



MANAKULA VINAYAGAR INSTITUTE OF TECHNOLOGY

Kalitheerthalkuppam, Madagadipet, Puducherry - 605 107

DEPARTMENT OF ROBOTICS AND AUTOMATION

NEWSLETTER- DECEMBER - 2023

About the Department:

The Department was started in the year 2020, our department is one of the newest departments to our college. Robotics and Automation is the new program for Engineering, Robotics and Automation is a multi-disciplinary program, it involves electrical, electronics, mechanical, computer science and AI techniques of robotics. Robotics and Automation Engineering is one of the emerging multi-disciplinary areas transforming conventional practices in industry to digitalization which plays a crucial role in the Prime Minister's Call 'MAKE IN INDIA', 'DIGITAL INDIA' and INDUSTRY 4.0. Robotics and Automation plays a major role in manufacturing units, medical science, space, etc., with the rapidly advancing process of inclusion of robots from Industry to the Social Arena, the functional requirement of the robots and corresponding human expectations has increased tremendously. However, in order to fully comprehend the complexities of such robot design, one needs to possess an over-all idea of the field.

Vision

To be a centre of excellence in the field of Robotics and Automation by providing excellent education, training, research and inculcating human values to cater the needs of the industries and society.

Mission

- **Higher Order Thinking:** To equip the students with higher order thinking and technical skills in Robotics and Automation through effective teaching learning methodologies.
- **Competency:** To educate and train the students with state of art technologies, industry institute interaction and promote research in the field of Robotics and Automation.
- **Continuous learning:** To provide an ambience that facilitate self learning, collaborative learning and acquire multidisciplinary knowledge.
- **Entrepreneurship:** To encourage the students by nurturing creativity and innovation to launch start-ups and promote entrepreneurship.

Programme Educational Objectives (Peos)

- **PEO1: Employability:** Our Graduates shall be suitably employed with professional competency and knowledge of modern tools.

- **PEO2: Higher Education:** Our Graduates shall be capable to pursue higher studies/research in the field of engineering and management.
- **PEO3: Entrepreneurship:** Our Graduates shall be prepared for a successful career by meeting ever increasing demands required by Robotics and Automation profession and enable them to become an entrepreneur.
- **PEO4: Professional and Ethical values:** Our Graduates cultivate professional and ethical attitudes with effective communication skills, team work and multidisciplinary approach related to engineering issues.

Program outcomes (POs)

POs	DESCRIPTION
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the

	engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcome (PSO)

PSO1: Process Automation: Create and apply simulation tools for modern engineering and real time Automation process.

PSO2: Products Development: Design, analysis and to develop a Robotics and Automation products in health care, security, defense, space research, banking, entertainment applications.

Staff Activities:

- Dr.G.Renuka Devi, Prof/R & A has participated & completed successfully Five Day online PDP on "Application Circuit Simulation and PCB Design using Multisim" organized by National Institute of Technical Teachers Training and Research-Chennai. from June 5 – 6, 2023.
- Dr.G.Renuka Devi, Prof/R & A has participated & completed successfully Five Day online PDP on "Application in Power Electronics Engineering" organized by National Institute of Technical Teachers Training and Research-Chennai. from July 10– 14, 2023.
- Dr.G.Renuka Devi, Prof/R & A has participated & completed successfully Five Day online PDP on "Simulation using ORCAD PSPICE" organized by National Institute of Technical Teachers Training and Research-Chennai. from 04/09/2023 to 08/09/2023.
- G. Renuka Devi, D. Praveen, B.Bhuvaneswari, M. Hariharan and N.Nithya Sre, "Automatic Paddy Drying Robot", International Conference on System, Computation, Automation and Networking 2023, 17th -18th , Nov, 2023.
- G Renuka Devi, S. Athiyan, k. Ilan Thamizh and V. Hema Varthini, "Speed and Distance Detection for Highway Traffic using Python", International Conference on System, Computation, Automation and Networking 2023, 17th -18th , Nov, 2023.
- Dr.G.Renuka Devi, Prof/R & A has completed and received NPTEL certification on "Transducers for Instrumentation" on 29.10.2023.
- Dr.V.Govindan, ASP /R&A has successfully Completed 5 days Faculty Induction Programme on "High Impact Teaching Skills", organized by MVIT from June 26th to 1st July, 2023.
- Dr.V.Govindan, ASP /R&A has successfully Completed 5 days Faculty Development Programme on "Quality in Teaching and learning Skills", organized by MVIT from 3rd to 7th July, 2023.

