conference provides an opportunity for the researchers and professional to network, collaborate, and explore potential collaborations and partnerships. It may also feature keynote speech, plenary sessions, panel discussions, workshops, and poster presentations, allowing participants to gain valuable insights and keep up with the latest trends in the field.

Advisory Committe

1. Dr Thajudin Ahamed V I
Director Co-operative Academy of Professional Education, Trivandrum

2. Dr.Suja Kunnath
Ex-Director, National institute of Speech and Hearing, Trivandrum

3. Mr Vinod Kumar V
Engineer G. SCTIMST, Thiruvanathapuram

4. Ms Leena Joseph
Engineer G.SCTIMST, Thiruvananthapuram

5. Dr Sudalaimani C
Scientist E and joint director Director(R&D), CDAC

6. Dr Bijukumar
Principal College of Engineering, Pathanapuram

7. Dr Nissan Kunju
Associate Professor, Dept of ECE.TKMCE, Kollam

8. Dr. Anzar S M
Assistant Professor, Dept of ECE, TKMCE, Kollam

9. Dr. Shiny G
Principal, Government Engineering College Barton Hill Thiruvananthapuram.

10. Dr. Jeena R S
Associate Professor Government Engineering College Barton Hill Thiruvananthapuram.

11. Dr Minimol B
Associate Professor Model Engineering College Thrikkakara.

12. Dr MJ Jayashree
Associate Professor Mar Baselios College of Engineering Thiruvananthapuram

13. Dr Jisu Elsa Jacob
Assistant Professor, SCET College of Engineering Pappanamcode

14. Dr. Yuvraj V
Associate professor, Sahrdaya College of Engineering and Technology

15. Mr Mukund R
General Manager & Unit Chief, HLL LifeCare Limited, Akkulam, Thiruvananthapuram.

About TKMIT

TKM INSTITUTE OF TECHNOLOGY

TKM Institute of Technology, established in the year 2002, run by the TKM College Trust, headed by Janab Shahal Hassan Musaliar. The institution is approved by AICTE and is affiliated to APJ Abdul Kalam Technological University. TKM Institute of Technology offers B tech programmes in six disciplines and two post graduate programmes. The College runs on a well- structured platform, that offers various infrastructure facilities such as the Central library, Department libraries, Central and Departmental Computer facilities, Career Guidance and Placement Cell, Innovations and Entrepreneurship Development Cell, and Sports facilities. The students participate regularly in events conducted by various student branches like the NSS, NASA, IEEE., and the college union. Various professional bodies such as IEEE, CSI etc organize seminars, hands-on workshops, hardware and software training programs, and other such activities which give opportunity to students and faculty members to enhance their skills and enrich their knowledge in areas beyond the prescribed curriculum. At TKMIT the whole process of learning is viewed in its holistic form, directed to empowering each individual to become a responsible citizen in keeping with its Founder's foresight to mould today's youth into tomorrow's future.

Department of Biomedical Engineering

The Department of Electronics and Biomedical Engineering was started in the year 2007 with affiliation to Cochin University of Science and Technology. In 2015 the college became affiliated with APJ Abdul Kalam Kerala Technological University and continued the program as B.Tech in Biomedical Engineering. The Biomedical Engineering department at TKM Institute of Technology is highly regarded and has established itself as a pioneer in providing quality education and ample atmosphere for developing a professional career in biomedical engineering. The vision of the department is to achieve academic excellence in biomedical engineering by developing engineers with a state-of-the-art technological skill and professional ethics, to support the health care needs of society.

NABIOCON'23, a national conference on biomedical instrumentation and signal processing was organized by the Department of Biomedical Engineering of TKM Institute of Technology in collaboration with SCTIMST-TIMed, IEEE EMBS Kerala Chapter, TSI Kerala Chapter, and IEEE EMBS TKM IT. The two-day conference took place on the 26th and 27th of June, 2023, and aimed to provide a platform for researchers, academicians, and industry professionals to exchange knowledge and discuss the latest advancements in the field.

The conference commenced with an inaugural ceremony featuring esteemed dignitaries, including keynote address from a renowned expert in biomedical engineering. Participants had the opportunity to present their research papers at the conference which encouraged interactive discussions. The conference recognized outstanding contributions by presenting Best Paper Awards.

NABIOCON'23 successfully brought together researchers, academicians, and industry professionals from the field of biomedical engineering. The conference provided a conducive platform for knowledge dissemination, networking, and collaboration. The conference undoubtedly made significant contributions towards the advancement of biomedical engineering and set the stage for future research and development in modern medical technology.

Welcome by – Dr. K Gopakumar, HoD
Master of Ceremony – Diya Lekshmi J, Hanna Anzar
Vote of Thanks – Jacob Varghese

Proceedings of
National Conference

THANGAL KUNJU MUSALIAR
NASIOCON 23
IEEE
EMBS
PREMIER
PREMIER
PREMIER

SEMINAR ON

COMPREHENSIVE EQUIPMENT MAINTENANCE

MANAGEMENT SYSTEMS AND BIOMEDICAL OPPURTUNITIES

Venue : EDUSAT THEATRE (EEE DEPARTMENT)

Date : 21st August, 2023

Time. : 2:00 pm to 3:00 pm

Speaker : Mr. Vivek V George

Participants : 65

IEEE Members: 38 Non IEEE Members: 27

Description

A seminar was conducted by **IEEE EMBS SB TKMIT on 21st August, 2023**. The speaker for the event was **Mr. Vivek V George (Managing Director of Trivia Innovations Pvt Ltd.**) and former alumni and faculty of TKMIT. It was a successful session where sir shared his insightful knowledge on variety of topics on equipment maintenance and various tele healthcare solutions, a demo of HIMS software and its wide scale applications in biomedical equipment maintenance in hospitals were demonstrated. Further on various job opportunities in biomedical field with incentives and future scope was talked on. The event was successfully conducted, and Mr. **Vivek** was awarded with a **memento** as a token of respect by **Mr. Anas sir (Branch counselor of IEEE SB TKMIT) .**

Welcome by : Rushda Shaju

Vote of thanks : Arya Murukesan

Poster:

IEEE
IEEE EMBS
IEEE Engineering in Medicine & Biology Society
IEEE TKMIT STUDENT BRANCH
SEMINAR
ON
COMPREHENSIVE EQUIPMENT MAINTENANCE MANAGEMENT SYSTEM AND BIOMEDICAL OPPORTUNITIES
MONDAY
21 AUGUST 2023
TIME
2:00 - 3:00 pm
CE SEMINAR HALL
TKM IT, Karuvelil
SPEAKER
Mr. VIVEK V GEORGE
Managing Director
Trivia Innovations Pvt. Ltd.

Photos: