



# SETHU

## INSTITUTE OF TECHNOLOGY



An Autonomous Institution | Accredited With 'A' Grade By NAAC  
(Affiliated to AICTE, New Delhi and Anna University, Chennai)  
(Accredited by NBA, AICTE, New Delhi for MECH, CSE, ECE, EEE & IT)  
(Approved Research Centre for MECH, ECE, EEE, CSE Engineering)  
**Pulloor, Kariapatti – 626115, VIRUDHUNAGAR DISTRICT.**



**Mr. S. Mohamed Jaleel, B.Sc., B.L.,**  
Founder & Chairman

# SETRite 2023

## SETHU RESEARCH NEWSLETTER

*(Association with Sethu Research Forum)*

**MAR 2023 - Vol.1, Issue 2**



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## Coffee with Elite Researcher

Mohamed Masicq Z, Shiraz Deen K and Mohamed Abdul Rasik Kabeer T, UG students, Department of Electrical and Electronics Engineering are the winners of Yi IDS 2.0 smart city theme 2023 and awarded with Rs.75000 cash prize. We had an interview with the winners and minutes are presented here.



Winners of Yi IDS 2.0 smart city theme 2023 with their Mentors

### Our Inspiration To Become An Entrepreneurs :

We got inspired by our society. Nowadays students are following the exact career path that was told to them rather than pursuing their own goals. We just started thinking out of the box and decided not to be one among them. We wanted to change their perspective by creating a huge impact on society. Luckily, we have wonderful mentors Dr.G.Soundra devi, M.E., Phd, Professor & Head/EEE and Mr.S.Kannadasan, M.E, Asst. Prof/EEE to guide us.

### How we came up with An Innovative Idea :

The motivation for our problem statement is; there is a lot of waste plastic affecting and polluting our society. Many marine animals are affected due to plastic waste. India produced 3.4 million tonnes of plastic waste in 2022 in which only 30% is recycled, the remaining 70% is filled in land and ocean. This is the major problem. Finally we created a solution to generate electricity from that waste plastic. Right now, we are in the initial stage of our prototype. We are planning to develop our prototype even more efficiently by adding additional features and also our final device will be user friendly, affordable and a compact one.

### Our Yi Ids 2.0 Journey, Competition & Success Story:

Our mentors advised us to register for the Yi IDS 2.0 2023. At first we are so nervous, because as the name suggests the competitors will be from various states of India. But later on, with the guidance of our mentors we gained confidence and we got short listed in boot camp for the finals. We had so much hope in our idea and finally we got the privilege to be one among the winners. Our project is power generation using waste so we need a high capital investment and support for safety operational procedures.

### Journey Of Our Project:

We started from an innovative idea. Due to continuous support from our College Management and our Mentors, we gained more knowledge and developed our skills as well as our project. We participated in five competitions across India. We won three contests such as Yi IDS 2.0 smart city theme 2023, Tamilnadu state council of science and technology Creator 2023, and Ideathon 2022 (ACIC Kalasalingam Innovation Foundation, Virudhunagar). These achievements are not possible without the support of our Mentors. Every contest is a milestone for us. They gave multiple inputs before and after each competition. We learnt how to face failures and overcome them within a short span of time. After that we succeeded in the upcoming steps and were really proud to be a part of this project.





## Research Achievements

### ECE Department

Dr.R.Tamilselvi, Dr.M.Parisa Beham and Ms.M.Uma Maheshwari received Rs.2 Lakhs grant for the project titled, "Arthritis Care" in the Innovation & Incubation Division, Entrepreneurship Development and Innovation Institute of Tamil Nadu on 21<sup>st</sup> February 2023.

Dr.R.Tamilselvi, Dr.M.Parisa Beham and Mr.A.Nagaraj received Rs.2.5 Lakhs grant for the project titled, "MALGO" in the Innovation & Incubation Division, Entrepreneurship Development and Innovation Institute of Tamilnadu on 21<sup>st</sup> February 2023.

Dr.R.Tamilselvi, Dr.M.Parisa Beham, Ms.T.Ruba and Ms.M.Uma Maheshwari mentored and received Second Prize and Rs.20,000 Cash prize in InnovERA,23 held at Excel Engineering College for the project "FEMCARE" on 03.02.2023



Receiving InnovERA'23 Award

Dr.M.Parisa Beham, Dr.R.Tamilselvi and Mr.A.Nagaraj mentored and received prize in Seed Brain Startup Design Contest held at Cambridge Institute of Technology, Bangalore on 24.01.2023.



Team Receiving Seed Brain Award



Dr.R.Tamilselvi, Dr.M.Parisa Beham Ms.J.Judith and Ms.K.Shanmuga Priya mentored and received prize in Seed Brain Startup Design Contest held at Cambridge Institute of Technology, Bangalore on 24.01.2023.

