REFLECTIONS

ECE NEWSLETTER JUNE 2024

MANGALAM COLLEGE OF ENGINEERING

Vol. 15

VISION

To achieve excellent standards in technical education and engage research in the field of Electronics and Communication Engineering creating employable and innovative professional ls who can excel in global challenges

MISSION

1. To practice innovative teaching and learning practices in Electronics and Communication domain with effective curriculum enhancement and Industry collaboration.
2. To inspire creative enquiry and innovation in students through excellent training programs and projects for professional skills.
3. To imbibe a sense of team work, ethics combined with social responsibility in students.

Dr. Biju Varghese
(Chairman, Mangalam Educational institutions)

Dr. Vinodh P Vijayan
(Principal, Mangalam College of Engineering)

Dr. Abraham C G
(HOD, ECE, Mangalam College of Engineering)

ACHIEVEMENTS IN RESEARCH

- Converted 9 students projects into SCOPUS indexed publication.
- Published 12 articles in SCI/SCOPUS indexed journals in this academic year.
- One of our faculty member registered for Ph.D and completed course work.
- 8 patents have been published in this academic year.
- One of the student projects (SMART AID FOR VISUALLY IMPAIRED) got acceptance into the 2nd level of project competition 'PROCOMM' organized by IEEE ComSoc Kerala Chapter.

HOD'S MESSAGE

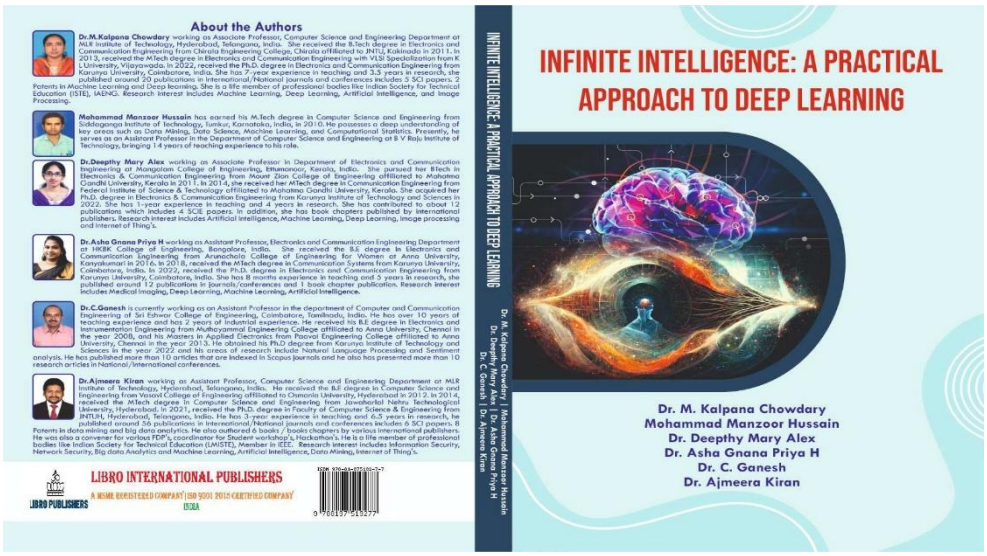
Welcome to the Department of Electronics and Communication Engineering, Mangalam College of Engineering ,Ettumanoor , Kottayam. Since its establishment in 2002, Department of Electronics and Communication Engineering has been one of the most popular departments at Mangalam College of Engineering, which is recognized as one of the top colleges in the state. Equipped with modern facilities and a committed faculty, the department caters to a significant number of undergraduate and postgraduate students. Notably, the Department has successfully graduated a considerable number of postgraduate students specializing in VLSI and Embedded Systems. Over the past decade, the department has been engaged in stimulating research across various fields. Additionally, numerous workshops and conferences have been organized by the Department in the last ten years.

The ECE department has earned a strong standing with top recruiters in India. Its alumni have performed exceptionally well worldwide, upholding the department's esteemed reputation. Collaborations with companies have created a supportive platform for our students to excel. ECE graduates secure prominent positions in the industrial sector, with many holding key roles in academia and industry worldwide. Their involvement in innovative projects, driven by the robust industrial-based curriculum, often includes industrial internships. Several of them have become successful entrepreneurs, offering valuable technical expertise and support to current students.

