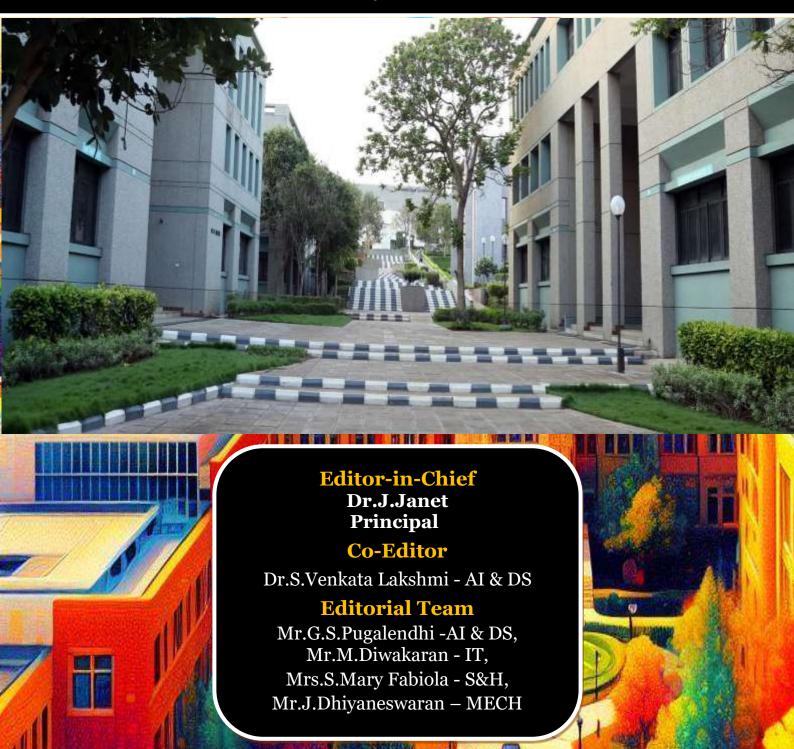


24th February- 1st March 2024





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# EEE & ECE | CENTRE OF EXCELLENCE INAUGURATION







SKCET signed a **Memorandum of Understanding (MoU) with Kinpaun Technologies**, Coimbatore to foster collaboration between Academia and Industry on 26.02.2024.

As an outcome of the MoU signed, **Centre of Excellence** in **'Energy Management and Industrial Automation'** was inaugurated by our **Principal Madam Dr.J.Janet** in the presence of **Mr.Jaganadan Hariharan**, CEO, Kinpaun Technologies, Coimbatore.

The MoU will further facilitate In-house real time projects, Internship offers for students, in plant and Skill Development Training, Consultancy Projects. An exclusive website of **Kinpaun Technologies** designed by our **Second** year EEE and ECE students was also launched by our **Principal Madam Dr.J.Janet**. This website will showcase the real time and consultancy projects undertaken by the students.



# EEE & ECE | INDUSTRY PROJECT



As an outcome of the MOU signed 10 dynamic students of **Second** year EEE and ECE will embark on an exhilarating industry project at the newly inaugurated Center of Excellence (COE) in Energy Management and Industrial Automation.

Our Principal Madam, Dr.J.Janet, personally engaged with these students, instilling in them a fervent motivation to excel and make the most out of this incredible opportunity.



### EEE TEAM ARINNA



Department of EEE has introduced a new vibrant EEE girl's team to revolutionize the world of motorsport - Team ARINNA.

The team comprises talented drivers, skilled technicians, dedicated faculty mentors and is led by a group of determined young women who are all set to break barriers in the world of motorsport. The team has now geared up to set their spot in the E-Kart racing championship event organized by the **Academy of Indigenous Motorsport**. Our **Principal** Madam Dr.J.Janet, extended her heartfelt wishes for the team's triumph, marking the beginning of an exciting journey.





# **HACKATHON ACCOLADES**



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### AI&DS | HACKATHON









Bharathwaj P R, Adithya J and Jothis P G students of First year Al&DS have actively participated in the 24-Hour National Level Techathon 2024 conducted on 17.02.2024 and 18.02.2024 organized by Innovation Foundation Pune.







### EEE | VISAI 2024 - INTERNATIONAL PROJECT COMPETITION





Two student teams from the Department of **EEE** have excelled in the Grand Finale of 'VISAI 2024 - 14th International Project Competition and Exhibition', organized by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai in collaboration with UNESCO - Indian National Commission for Cooperation (INCCU) on 24.02.2024.