### Agriculture Department

Dr.K.Kannan received Professional Excellence Award during the International Conference, AGRITECHNOVA2023 held at the American College, Madurai on 18<sup>th</sup> February 2023 by Prosper Foundation, Amigos Private Limited, Theni

Dr.S.Ayyanar received Young teaching faculty Excellence Award during the International Conference, AGRITECHNOVA2023 held at the American College, Madurai on 18<sup>th</sup> February 2023 by Prosper Foundation, Amigos Private Limited, Theni

### CIVIL Engineering Department

Dr.A.M.Arun Mohan Associate Professor,ASP/Civil & Mrs.S.Bharathi AP/Civil mentored and received third prize in Dhruva 2023 conducted by Karpagam College of Engineering for Project event using arduino.

Dr.K. Arumugam HoD/Civil, Dr.A.M.Arun Mohan Associate Professor,Civil, Mrs.S.Bharathi AP/Civil, Mr. P. Rajeshwaran AP/Civil, Mr.Mafaz Ahamed AP/Civil, mentored and received in CAMCEE2K23 National Level Talent Fest - paper presentation held at Jansons Institute of Technology, Coimbatore.

Dr.A.M.Arun Mohan Associate Professor, Civil acted as article reviewer in ETCIA-2023 organized by the school of computing science and engineering ,VIT Bhopal University.

### CSBS Department

Dr.R.Akhila HOD/CSBS Participated in final presentation DevHack 2023 held by Startup TN Madurai at Thiagarajar college of Engineering, Madurai on 27<sup>th</sup> January, 2023.

### EEE Department

Dr.G.Soundra Devi, Dr.P.Meenalochini, Dr.G.Narmadha and Dr.J.Jeyashanthi of Electrical and Electronics Engineering department received the grant of Rs.1,00,000 ( 1 Lakh) from UNNAT BHARAT ABHIYAN (UBA) under SEG scheme – IIT Delhi, for the Project "Design and Implementation of IOT Based Smart Bin for Organic Fertilizer Generation".







Dr.J. Jeyashanthi, Dr.G. Soundradevi, Dr.G.Narmadha and Dr. P. Meenalochini of Electrical and Electronics Engineering department had received the grant of Rs. 1,00,000 from UNNAT BHARAT ABHIYAN (UBA) under SEG scheme – IIT Delhi, for the Project “Efficient Solar Dryer for Farmers”.

Mr.Mohamed Masicq, Mr.Shiraz Deen and Mr. Mohamed Abdul Rasik Kabeer, Final Year students of Electrical and Electronics Engineering department had won the prize amount of Rs.75,000 for their project “IOT Based Plastic Pyrolysis Plant & Power Generation Using Plastic Waste” in IDS 2.0 - Yi National Competition organized by CII on 25.2.2023 under the guidance of Dr.G.Soundra Devi Prof/EEE and Mr.S.Kannadasan AP/EEE.

Mr.Mukesh Kumar, Mohamed Fasith and Manoj Pandi, III Year students of Electrical and Electronics Engineering department had won first prize with the amount of Rs.7500 for their idea “Non Invasive TB diagnosis” in the Idea Hackathon organized by Sai Ram Engineering College, Chennai.

Dr.B.Meenakshi Sundaram acted as Overall College Coordinator from TNSI 2022 State Level Competition.

Dr.B.Meenakshi Sundaram acted as mentor for School Innovation Development Project 2022-2023 conducted by Govt. of Tamil Nadu and received the Certificate of Appreciation from Vice Chancellor, Madurai Kamaraj University on 21-01-2023.



*Dr.B.Meenakshi Sundaram receiving a mentorship award –SIDP*

## Mechanical Department

Dr. J. Vairamuthu received the amount of Rs.7500 for the project “Air pressure regulator in automobile” under TNSCST-Students Project Scheme.

Dr. K.Arun Balasubramanian, Professor, Mechanical, Dr. C. Kailasanathan Professor, Mechanical and Dr. V.Vignesh, selected as a Principal Editorial board member - Journal of Engineering Science and Sustainable Research.

Mr.B.Rajeshkannan.AP/MECH mentored the students from Biomedical engineering and Mechanical engineering and got Second prize with Rs 750 cash award in Treasure Trove competition-GYAN MITRA 2023, a national level technical Symposium conducted in MEPCO schelenk engineering college.



### Team Receiving GYAN MITRA 2023

Dr.B.Muthuchozharajan, Associate professor, Mechanical Engineering received the best paper award for the paper titled “Mechanical properties and optimization studies on carbon fiber reinforced aluminum laminates” in the National level conference GTMTS 2023 organized by the department of Mechanical Engineering, Sethu Institute of technology on 23<sup>rd</sup> and 24<sup>th</sup> Febraury 2023.