FACULTY ACHIEVEMENTS

BOOK PUBLICATION

- Dr. Deepthy Mary Alex published a book titled "Infinite Intelligence: A practical approach to Deep Learning"



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SCI PUBLICATIONS

R. Hephzibah, A. Hepzibah Christinal, Deepthy Mary Alex, R. Jayanthi, D. Abraham Chandy, Chandrajit Bajaj, A Hybrid Model of Random Forest Ensemble and Resample for Cardiotocography Data Classification, Sigma Journal of Engineering and Natural Sciences, Accepted & Article in Press, Indexed in ESCI & Scopus

SCOPUS PUBLICATIONS

- C.S.L. Vijaya Durga, Anandhi R J, Navdeep Singh, Ajeesh S, Ashish Kumar Parashar, Laith Hussein and Praveen; MEMS Technology in the Evolution of Structural Control Strategies- E3S Web of Conferences, Volume 529, Article Number 04013 (2024), https://doi.org/10.1051/e3sconf/202452904013
- Amandeep Nagpal, Uma Reddy, Kilaru Aswini, Sumesh Chandran, Pradeep Kumar Chandra, Ramy Riad Al-Fatlawy and Singh Shivani, Electro-Chemical Energy Conversion and Storage Systems - Analytical Review. E3S Web of Conferences, Volume 529, Article Number 02015 (2024). https://doi.org/10.1051/e3sconf/202452902015
- B.K. Aishwarya, Revathi V, Navdeep Singh, Lijosh Mathew, Koushal Dhamija, Mohammed H. Fallah and Ravi Kalra, Biodegradable Polymer Biomaterials for Tissue Engineering Applications: A Critical Review. E3S Web of Conferences, Volume 529, Article Number 01051 (2024)., https://doi.org/10.1051/e3sconf/202452901051
- Jis Paul, Abraham, Divin K Davis, Shinu Sebastian, Edwin Kurian and Akshaya M, Design of auto adjustable CPR assistive device for non-expertise usability scenarios. E3S Web of Conferences, Volume 529, Article Number 04015 (2024), https://doi.org/10.1051/e3sconf/202452904015
- M. Hari Krishna, Manjunatha, Navdeep Singh, Shiney M Abraham, Koushal Dhamija, Laeth H.J. Hamza and Ravi Kalra, From Flames to Fuels: A Review of Combustion in Energy Generation, E3S Web of Conferences, Volume 529, Article Number 02016(2024), https://doi.org/10.1051/e3sconf/202452902016
- A. Karthik, Asha V, Ginni Nijhawan, Maria Stephan, Shilpa Pahwa, Hassan M. AlJawahry and Irfan Khan, Biomass and Operational Initiatives for Sustainable Bioenergy 6 Generation, E3S Web of Conferences, Volume 529, Article Number 02014 (2024), https://doi.org/10.1051/e3sconf/202452902014
- Modi Himabindu, Revathi V, Manish Gupta, Meera S Panicker, Pradeep Kumar Chandra, Laeth H.J. Hamza and Preeti Maan, Employing Piezoelectricity to Generate Sustainable Energy with Green Harmonics, E3S Web of Conferences,

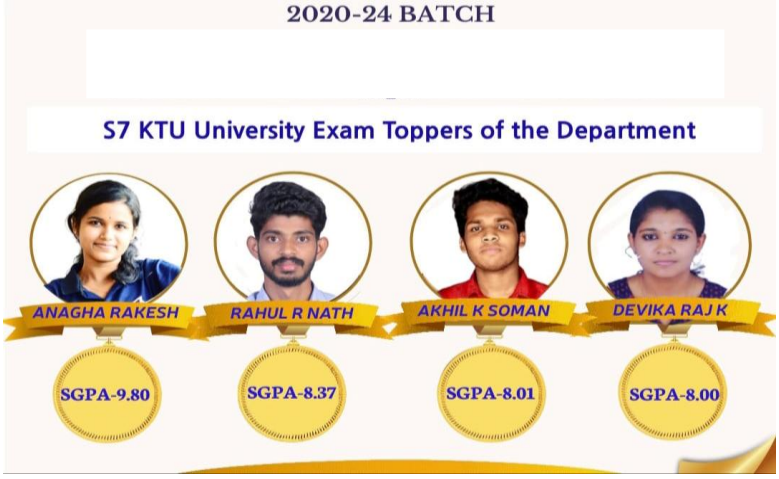
Volume 529, Article Number 02017 (2024), https://doi.org/10.1051/e3sconf/202452902017