Out of 74 competing teams, EEE teams have secured First and Third Places under the problem statements - Automated Digital Safety Kit for Forklift & Affordable in Clean Energy. The students were honored with Merit Certificates and a total cash award of Rs.12.000/-.

Team 1: First Prize for the project titled 'Smart Automated Safety Net Kit for Forklift'.

**Team Members:** Vidhushini K - II EEE B, Saran R - II EEE B, Tamil Selvan

M - II EEE B

Faculty Mentor: Ms. R.Geethamani, AP/EEE

Team 2: Third Prize for the project titled 'Design and Development of **Highway Power Generation using Wind Energy System'.** 

**Team Members:** Thangavel A - III EEE B, Raghul M - III EEE B, Harini Sruthi

KP-IIIEEEB

Faculty Mentor: Dr. N.Loganathan, AP/EEE

Feedback @ skcetbuzz@skcet.ac.in



### EEE | INTERNSHIP ON ROBOTICS & **AUTOMATION**









Student team from Second year EEE has successfully completed Two - week internship on Robotics and Automation conducted by the Centre for Robotics and Automation in association with the Department of Production Technology, Madras Institute of Technology campus, Anna University, Chromepet, Chennai from 12.02.2024 to 23.02.2024.

Best Project in Intern Ideathon: Shreyas Viswanth K and Vivin B G of Second year **EEE B** submitted their Project idea titled **Multipurpose Medical Bed** and it was recognized as Intern Best Project idea.



### CSBS | IIC INNOVATION CONTEST



Student team from the Department of Computer Science and Business Systems has clinched Second Prize in the Thiran 2.0 IIC Innovation Contest, a prestigious National Level event organized by Jansons Institute of Technology, Coimbatore on February 24<sup>th</sup>, 2024.

Title of the Project: Ovarian Cancer Subtype Classification and Outlier Detection

#### **TEAM MEMBERS:**

- DURAIRAJ S, II CSBS
- ROSHNI A, II CSBS
- MADHUMITAA B, II CSBS
- PRADEEP M, II CSBS

Mentor: Dr.G.Ignisha Rajathi, Associate Professor, CSBS



# **EEE | QUIZ COMPETITION**







Sanjiv Dharshan and Sathiya Narayanan students of Second year EEE B have secured Third prize in ROBORG 24-Quiz event conducted by the Mechatronics Department of SKCET in association with IEEE Robotics and Automation Society (IEEE RAS) organized on 23.02.2024.



# MCT INTERNSHIP ON ROBOTICS & **AUTOMATION**









Following Third year students from the Department of Mechatronics Engineering have underwent two weeks internship on "Robotics and Automation" from 12.02.2024 to 23.02.2024, conducted by Centre of Robotics and Automation, MIT Campus, Anna University, Chennai.

- Adith.U
- Abinith.R
- Baranisundar.S
- N.Bharanidharan
- J.Bharanidharan
- Harikrishnan.C
- Jayananth.JP
- Logapranav
- Logapriyan.M



### **MECH | STUDENT CERTIFICATION**



Monish A. student of **Third** Mechanical Engineering has received a certificate of appreciation for being Track and Timing Volunteer from Formula Bharat 2024 competition from 19.01.2024 to 24.02.2024.

### CSBS | JUST A MINUTE





Jothi Babu, student of second year Computer Science and Business Systems has secured Second Place in the Intercollegiate Event "Just a Minute" conducted as a part of ROBORG 24 by the Department of Mechatronics Engineering on 16th February 2024.



### IT | INTERNSHIP ON ROBOTICS & **AUTOMATION**



Subhesha S, Subasri B, students of Second year IT have successfully completed Two-Week Internship on Robotics and Automation during 12-02-2024 and 23-02-2024 certified by the Department of Production Technology, MIT Campus, Anna University.

### IT | ROBORG 24



Thesjaswini K, Sahana CR, students of Second year IT have secured First place in the Intercollegiate event Quiz competition conducted as a part of **ROBORG** by the Department of Mechatronics Engineering, SKCET on 16-02-2024.