*Dr.B.Muthuchozharajan receiving Best Paper Award*





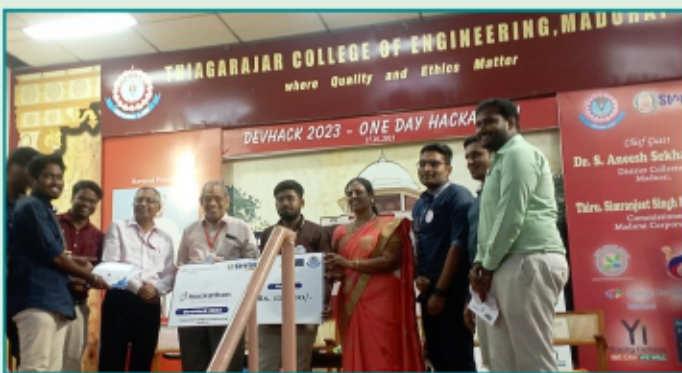


### *Innovative Research project- paving way for green environment*

Under the guidance of Dr.V.Vignesh, Associate Professor, Department of Mechanical engineering, the final year students developed a novel eco-friendly based natural fiber material used in two wheeler mud guard for automobile application and pipes for civil application using pineapple fiber mat epoxy composites that serve as an alternative to synthetic fiber. The team has also developed an industrial roof sheets (an ecofriendly alternative to asbestos) and engine guards for two wheelers using jute fiber mat/ wood saw dust epoxy composites paving way of green environment.

### *IT Department*

Dr.C.Parameswari, Associate Professor, IT and Dr.S.Rathnamala, Associate Professor & Head / AIDS mentored the students B. Sudharsan, A. Riyaz Ahamed and S. Manonagarajan III Year IT and Won the First Runner up with cash prize of Rs.2000 in Idea Hunt: Green Energy Solutions conducted by College of Engineering, Trivandrum.



### *Receiving Award from Idea Hunt*

Ms.M.Sanmugapriya, Assistant professor/IT and Mr Ashokram, Assistant professor/IT mentored the student G.Akshat sachdeva, M.Sri santh, K.Jeyagurudev and R.Dineshkumar of II IT students and won the Fourth Prize of Rs. 12,000 in Dev Hackathon conducted by Start up TN, Madurai.



### *Receiving Award from TECH EXPO'23*

Dr.S.Siva Ranjani Dean (CS&IT allied departments), Dr.S.Rathnamala, HoD/AIDS and Dr.C.Parameswari, Associate professor/IT mentored the students M.abishek, Final year IT who won 2nd prize in TECH EXPO'23 under Software Track conducted by CINTEL Department of SRM University (From 15-02-23 to 16-02-23).

### *CSD Department*

Dr.R.Tamilselvi, Dr.M.Parisa Beham and Mr.S.Arun Inigo received Rs.2.5 Lakhs grant for the project titled, "GARBO" in the Innovation & Incubation Division, Entrepreneurship Development and Innovation Institute of Tamilnadu.

### *Biomedical Engineering*

Dr.M.Rajalakshmi, ASP/BME mentored the students from Third year Biomedical Engineering Department got First place and won cash prize of Rs. 3000/- in Paper Presentation, Quiz and Project demonstration in the National Level Technical Symposium (GYAN MITRA 2023) conducted by Mepco Schlenk Engineering College on 18th February 2023.

Dr.M.Rajalakshmi, ASP/BME, acted as a Reviewer in the IEEE International conference on Integrated circuits and Communication systems organized by the department of Electronics & Communication Engineering, Raichur in association with IEEE Bangalore Section and North Karnataka subsection on February 24<sup>th</sup>-25<sup>th</sup>, 2023.



### Digital Twin

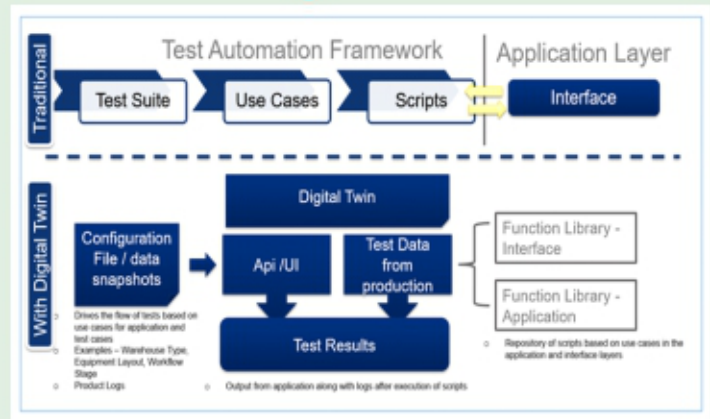
Digital Twin is a burgeoning technology aided with advancement in artificial intelligence (AI), internet of things (IoT) and availability of enormous amounts of data. In spite of this, it is yet to be accepted and adopted by majority of the industries. Digital replicas of physical objects and processes can be used in the decision-making process by the stakeholders in various industries to increase the efficiency and get the desired results at a faster pace.

The Digital Twin technology is primarily divided into three parts. The actual or physical part, the virtual or digital part and the interaction between the two parts. The interaction here consists of real time data flow from physical asset (sensors, IOT devices, etc.) to virtual asset and by running simulations in virtual asset, thus providing feedback available from simulations in virtual environment to the physical environment.

This process allows the on-ground team to take immediate actions on the physical asset through recommendations identified from simulations of the virtual environment. There are many applications of Digital Twin across various sectors such as Health care, Education, Energy Resources and many more. We describes potential use cases of digital twins in 12 different industry sectors. The impact of the use cases can help the industries in various aspects like optimized production and budget planning, enhancement in quality testing. The industries mentioned here cover a wide range of applications, from hardware relation industry equipment to the fashion choice industry. This discussion will help in exploring the deeper meaning of digital twin applications.