- B. Rajalakshmi, G. Lalitha, Manish Gupta, Jaleel P K, Ashish Kumar Parashar, Muntadar Muhsen and Dinesh Kumar Yadav, Algal Biofuels: Unveiling the Potential of Seaweed in Renewable Energy Production, E3S Web of Conferences, Volume 529, Article Number 02018 (2024), https://doi.org/10.1051/e3sconf/202452902018
- Tibin Thomas; Jubilant J Kizhakethottam; Neethan Elizabeth Abraham, Pioneering Efficient Blockchain in IoT: A Review of Tailored Protocols for Modern Devices, IEEE International Conference on Recent Advances in Systems Science and Engineering (RASSE), (2023), 10.1109/RASSE60029.2023.10363557
- Reneesh C Zacharia and Jyothisree K R, "Sahaya"- A Multirole IoT Based Bot for Geriatric Care, Journal of Engineering and Technology Management, Volume 72 April– June (2024), https://doi.org/20.14118/v72.2024.101970

PATENT

- Smart Sensor Network for Efficient Energy Management in Smart Grids , by Dr.Abraham. C.G, Mr.Jaleel.P.K, Ms.Meera Panicker.P.R, Ms.Aparna Jose
- Enhancing Energy Efficiency in Internet of Things Applications Through Integrated Circuit Optimization by Ms. Jyothisree. K.R , Dr.Abraham.C.G, Mr.Sumesh Chandran. R, Ms. Aparna Jose
- Secure Communication Protocol for Internet of Things (IOT) Networks by Ms.Neethan Elizabeth Abraham, Dr.Deepthy Mary Alex, Mr.Ajeesh.S, Dr.Abraham.C.G
- Efficient Spectrum Allocation Technique for Cognitive Radio Networks by Ms.Mariya Stephen, Dr.Abraham.C.G, Ms.Jyothisree.K.R, Ms.Neethan Elizabeth Abraham
- Advancing Medical Imaging Quality and Diagnostic Precision Through Enhanced Processing Techniques by Ms.Devika Sarath, Mr.Jaleel.P.K, Mr.Lijosh Mathews, Dr.Abraham.C.G
- Advancing Noise Reduction for Enhanced Signal Integrity in Data Transmission with Innovative by Mr. Ajeesh S, Dr. Abraham C G, Mr.Sumesh Chandran R, Ms.Mariya Stephen
- Elevating Performance with Next-Gen Modulation Schemes for Enhanced Connectivity and Data Transfer by Ms. Shiney M Abraham, Dr. Deepthy Mary Alex, Mr. Jaleel P K, Dr. Abraham C G
- Dynamic Antenna Array Optimization for NextGeneration 5G Wireless Communication Networks by Dr.Deepthy Mary Alex, Mr.Lijosh Mathews, Ms.Jyothisree.K.R, Ms.Devika Sarath

STUDENT ACHIEVEMENTS



- Anjitha Anil of S8 EC qualified in the GATE 2024 examination and secured a score of 375.

DEPARTMENT EVENTS

- ***An Expert Talk on "Fighting Data Bias & Ethical AI-a Collective Responsibility"***

An Expert Talk on "Fighting Data Bias & Ethical AI-a Collective Responsibility" was conducted by Dr. M V Rajesh, Principal College of Engineering Poonjar in connection with IETE Induction Ceremony 2k24, for students of Mangalam Engineering College on March 21st 2024.

ICRTVC'24

3rd International conference, **ICRTVC'24** was organized and conducted by the Department of Electronics & Communication Engineering on 18th & 19th of April 2024 in Hybrid mode. Several participants across India participated in this event.

The conference commenced on 18th April, 2024 at 10 am with an inaugural session that marked the beginning of two days of insightful discussions and knowledge sharing. Dr. Lavanya Settipalli, Assistant Professor at IIIT Kottayam, graced the occasion as the chief guest, adding prestige to the event. Meeting began with a prayer song by few students of ECE department. Dr. Abraham C. G., HoD of ECE Dept. welcomed the gathering followed by an inspiring presidential address by the Principal, Dr. Vinodh P. Vijayan. Vice Principals, Ms. Neema George and Dr. Arun Jose also graced the occasion. The inaugural session concluded with a vote of thanks delivered by Dr. Deepthy Mary Alex, the conference chair. Following the inaugural session, attendees were treated to a thought-provoking keynote address by Dr. M. Madheshwaran (Former chairman of IEEE society India (solid state devices), Pincipal of Muthayammal Engineering College, Salem), setting the stage for the themes and discussions of the conference. This was followed by a series of engaging presentations by experts and researchers in the field, covering a diverse range of topics and showcasing the latest advancements and research findings.