# **STUDENTS** CERTIFICATION



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### AI&DS | WORKSHOP



Ashika SM and Lipeka D, students of Second year Al&DS have participated in the Workshop on "Sensor Interface and Integration" organized as a part of KRIYA 2024 by PSG College of Technology from 23.2.2024 to 25.2.2024.

# AI&DS | COURSERA CERTIFICATION



Sanjay M, student of First year AI&DS has successfully "Introduction completed Artificial Intelligence (AI)"course offered by Coursera on 24.02.2024.





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### EEE | WORKSHOP ON INNOVATIONS AND ENTREPRENEURSHIP



IIC of SKCET in association with the Department of Electrical Electronics 'Innovations and Engineering organized а Workshop on and Entrepreneurship' for Second year EEE Students on 23.02.2024.

**Session 3 -** Innovations into Entrepreneur - Ideas and Experience

Resource Person: Mr. T. U. Vishnu, VR Training Tech Head, Machenn, Coimbatore.

### **Session Highlights:**

• Challenges and steps to run successful business as an entrepreneur, Startup ideas and entrepreneurship, Govt fund schemes for startup companies, Different Business model and Marketing strategies.



### EEE | WORKSHOP ON INNOVATIONS AND **ENTREPRENEURSHIP - DAY 2**





Resource Person: Mr. A. Prabhakaran, Project Engineer, ZED Digital, Coimbatore.

**Session 1:** PCB design process and routing

### **Key Pointers:**

 In-depth examination of the ATmega328P microcontroller, Practical application of relays in circuit design, Analysis of the pin diagram of the ATmega328P, Comprehensive understanding of oscillators/crystals and their role in electronic circuits.

**Session 2: Exploring Circuit Simulation with Proteus Tool** 

### **Key Pointers:**

 Hands-on experience in developing a moderate circuit using KiCad, Cost Optimization Strategies, Emerging Technologies and Trends.



### EEE | IIC OUTREACH ACTIVITY







IIC of SKCET in association with the Department of Electrical Electronics and Engineering organized an Outreach Programme for Self Help Women Group (SHG) on the theme Innovations and Entrepreneurship at Palamalai village to enrich the economic growth of Irular tribal community on 24.02.2024.

#### **Resource Person:**

Ms. S. Santhi Priya,

Village Panchayat President, Naickenpalayam, Periayanaickenpalayam block, Coimbatore.

### **Session Highlights:**

- Importance of millet products in market
- Startup ideas and entrepreneurship in millet products
- Government fund schemes for startup
- •Skill development and training to enrich the innovations in processing millets
- Business model and marketing strategies in millet products

The Panchayat President and SHG members thanked the Institution for the great initiative taken for their economic growth enrichment.



### MCT | ROBORG 2024



Department of **Mechatronics Engineering** in association with **IEEE Robotics** and Automation Society (IEEE RAS) organized ROBORG 24 on 23.02.2024. Mr. B. Shakthi, Senior Associate Consultant, Bosch, Coimbatore was the Chief Guest.

### **Session Highlights:**

- Technological improvements required for Engineers
- Application of Al
- Future of Mechatronics Engineering



### M.TECH CSE | EMPOWERING YOUNG MINDS: INSPIRING READING AND WRITING THROUGH **BOOK TALK SESSIONS**









Feedback @ skcetbuzz@skcet.ac.in

C.N Gunathmika Chandraleka, student of First year M.Tech CSE conducted her inaugural book talk sessions at TIPS (The Indian Public School) Erode on 22.2.2024 and at the TIPS Salem branch on 23.2.2024. She encouraged the students to cultivate a habit of reading and writing by engaging them in interactive book reading sessions. The session was to inspire students from grades 3 to 6 to enhance students creative writing skills.





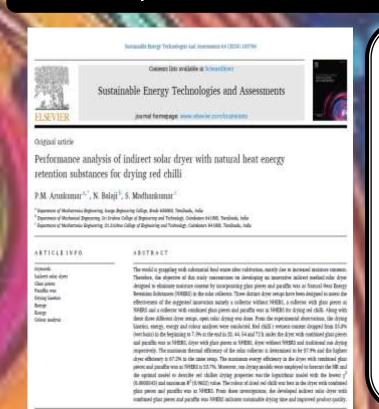


# **R&D | JOURNAL PUBLICATION | MECH**

Dr.P.Ashoka Varthanan. HoD. Department of Mechanical Engineering, has published research article titled "Optimization of the Shot Peening Process **Parameters** to Improve Flexural Strength of Heated 2024 Alloy" Aluminium in International Journal of Interactive Design and Manufacturing . It is indexed in Scopus.