### Digital Twin Technology

Digital twin is a virtual entity supported by AI (Artificial Intelligence), IOT (Internet of Things) and abundance of data. This helps in creating a digital representation of the physical object in consideration. The representation can then be simulated in different environments according to the requirements to conclude the final state of the physical object. Through the simulation many insights can be drawn about the object. As can be seen in the diagram below, real time data inputs of the actual objects helps in creating a digital twin, which is then monitored and simulated to understand insights to make business decisions.



### Workflow of Digital Twin use

Today, technological advancements have enabled organizations to utilize the benefits offered by Digital Twins in multiple domains. The advent of Industry 4.0 and the availability of technical resources has not only helped advance the usage of Digital twins but has also enabled progress and betterment in the industries associated that utilize Digital twins. Given below are few industries that can benefit heavily from this booming technology.

In conclusion, as digital twins offer a real-time look at what's happening with the physical assets and help predict the future scenarios, it can radically alleviate the cost burdens. In applications in industries like E-commerce, Food, Textile, Education, Electronics and others, it can help understand the end-consumer and improve the way the products are designed and help improve customer satisfaction. Production and Manufacturing, Steel, Energy industries can save time and money by optimizing the manufacturing processes and simulating the prototypes virtually. The domains of Aerospace and Healthcare can be revolutionized by bringing in the digital twin technology to reduce the cost and risk involved.

### Reference:

- Kritzinger, W., Karner, M., Traar, G., Henjes, J., & Sihn, W. (2018). Digital Twin in manufacturing: A categorical literature review and classification. IFAC- Papers OnLine, 51(11), 1016-1022.
- Hitesh Hinduja, Arishma Datta, Rate of Penetration Prediction using K-means and Ensembles, a Machine Learning Approach, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume: Volume 8, Issue VII, July 2020, ISSN: 2321-9653;
- Howard, D. (2019, February). The Digital Twin: Virtual Validation In Electronics Development And Design. In 2019 Pan Pacific Microelectronics Symposium (Pan Pacific) (pp. 1-9). IEEE.



## List of Publications (November-December 2022)

### Department of Mechanical Engineering

K.Arun Balasubramanian, Investigations on thermal properties of MWCNT-NBN Paraffin Wax phase change material for thermal storage applications, Springer, Journal of Thermal Analysis and Calorimetric, 2023.

V.Vignesh, Static and dynamic mechanical analysis of hybrid natural fibre composites for engineering applications, biomass conversion and biorefinery, springer publication, 2023.

T.P.Balaji, Extraction and Characterization of Natural Cellulosic Erythrina variegata Fiber for Biocomposites, Journal of Natural fibers, Taylor & Francis, 2022.

### Department of Computer Science Engineering

Parvathy M., Multi-label Emotion Classification of COVID-19 Tweets with Deep Learning and Topic Modelling, Computer Systems Science and Engineering, 2023

### Department of Electronics and Communication Engineering

Merline A., Progressive Transfer Learning-based Deep Q Network for DDOS Defence in WSN, Computer Systems Science and Engineering, 2023

Pandimadevi M., Tamilselvi R., Parisa Beham M. Performance enhancement of patch antenna using nanocomposite substrate for modern wireless communication systems, Materials Today: Proceedings, 2023

Rajalakshmi Jeyapal, A novel design of recta-tri substrate integrated waveguide antenna for ultra-wideband applications, Microwave and Optical Technology Letters, 2023.

### Department of Electrical and Electronics Engineering

Meenakshi Sundaram P. An enhanced deep learning-based phishing detection mechanism to effectively identify malicious URLs using variational autoencoders, IET Information Security, 2023

Sugumar S., Performance analysis of n-type PERT bifacial solar PV module under diverse albedo conditions, Solar Energy, 2023.

Meenalochini P. Dual-Channel Capsule Generative Adversarial Network Optimized with Golden Eagle Optimization for Pediatric Bone Age Assessment from Hand X-Ray Image, International Journal of Pattern Recognition and Artificial Intelligence, 2023.

### Department of Computer Science and Business Systems

Rajagopal Agila., A Robust Automated Framework for Classification of CT Covid-19 Images Using MSI-ResNet, Computer Systems Science and Engineering, 2023

### Department of Artificial Intelligence and Data Science

Rathnamala S., A RYU-SDN Controller-Based VM Migration Scheme Using SD-EAW Ranking Methods for Identifying Active Jobs in the 5G Cloud Framework, International Journal of Cloud Applications and Computing (IJCAC), 2023

Rathnamala S., A Review of Innovation to Human Augmentation in Brain-Machine Interface – Potential, Limitation, and Incorporation of AI February 2023.

### Department of Biomedical Engineering

M Rajalakshmi, Prediction of Flank Wear during Turning of EN8 Steel with Cutting Force Signals Using a Deep Learning Approach, Mathematical Problems in Engineering, 2023.