The second day of the conference, 19th of April, commenced at 10 am with another stimulating keynote session by Dr. Renu Jose (Associate Professor, Govt. Engg. College, Idukki), providing attendees with further insights and perspectives on key issues within Machine learing and the future of mankind with artificial intelligence. Additionally, Dr. Renu Jose unveiled the name of next year's conference. Following the keynote, participants had the opportunity to attend additional presentations, deepening their understanding of the subject matter and fostering lively discussions. As the conference drew to a close, organizers and participants came together for the conference closure session, reflecting on the highlights and key takeaways from the event. Gratitude was

expressed to all speakers, sponsors, and attendees for their contributions towards making the conference a success.

ALUMNI MEET

The Department of Electronics and Communication Engineering successfully hosted an Alumni Meet on January 26th at 7 PM via Google Meet. This virtual gathering brought together former students, current students, and faculty members for an evening of reconnecting and networking. Alumni shared professional experiences and insights, providing valuable guidance and inspiration to current students, effectively bridging the gap between academia and industry. The department extends its heartfelt thanks to all participants for contributing to a memorable and enriching event, underscoring the strong bonds within our community and our commitment to ongoing learning and support

Farewell

The Electronics and Communication Engineering Department is hosting a farewell event for the 2020-2024 batch on April 30, 2024, at 9:30 am. Organized by S6 students, this event aims to celebrate the graduating class's achievements and contributions to the department, while bidding them a fond farewell. The farewell ceremony will feature speeches, mementos, and various activities honoring the graduates and reflecting on their four-year journey. To make the occasion even more memorable, the event will also include games, dances, and entertainment activities, bringing students, faculty, and staff together to celebrate this significant milestone.

MEGATRON 7.0

Megatron 7.0, the annual tech fest of the Electronics Department, was a highly anticipated event designed to showcase the latest innovations, foster collaboration, and enhance the practical knowledge of engineering students.

The primary objectives of Megatron 7.0 were to provide a platform for students to present their innovative projects and ideas and also to create opportunities for students to network with peers, faculty, and professionals, fostering collaboration and future opportunities.

The event was inaugurated by Dr. Abraham C. G., the Head of the Electronics Department, who emphasized the importance of such events in the holistic development of engineering students. In his speech, Dr. Abraham highlighted the rapid advancements in electronics and the need for students to stay updated with the latest trends and technologies.

Project Expo

As part of the Megatron 7.0 tech fest, a project competition was organized, inviting participants from various colleges to present their innovative projects. The competition aimed to foster creativity, technical skills, and knowledge sharing among students.

The event saw enthusiastic participation from students of multiple engineering colleges, showcasing a diverse array of projects. The competition provided a platform for budding engineers to demonstrate their problem-solving abilities and technical expertise.

A panel of esteemed judges from academia evaluated the projects based on innovation, feasibility, and

technical proficiency. Awards were presented to the top projects, recognizing outstanding contributions and encouraging further development.

Project Exhibition

Students showcased innovative projects ranging from IoT devices to advanced robotics, demonstrating their technical prowess and creativity.

Competitions

Various technical competitions, including identify electronic components, Tricky circuits and Technical Quiz were held, encouraging students to apply their knowledge in electronics field.

Other events such as Robo war, RC Race, Treasure hunt, VR Connect and Rubrics cube were also conducted as part of Megatron 7.0.

Megatron 7.0, organized by the Electronics and Communication Engineering Department of Mangalam College of Engineering, Ettumanoor, was a remarkable success. The event provided a platform for students to showcase their talents and gain insights into the latest technologies. The enthusiastic participation and positive feedback underscored its impact. We thank all contributors and look forward to future editions that will continue to inspire innovation and excellence.

COLLEGE EVENTS

SAPTHARANG 2K24

Mangalam College of Engineering is organizing its annual arts fest, SAPTHARANG 2K24, on March 26th and 27th, 2024. This vibrant event will showcase a diverse range of artistic talents, including music, dance, drama, and visual arts. Students will have the opportunity to participate in various competitions and performances, fostering creativity and camaraderie. SAPTHARANG 2K24 promises to be a celebration of culture and artistry, bringing together the entire college community in a spirit of joy and festivity.

The SPARTANS team (EC S8), led by Mr. Jithin John, House Captain of S8, and guided by Mr Ajeesh S, Faculty In Charge, secured the top honors as overall winners at SAPTHARANG 2K24, demonstrating outstanding skill and teamwork in the diverse array of competitions.