# **R&D | JOURNAL PUBLICATION | MECH**



Dr.N.Balaji, Professor, Department of **Mechanical Engineering**, has published a research article titled "Performance Analysis of Indirect Solar Dryer with Natural Heat **Energy Retention Substances for** Drying Red Chilli" in Sustainable **Technologies** Energy Assessments. It is indexed in Scopus and SCI.



# **R&D | JOURNAL PUBLICATION | MECH**

Dr.R.Jeyakumar, **Associate** Department Professor. of Mechanical Engineering, published a research article titled and Viscoelastic "Mechanical **Properties of** Nanoclay Filled Bamboo/Glass Fibre Reinforced **Unsaturated** Polyester **Composites**" in Materials Research. It is indexed in Scopus and SCI.

Mechanical and Viscoelastic Properties of Nanoclay Filled Bamboo Glass Fibre Reinforced Unsaturated Polyester Hybrid Composites

R. Jevakomar<sup>2</sup>, S.M. Flux Kumar<sup>2</sup>\* Q. J.P. Rishif, C. Smilkomar<sup>2</sup>

Set Existing College of Engineering and Technology; Department of Machanical Engineering, Kentamatius Consisterce, Iten/ Nath, India

\*Set Krishea College of Technology, Department of Mechanical Engineering, Europeane, Coimbatore, Tamil Noils, India

"Vulvavardioka Callege of Engineering: Department of Mechanical Engineering: Mysters, Karnatoka, India. Bossert Annan Institute of Technology, Department of Mechanical Engineering, Sollyamangolom, Taxel Nady, India.

Received December 12, 2023; Revised January 31, 2024; Accepted February 66, 2024

The developed novel Nanoclay (NC) filled bamboo fibre (BF) (glass fibre (GF) resultanced unsuranted polyester (USF) hybrid composites were subjected to static and dynamic mechanical studies. Effect of NC on mechanical properties of the next and NC filled BF-GF hybrid composites were tested as accordance with the ASTM standards. Dynamic mechanical analysis was performed on the composites to evaluate their viscoelastic properties like, storage modulus (E'), loss modulus (E') and damping factor (Tanō). Outcomes of the mechanical results revealed that, NC filled BF/GF-USP hybrid compoutes showed upperior mechanical performance over the near hybrid composites particularly 5 wt.% NC filled BFAGE hybrid composite (HC4) outperformed other composites. From the dynamic mechanical et was found that the addition of NC filler in the hybrid composites enhanced the  $E^*$ ,  $E^*$  and glass transition temperature ( $T_p$ ). Fractioned speciments of the hybrid composites were enamined using Field emission electron microscope (FESEM). Matrix fracture, micro-cracks, fibre pollouts, stretching of fibres and delamination of the fibre layers were agradicately noted in the fractography analysis. Therefore, from the obtained sesults, NC filled BF GF USP hybrid nanocomposites can be employed for untomotive applications

Keywords: Nanoclas Bankoo films: Glass films: Nanocomposites: Hybrid composites: Stocking seguence.

# **R&D | BOOK PUBLICATION | MECH**

Dr. A. Sothishkumar, Working as an Assistant Professor in the Department of Mechanical Engineering, Sri Krishna College of Engineering and Technology, Coinstatore, Tarell Nadu. Earned his master's degree in CAD/CAM and was awarded a Doctor of Philosophy in Additive Manufacturing by Anna University, Chennal, Tamil Nadu. His research interests lie at the intersection of design and manufacturing, particularly in the rapidly evolving field of additive manufacturing and internet of things. He is passionate about exploring how the technology can be used to create innovative ns for real-world challenges, and his work has been aublished in several peer-reviewed nals and conference proceedings.





Dr. A. Sathishkumar

Dr.A.Sathishkumar, **Assistant** of Professor. Department Mechanical Engineering, has published a text book titled "Internet Things for Mechanical Engineering" with ISBN 978-93-340-2467-8.