### Department of Physics

Karthick kumar S, Anodization assisted preparation of diverse nanostructured copper oxide films for solar selective absorber, Optical Materials, 2023

Karthick kumar S, Silver nanoparticles modified ZnO nanocatalysts for effective degradation of ceftiofur sodium under UV-vis light illumination, Chemosphere, 2023.

Indira P., Magnetic porous Ag<sub>2</sub>O/Chitin nanostructure adsorbent for eco-friendly effective disposing azo dyes, Environmental Research, 2023

### Department of Chemistry

T.Jebakumar Immanuel Edison, Insights of pristine stainless steel mesh oxygen evolution reaction in diverse concentrations of potassium hydroxide, Materials Letters, 2023.

Elanchezhian S.S., Synthesis of gelatin aerogel-containing Al-metal organic framework for the removal of phenolic contaminants from aqueous solutions, Journal of Water Process Engineering, 2023.

Rajavenkatesh Krishnamoorthy, Design and synthesis of novel N-terminal peptides of integrin and aminopeptidase are new finding for anticancer activity, Bioorganic Chemistry, 2023.





## Patents Filed/Published/Granted

Mr.S.M.Seeni Mohaideen, CEO and Mrs.R.Nageshwari , Asst.Prof, Biotechnology filed an Indian Patent for the work on "Smart Agriculture Booth" on 28/02/2023.

Dr.G.Nagaraj, Associate Professor of Mechanical Engineering Department filed an Indian Patent for the work on "An Intelligent System and Method for On-Street Charging Devices for Electric Vehicles Based on Artificial Intelligence and Machine Learning" on 12/02/2023.

Dr.P.Meenalochini, Associate Professor and Dr.G.Soundradevi, Professor & Head of Electrical and Electronics Engineering Department Filed an Indian Patent for the work on "LTLC Detector" on 30/01/2023.

Dr.P.Meenalochini, Associate Professor of Electrical and Electronics Engineering Department filed an Indian Patent for the work on "AI Based EV Engine Control Device to Control the Car Based on the Driver Fatigue" on 02/02/2023.

Dr. N. Kins Burk Sunil, Associate Professor of Biomedical Engineering filed an Indian Patent for the work on "Implementation of Type 2 Fuzzy Ontology to Improve Semantic Interoperability for Healthcare & Diagnosis of Depression " on 13/01/2023.

## MoUs Signed

Department of Electronics and Communication Engineering signed a MoU with Indra Insignia, Chennai on 15.02.2023. The aim of the MoU is to exchanging Research and Development activities and to train the students in RF & Embedded systems.

SMJ Smart Product Private limited , a startup in the Department of ECE, signed a MoU with Indra Insignia, Chennai on 15.02.2023. The aim of the MoU is to exchanging Research and Development encompassing the agriculture related problem.

Department of Biomedical Engineering Signed an MoU with Indian Biomedical Skill Council (IBSC), Visakhapattinam on 04.01.2023. The aim of the MoU is to provide Internship to students and to conduct FDP/STTP for enriching faculty / staff knowledge in the biomedical domain.

## Consultancy Work

Department of Civil Engineering has signed a consultancy agreement with Mr. R. Mariappan to carry out building project work at Kariapatti panchayat (Narikuravar colony Building) in order to test various parameters such as concrete strength test, soil test, cement test, water analysis, and M sand test. Mr. P. Rajeswaran, Assistant Professor of Civil Department, completed this work, and the consultancy amount was Rs. 15050/-.

Mr. P. Rajeswaran, Assistant Professor of Civil Department, completed a building project (RE sustainability) consultancy work for Rs. 600/- with Atharva Associates, Virudhunagar in order to test concrete strength.



*MoU Signed between Department of ECE and Indr Insignia, Chennai*



*MoU signed between Department of BME with Indian Biomedical Skill Council*





## Program Organised

- Department of Mechanical Engineering organized a District Level Quiz Competition AQUEST on 08<sup>th</sup> February 2023.
- Department of Mechanical Engineering organized a workshop on 3D Printing and its Applications On 10<sup>th</sup> February 2023.
- Department of Information Technology and Institution Innovation Council Conducted a Session on Problem Solving and Ideation Workshop on 15<sup>th</sup> February 2023.
- Department of Electrical and Electronics Engineering in association with IEEE Student Branch conducted a webinar on Benefits of IEEE Membership on 15<sup>th</sup> February 2023.
- Department of Electrical and Electronics Engineering and IIC jointly Organizes a Workshop on How to Become A Successful Entrepreneur on 15<sup>th</sup> February 2023.
- Entrepreneurship Development Cell, IIC and Department of Electrical and Electronics Engineering jointly organized a Guest Lecture on Successful Entrepreneur Story on 15<sup>th</sup> February 2023.
- Department of Mechanical Engineering and Decadrives Pvt Ltd. jointly organized a One Day Workshop on Hands on Training in Polymer Composites on 16<sup>th</sup> February 2023.
- Department of Electrical and Electronics Engineering in association with EESOR jointly Organized One Day Workshop on IOT For Electrical Engineers on 16<sup>th</sup> February 2023.
- Department of Mathematics and Entrepreneurship Development Cell jointly organized a Guest Lecture on Promoting Start up Ideas on 17<sup>th</sup> February 2023.
- Department of Electrical and Electronics Engineering Conducted an Inter College National Symposium "Electrovanza on 17<sup>th</sup> February 2023.
- Department of Electronics and Communication engineering in association with Women Empowerment Cell Organized an Awareness Program on Gender Equality: a Matter of Social Justice on 20<sup>th</sup> February 2023.
- Department of Electronics and Communication engineering in association with IIC Organized a workshop on How to become a Successful Entrepreneur on 15<sup>th</sup> Feb 2023.
- Department of Electronics and Communication engineering in association with IETE students chapter Organized an one day hands on training in Antenna Design using CST on 31<sup>st</sup> Jan 2023.
- Department of Mechanical Engineering organized AICTE Sponsored National Level Conference-GTMTS 2023 on 23&24 February 2023.
- Department of Civil Engineering conducted Symposium CIVICture\_2K23 on 27&28 February 2023.
- Department of Agriculture Engineering Organized a Workshop on Organic Farming and Startup Ideas on 28<sup>th</sup> February 2023.
- The Department of Biomedical Engineering organized A guest lecture on "Medical Equipment Manufacturing" was delivered by Mr. Kannan, Service Engineer, working as a Service Engineer, Mede Quip Services, Hyderabad on 19<sup>th</sup> January 2023 at BME Seminar Hall.
- The Department of Biomedical Engineering offered a Value Added Course on "Biomedical Equipment Technology" for students in the department from 9<sup>th</sup> - 11<sup>th</sup> January, 2023 . The program's trainer was Mr. Vinoth Kannan from KAV Biomedical Equipment, Madurai.
- The Department of Biomedical Engineering organized A guest lecture on "Circuit Designing in Medical Equipment" was delivered by Ms. Swetha, Service Engineer, working as a Service Engineer, Mede Quip Services, Hyderabad on 23<sup>th</sup> January 2023 at Virtual Laboratory.





## Research Achievements by Students

### Department of AI & DS

Sam Jeffrey. M/I year AI&DS won first prize in SIT csbs paper presentation under the title Hyper Local Street Vendor E-commerce Platform.

Balacheran V, Sobana R S, Clara R A, Sankar Kiran M, Maha Swetha S, Mohamed Tharic S of II Yr AI & DS, participated in the Symposium events in Velammal College of Engineering, 14.02.23.

R.S.Deepak/I Yr AI & DS, completed Internship from IOT E-Yantra lab, 9.1.23 to 13.1.23.

Balacheran V, Sobana R S, Clara R A, Sankar Kiran M, Mohamed Tharic S, Balasundaram M/II yr AI & DS, participated in the Project Expo'23 contest from SRM Institute of Science and Technology, Chennai from 15.2.23 to 16.2.23

Tafni Sneha J/II yr AI & DS, participated in the TN SDG Competition final round in Ayya Nadar Janaki Ammal College, Sivakasi, on 15.2.23.

### Department of CSE

Hariram P, Naveen M/II CSE, Ramesh Kannan T, Abdul Habib/III CSE, participated in the TN startup Dr.APJ Abdul Kalam Auditorium, Anna University on 31.1.23 at Trichy.



**Team Participated in the TN startup event**

M.kamalishre, Harini Shree A, V.Aishwarya/II CSE A, participated in Tamilnadu SDG Contest Final Round in Ayya Nadar Janaki Ammal College, Sivakasi, on 15.2.23

### Department of Biomedical Engineering

Syed Ibrahim M / I year BME, participated in Symposium from Mepco Schlenk Engineering College & Fatima Michel college of engineering and technology, 18.02.23 & 3.3.23 at Sivakasi.



**Receiving award for participation**



**Receiving award from District Collector J Meghanathe Reddy I.A.S**

Ms Nandhana. M secured Third place and won a cash prize of Rupees 1000/- in Electron Commission of India Systematic Voter's Education and Electoral Participation (SVEEP) district level at V. V. V. College for Women, Virudhunagar indoor auditorium on 25th January 2023 for the Event Banner Preparation. The winners are felicitated by respected District Collector J Meghanatha Reddy I.A.S, Virudhunagar.







### Winners felicitated by our Principal Dr.A.Senthil Kumar,B.E.,M.E.,Ph.D

Ms Aarthi S secured Second place and won a cash prize in Electron Commission of India Systematic Voter's Education and Electoral Participation (SVEEP) district level at Sethu Institute of Technology on 11<sup>th</sup> January 2023. The winners are felicitated by Respected Principal Dr.A.Senthil Kumar, B.E., M.E., Ph.D.



### Team members completed Industrial Training Program

Third Year Biomedical Engineering Department students (26 numbers) successfully completed an Industrial Training (40 hours) program L1 (Critical Care Equipments) from 4<sup>th</sup> – 11<sup>th</sup> January 2023, at Indian Biomedical Skill Council (IBSC) having its office at AMTZ Campus, Visakhapatnam.