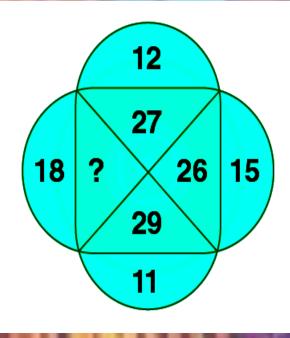


### **R&D**| JOURNAL PUBLICATION | IT

Mustafa. Dr Mohammed Associate Professor, IT has published titled paper "Determination of time location point and investigation of BSN using RATDMA and PATDMA" in the Journal of Intelligent and fuzzy systems, a SCIE indexed journal in Annexure 1 of Anna listed University.



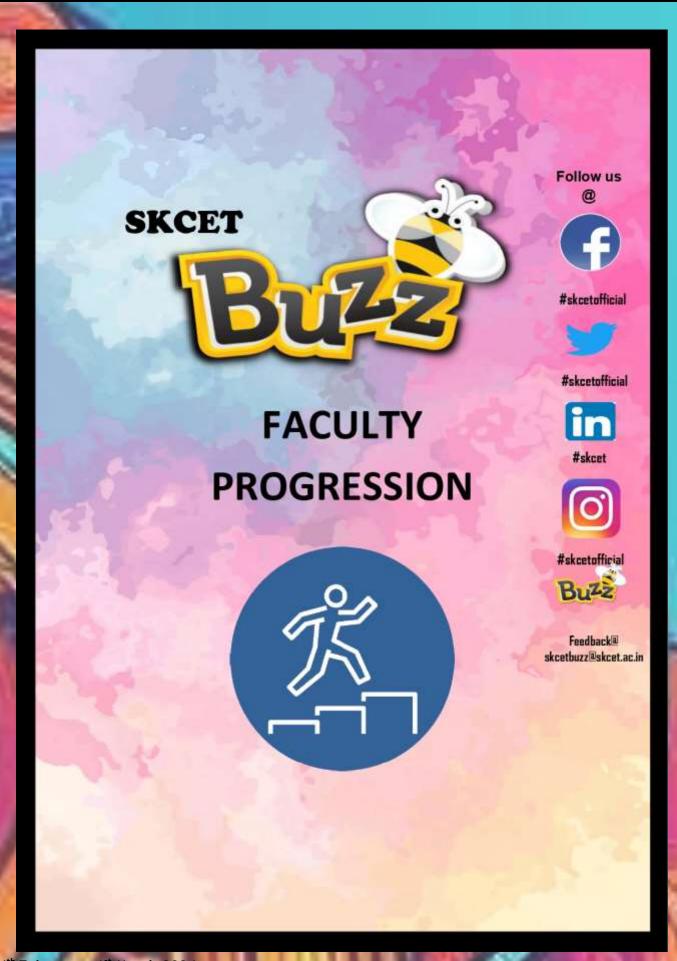
### **CAN YOU SOLVE?**



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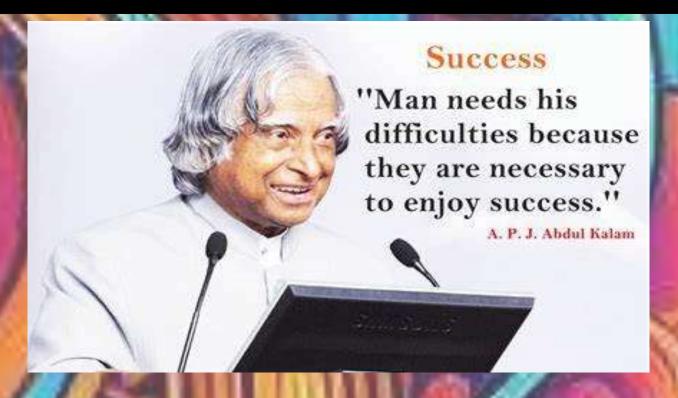


### ECE | IEEE FACULTY AWARD



IEEE Student Branch of SKCET (STB-61261) has been recognised with the Best IEEE Student Branch Counsellor Award for its student branch activities conducted during the year 2023. IEEE Madras Section chairman honoured Dr.V.Nandalal, Professor, ECE with Best IEEE Branch Counselor Award for his involvement towards IEEE student activities. branch The award ceremony was held at Le Meridien hotel, Chennai on 23.02.2024.