### Received First place in Nation Level Technical Symposium(GYAN MITRA 2023)

Mr Vigneshrajan J & Mr.Abinesh V of Third year Biomedical Engineering Department got First place and won cash prize of rupees 3000/- in Paper Presentation, Quiz and Project demonstration in the National Level Technical Symposium (GYAN MITRA 2023) conducted by Mepco Schlenk Engineering College on 18<sup>th</sup> February 2023, Mentored by Dr M.Rajalakshmi ASP/BME.



### Received free seat to study in Kingmakers IAS Academy

Mr.Abinesh V of Third year Biomedical Engineering Department won a free seat to study in Kingmakers IAS Academy in the EDU Expo 2023 held in Madurai Tamukkam ground on 26/02/2023.

### Department of CSD

Maheshwaran T R, M.Mohamed Arsath, M.Rajeswari, David Raja, Dharani Shree M K/II CSD participated in the Project Expo'23 contest from SRM Institute of Science and Technology, Chennai from 15.2.23 to 16.2.23.

M.Mohamed Arsath/II CSD, participated in the Final round of TN startup held in Thiagarajar Engineering College, Madurai on 05.02.2023

M.Rajeswari/II CSD, participated in the final Hackathon 'DevHack 2023' held by Startup TN Madurai, at Thiagarajar College of Engineering, Madurai, on 27.01.23.

### Department of Information Technology

B. Sudharsan, III Year IT, A. Riyaz Ahamed, III Year IT and S. Manonagarajan, III Year IT Won the First Runner up with cash prize of Rs.2000 in Idea Hunt: Green Energy Solutions conducted by College of Engineering, Trivandrum. Mentors are Dr C Parameswari, Associate Professor, IT and Dr S Rathnamala, Associate Professor & Head / AIDS.

G.Akshat sachdeva, M.Sri santh, K.Jeyagurudev and R.Dineshkumar of II IT students won the Fourth Prize of Rs. 12,000 in Dev Hackathon conducted by Start up TN, Madurai. Mentors are . Ms.M.Sanmugapriya, Assistant professor/IT and Mr Ashokram, Assistant professor/IT.







### Won Fourth Prize of Rs. 12,000 in Dev Hackathon

M.Dinesh Kumar, III Year IT, for receiving the best gaming youtuber award in the Karthi Digital Award 2022 held at Chennai.



### Received award for best gaming youtuber in Karthi Digital Award

## Department of Electronics and Communication Engineering



### Won 9th place in seed brain startup design contest

Ms. Swetha N, Ms. Satiya pandiya lakshmi S & Ms. Gayathri M of second year M.E Communication Systems got 9th place in seed brain startup design contest held at Cambridge Institute of Technology, Bangalore on 24<sup>th</sup> January 2023, Mentored by Dr.R.Tamilselvi, Prof. & PG Head, Dr.M.Parisa Beham Prof & Head and Mr.A.Nagaraj, AP/ ECE.



### Won 10th place in seed brain startup design contest

Ms. Vijaya Meenakshi G, Ms. Mohana Ramana K & Ms. Ramani E of second year Electronics and Communication Engineering Department got 10th place in seed brain startup design contest held at Cambridge institute of technology, Bangalore on 24<sup>th</sup> January 2023, Mentored by Dr.M.Parisa Beham Prof & Head, Ms.J.Judith AP/ECE and Ms.K.Shanmuga Priya AP/ ECE.



### Won 4th place in Business Plan Contest, NIT Kurukshetra

Ms. Sweethasri J D, Mr. Mohammed Ashraf H and Mr. Mohamed Abubucker Siddiq S of third year Electronics and Communication Engineering Department got 4th place for their Idea proposal in Business Plan Contest 2k23 held on 28/01/2023 at NIT Kurukshetra, Haryana, Mentored by Dr.M. Sheik Dawood Prof/ECE, Dr.K.A. Shahul Hameed Prof/ECE, Mrs.R. Devika AP/ECE and Mrs.P. Murugeswari AP/ECE.



### Won 4th place in Business Plan Contest, NIT Kurukshetra

Mr. Y. Manickam & Mr. M. Girinandha of second year Electronics and Communication Engineering Department won trophy in technical events held at Kamaraj College of Engineering and Technology, Virudhunagar mentored by Mrs.P.Murugeswari AP/ECE.



### Won trophy in technical events held at Kamaraj College of Engineering and Technology

Mr. M. Mariselvam of second year Electronics and Communication Engineering Department won trophy in technical events held at Kamaraj College of Engineering and Technology, Virudhunagar mentored by Mrs.P.Murugeswari AP/ECE.







### Won 2nd prize with cash award of Rs.20000 in InnovERA contest

Ms.M.Kasthuri (III year), Ms. J. Madhumitha (III year) & Ms. Sivaroshini (II year) of Electronics and Communication Engineering Department had won 2nd prize with cash award of Rs.20000 in InnovERA contest held at Excel Engineering College in Association with StartupTN on 3rd February 2023, Mentored by Dr.R.Tamilselvi Prof & PG Prog Head, Mrs.T.Ruba AP/ECE and Mrs.M.Uma Maheshwari AP/CSBS.