### **LEGENDARY INSIGHTS**



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### EEE/ECE | FDP ON ELECTRIC VEHICLE SYSTEM-LEVEL MODELING AND SIMULATION USING MATLAB



Mr. S. Karthikeyan and Ms. N. Kalaivani, faculty members of EEE and ECE respectively have participated in a comprehensive Five-day ICT Faculty Development Program on 'Electric Vehicle System-Level Modeling and Simulation using MATLAB' at PSG Institute of Technology and Applied Research in Coimbatore from 19.2.2024 to 23.02.2024.

### **Key Pointers:**

- Introduction to Programming for Electric Vehicles
- Basic Vehicle Modeling Techniques
- Control of Direct Current (DC) Motors in EVs
- Brushless Direct Current (BLDC) Motor Control Methods.
- Permanent Magnet Synchronous Motor (PMSM) Control Strategies
- Effective Battery Management Systems for EVs
- Modeling Powertrains for Electric Vehicles
- Understanding Vehicle Dynamics in an Electric Context
- System Level Modeling of Electric Vehicles
- Familiarization with the Electric Vehicle Curriculum and Delivery Instructions.



### EEE/ECE | FDP ON DIGITAL TWINNING OF MATERIAL PROCESSING TECHNOLOGIES











Dr.A.Radhika, Ms.N.Subhashini, Ms.G.Mahalakshmi, Ms.N.Subhalakshmi and Mr.R.Kavin, faculty members of EEE Department have participated in the AICTE Recognized Faculty Development Programme on "Digital twinning of material processing technologies" from 05-02-2024 to 09-02-2024 organized by NITTTR-Chandigarh.



# **EEE | COURSERA CERTIFICATION**



Dr.J.Karthika, Associate Professor, **EEE** Department has successfully completed the course on "Renewable **Technology** Energy Fundamentals" certified by Coursera.

### EEE | ICT FDP ON ELECTRIC VEHICLE **SYSTEM**

Mr.S.Karthikeyan, Assistant Professor, EEE has participated Faculty in Five Days Development Program "Electric Vehicle System-Level Modelling and Simulation using MATLAB & Simulink" conducted by ICT Academy on 19.02.2024 to 23.02.2024 at PSG Institute of Technology and Applied Research.





### MCT | FDP ON CYBER SECURITY: ANALYTICS TOOLS, USE CASES AND DEMO









Dr.D.Pritima, Dr.K.Ananthi, Ms.S.Nithyapriya and Ms.S.Kannaki faculty members of MCT have participated in the Five Days Faculty Development Program on "Cyber Security: Analytics Tools, Use Cases and Demo", in collaboration with Cyber Heals Infotech Pvt Ltd, Chennai held at Vellore Institute of Technology, Chennai from 12<sup>th</sup> February – 16<sup>th</sup> February 2024.



### MCT | FDP ON DIGITAL TWINING OF MATERIAL PROCESSING TECHNOLOGIES





Dr.D.Pritima and Dr. L. Feroz Ali, faculty memers of MCT have participated in the AICTE Recognized Faculty Development Programme on "Digital Twining of Material Processing Technologies" conducted by Mechanical Engineering Department of NITTTR Chandigarh from 05.02.2024 to 09.02.2024.

### MCT | NATIONAL SEMINAR **PARTICIPATION**



Dr.S.Dinesh, Assistant Professor of MCT has participated in Science and Engineering (SERB) sponsored Five National Seminar Days on "Contemporary **Technical** Advancements in Green **Energy** Conservation for Sustainable organized Development" by Department of Mechanical Engineering, Erode Sengunthar Engineering College, Perundurai, Erode from 12-02-2024 to 16-02-2024.



## MCT | FDP ON GLOBAL CONVERSATIONS IN MECHANICAL ENGINEERING

Dr.R.Gopinathan, Associate Professor of **MCT** has participated in the 5 Days International Virtual FDP on "Global Conversations in Mechanical **Engineering: Bridging Innovation** and Sustainability" from 19th to 23rd February 2024, organized by the Department of Mechanical Engineering, Madanapalle Institute of Technology & Science, Pradesh, India.



### AI&DS | MSME-BOOTCAMP



Mr.A.Wasim Raja and Mr.G.S.Pugalendhi, Assistant Professors of AI&DS has successfully completed 7 days free Bootcamp "Deep on Learning and Deployment on Web" offered by GIET University and AWS -Devtown.