### Department of Chemical Engineering



### Won Second place in paper presentation in St.Michael College of Engineering & Technology

Mr.K.Nantha Kumar & Mr. M.Bharathi Rajan of Chemical Engineering Department got Second place in Paper Presentation in St. Michael college of Engineering. & Technology Symposium on 24th February 2023, Mentored by Mrs.Kajol Priya, Ap/Chem & Mr.M.Samuthirakani, AP/Chem.

### Department of Biotechnology



Students Won second place for art from waste competition and get felicitated by our principal Dr.A.Senthil Kumar,B.E.,M.E.,Ph.D.,



P.Mohammed Manaz, M.Sikkandhar, J.Abdul Malick and P.Vishnupriyan of Biotechnology department have secured second place in the art from waste competition conducted in "Mamadurai kalai thiruvizha", a Rotract club district culturals organized by Rotract club of Madurai and Mannar Thirumalai Naicker College, Madurai on 29.01.2023. The winners are felicitated by Respected Principal Dr.A.Senthil Kumar, B.E.,M.E., Ph.D.,

### Department of Computer Science and Business Systems

M.RagulVasanth and U.D.Aravindhan, 2nd year CSBS won first prize with Trophy in Project presentation held at Kreativ'23 a technical symposium conducted by Kamaraj College of engineering and Technology on 09th FEB 2023.Mentor is Dr.R.Aghila. HoD, CSBS

N. Sakthivignesh,M. Umar Ali,R. EswarKarthic and S. Sayeeswarnan, 2nd year CSBS won first prize with Trophy in Short Film Contest held at CSEUTSAV'23, a technical symposium conducted by PSNA College of engineering and Technology on 17th FEB 2023.Mentor is Dr.R.Aghila. HoD, CSBS

M. Umar Ali, 2nd year CSBS won third prize in Short Film Contest held at CSEUTSAV'23 a technical symposium conducted by PSNA College of engineering and Technology on 17th FEB 2023.Mentor is Dr.R.Aghila. HoD, CSBS

M.RagulVasanth and U.D.Aravindhan, 2nd year CSBS won first prize with Trophy in Project presentation held at Kreativ'23 a technical symposium conducted by Kamaraj College of engineering and Technology on 09th FEB 2023.Mentor is Dr.R.Aghila. HoD, CSBS





### Call For Innovative Project Contests

Sl.No	Name of the Event	Organizer	Type of the Event	Date of the Event
1.	9th edition of the National Level Technical Project Exhibition named SRISHTI-2023	Saintgits College of Engineering (Autonomous), Kottayam, Kerala	Technical Project Exhibition	28,29 th March
2.	PHANTASM 2K23	Government College of Engineering, Bargur	National Level Technical Symposium	abstract submission is 31.01.2023
3.	HISTELCON 2023	IEEE	IEEE Conference	7-9th September 2023

### Call For Innovative Project Contests

Sl.No	Name of the Event	Organizer	Type of the Event	Date of the Event
1.	Promoting Academic Research Conversion to Enterprise	BIRAC	Funding	Call Opens 15st Feb 2023 Call Ends 31st March 2023
2.	BioNEST	BIRAC	Funding	The call is open throughout the year.
3.	2024-2025 Fulbright Nehru Postdoctoral Research Fellowships	Fulbright India	Postdoctoral Research Fellowships	July 17, 2023
4.	Research Proposal	Centre for High technology	Funding	31st March 2023
5.	Core Research Grant	SERB	Funding	15th March 2023





## Congratulations!!!

*The following faculty has been awarded with PhD degree during last year During  
Jan 2023 To Feb 2023*

*Dr. V. Vaishnavi, Part time research scholar, Assistant Professor, Department of  
Electrical and Electronics Engineering, Sethu Institute of Technology, under the  
supervision of Dr.P.Suveetha Dhanaselvam, Associate Professor, Velammal  
College of Engineering & Technology, Madurai.*



### Editorial Team

Dr.M.Parisa Beham, Prof & Head/ECE  
Dr.R.Tamilselvi, Prof & PG Head/ECE  
Dr.P.Meenalochini, Asso.Prof./EEE

### SetRite Coordinators

Details	Faculty coordinators
Recent Researches and Innovations in Technologies	Dr.J.Vairamuthu, ASP/Mech
Coffee with Elite Researcher	Dr.J.Jeyashanthi, ASP/EEE
Call for Research Proposals Call for Project Contests	Dr.S.Vijayarajan, Prof /EEE
Research Achievements by Faculty	Dr.A.M.Arun Mohan, ASP/Civil Ms.T.Ruba,AP/ECE
Research Achievements by Students	Mr.S.Parameswaran, AP/IT Dr.M.Rajalakshmi, ASP/BME
Research Publications by faculty	Dr.S.Karthick Kumar, ASP/Physics
Patents granted	Dr.I.Sheik Arafat, ASP/ECE
Consultancy works	Dr.R.Babhu Vignesh, ASP/Chem
Programs organized	Dr.M.Jothi Bass, ASP/Agri
Faculty/FT Scholars PhD completed details	Dr.S.Mariaamalraj, ASP/BT Dr. S.S.D.Elanchezhiyan, ASP/Chem
Language Edition	Dr.Ramesh, Prof,&HoD/English