#### ECE | FDP ON ELECTRIC VEHICLE SYSTEM- LEVEL MODELLING AND SIMULATION USING MATLAB & SIMULINK

Ms N Kalaivani, Associate Professor, Department of **ECE** has attended one week Faculty Development Program on Electric Vehicle system- Level Modelling and Simulation using MATLAB & Simulink, conducted by ICT Academy held from 19.02.2024 to 23.02.2024 at PSG Institute of Technology and Applied Research.



## AI&DS | FACULTY CERTIFICATION





Mr.Senthil Kumar S, Mr.Balaji K, Assistant Professor, Al&DS has successfully completed 7 days free Bootcamp on "Deep Learning and Deployment on Web" by AWS Community Builders.



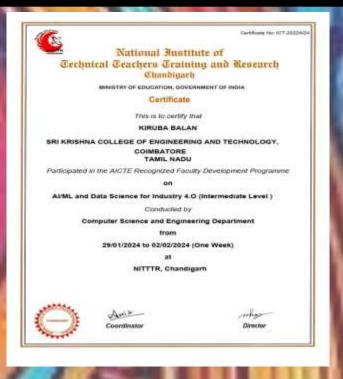
## MECH | FDP ON DIGITAL TWINING OF MATERIAL PROCESSING TECHNOLOGIES

Dr.K.P.Yuvaraj and Dr.S.Raja, Professors. Associate Mechanical **Engineering** Department have participated and successfully completed one Virtual week Faculty Development Program "Digital Twining of Material Processing Technologies" from 05. 02. 2024 to 09. 02. 2024 organized by the Department of Mechanical Engineering, NITTTR, Chandigarh.





# AI&DS | FDP ON AI/ML & DATA SCIENCE FOR INDUSTRY 4. O



Ms.Kiruba В, Assistant AI&DS Professor, has participated the **AICTE** in recognized FDP on AI/ML and Data Science for Industry **4.0**(Intermediate Level) conducted by Computer Science **Engineering** Department and from 29.01.2024 to 02.02.2024 at NITTTR, Chandigarth.



## AI&DS | MICROSOFT CERTIFICATION





#### Balaji k

has successfully completed

Fundamentals of machine learning

February 23, 2024



Mr.K.Balaji, Assistant Professor, AI&DS has successfully completed "Fundamentals of **Machine Learning**" by Microsoft

#### **INFOGRAPHICS**

#### **Cyber Security**

**Key Trends To Know** 



Attacks Against Cloud Services



Growing IT Skills Gap and Soft Skills Demand



Rise in IoT Devices With 5G Connectivity



Generative AI and Machine Learning



Zero Trust Cyber Security



International State-Sponsored Warfare



Evolving Social Engineering Attacks



Multi-Factor Authentication

on February 23, 2024.



Continuously Evolving Ransomware



Mobile Cybersecurity



Connected Cars



Rise in Insider Threats



Cybersecurity to Cyber Resilience

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# CIVIL | PAPER PRESENTATION













The **Second** and **Third** year students of **Civil Engineering** Department presented their research papers in the 1<sup>st</sup> International Conference on "Recent Advances in Infrastructure Development (RAID 2024)" organized by the Department of Civil Engineering, National Institute of Technology, Calicut on 12th and 13th February 2024.



# CIVIL | PAPER PRESENTATION







| S. No | Name of the Students                           | Paper Title   | Mentor              |
|-------|--|---|---------------------|
| 1.    | Dharanipriya R V<br>Sahil M                    | Intelligent transportation system using automated traffic signaling   | Dr. R. Chandra Devi |
| 2.    | Indra Priya Dharsini E<br>Sri Dhanyaa R        | Damage detection in bridges using artificial intelligence and machine learning method   | Dr. R. Chandra Devi |
| 3.    | Navin Kishore K Gunanandhini R Pooja R Rijul S | Stabilization of expansive soil using bamboo and natural fiber reinforcement  | Dr. R. Chandra Devi |
| 4.    | Sowmiya P R  Tarunya Shree S  Rufus Boban      | Experimental thermal characterization of earthen flooring systems with hemp fiber in different configurations                                     | Mr. A. Jesudass     |
| 5.    | Nishanthini R,<br>Vidhyasri S U                | Development of low-carbon earthen<br>flooring tile and its strength, durability<br>and thermal characterization by<br>incorporating natural fiber | Mr. A. Jesudass     |
| 6.    | Priyanga S<br>Sri Kaviya S<br>Sujitha M        | Development of hemp fibre-reinforced<br>earthen block and its experimental<br>thermal characterizations   | Mr. A. Jesudass     |





# **ALUMNI** CORNER



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# **CSBS | ALUMNI RECOGNITION**



#### **SKCET ICON AWARD**

Ms. Nivethini G S 2019-2023 Batch Junior Engineer, Astrazenaca



#### **OUTSTANDING CONTRIBUTOR AWARD**

Mr. Siva Shankar R 2018-2022 Batch PG Scholar, MBA, Indian School of Science and Management, Chennai



#### Office Bearer - Coimbatore Chapter

Mr.R.Santhosh 2019-2023 Batch Director La VINCITA LIFESCIENCES **PVT.LTD** Coimbatore



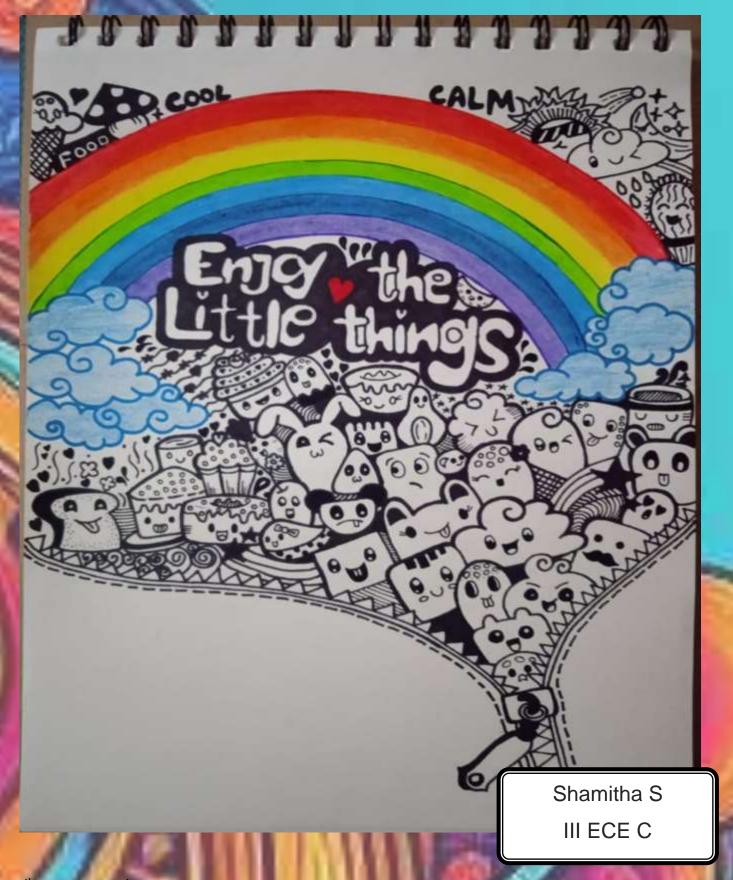


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# CSBS | ART



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### **ECE** THE FUTURE OF SPACEWALKING: MIT AND DRAPER'S INNOVATIVE SPACE BOOT

Space exploration has been a continuous endeavor for humanity. To address the challenges of spacewalks, researchers from the Massachusetts Institute of Technology (MIT) and the Charles Stark Draper Laboratory are developing a revolutionary space boot equipped with built-in sensors and haptic motors.





The innovative feature of the space boot is its use of haptic feedback, a technology that delivers tactile sensations to the wearer. The boot's haptic motors generate precise vibrations that simulate tactile sensations, allowing the wearer to feel the virtual environment mapped by the sensors.

The haptic feedback serves as a navigational aid, guiding the wearer's movements without requiring constant visual attention. For example, if an obstacle is detected ahead, the actuators in the corresponding area of the foot generate vibrations of increasing intensity, signaling the wearer to adjust their stride or direction. This dynamic feedback loop enables astronauts to traverse challenging terrain safely and efficiently.

In addition to navigation, the space boot's haptic feedback can be used for various other purposes. For instance, it can indicate the firmness of a surface, provide feedback on foot pressure distribution, or even warn of potential hazards, such as sharp rocks or unstable ground. Furthermore, the system can be customized to accommodate individual preferences and adapt to different mission requirements.

> Suja S III ECE-A