- Dr.V.Govindan, ASP/R&A has successfully Completed 5 days Faculty Development Programme on "Applications in Power Electronics Engineering", organized by NITTER, Chennai from July 10th to 14th 2023.
- Dr.V.Govindan and Dr.N.Pappa, 2023, November. "Fuzzy Adaptive Multimodel Based Enhanced PID Controller with Kick Elimination for Smooth Power Control of Pressurized Water Reactor." In 2023 International Conference on System, Computation, Automation and Networking (ICSCAN), pp. 1-6. IEEE, 2023.
- A.Baskaran AP/RA has delivered Guest lecture on "PLC-SCADA" for 2nd, 3rd and 4th year students on 21th Oct 2022 at Achariya College of Engineering Technology, Villianur, Puducherry.
- A.Baskaran AP/RA has topic on "INDUSTRIAL AUTOMATION" for 3rd year students EEE on the 3 days (04-04-2023) at MVIT, Puducherry.
- A.Baskaran AP/RA has topic on "PLC" for 3rd year students Robotics and Automation on the 30 Sep 2022 at MVIT, Puducherry
- A.Baskaran AP/RA has topic on "INDUSTRIAL HARD-WIRING CONTROL" for 2nd year students ECE on the 30 Sep 2022 at MVIT, Puducherry.
- A.Baskaran AP/RA has topic on "SCADA" for 2nd year students Robotics and Automation on the 24 Feb 2023 at MVIT, Puducherry.
- A.Baskaran AP/RA has completed and received Course era certification on "Introduction to Microsoft Excel" on 10.01.2024.
- A.Baskaran AP/RA has completed and received Udemy certification on "Best Starter Course : ROS & Robotics Simplified" on 08/01/2023.
- A.Baskaran, AP/R&A has successfully Completed one week Faculty Development Programme on "Outcome Based Education for Effective Learning and Teaching", organized by PPG INSTITUTE OF TECHNOLOGY from Feb 01th to 09th 2023.
- Baskaran; S. Arunmozhi; S. Vishnu, "Monitoring Street light using Power Line Carrier Communication (PLCC) & SCADA", International Conference on System, Computation, Automation and Networking 2023, 17th -18th , Nov, 2023.
- Jasmine Susila D, Renuka Devi.G, Azar Khan A and Jagadesh A, "GPS Routing of Shortest Path through Kernel Algorithm", International Conference on System, Computation, Automation and Networking 2023, 17th -18th , Nov, 2023.
- Ms.D.Jasmine Susila, AP/R&A has completed and received Course era certification on "Introduction to Microsoft Excel" on 10.01.2024.

- Ms.D.Jasmine Susila, AP/R&A has completed and received Course era certification on “Create a website using WordPress: Free - Hosting and Sub-domain” on 09.01.2024.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed 5 days Professional Development Programme on "Artificial Intelligence Applications in Power Plants", organized by NITTER, Chennai from December 18th to 22nd, 2023.
- Ms.D.Jasmine Susila, AP/R&A has attended a one day “Consumer Outreach Programme” conducted by TRAI, India on 11th October, 2023 at MVIT.
- Ms.D.Jasmine Susila, AP/R&A has attended Faculty Development Program on “Python Programming” conducted by TCS on 14th September 2023 at MVIT.
- Ms.D.Jasmine Susila, AP/R&A has attended two days eYantra workshop on “Introduction to Embedded Systems and Robotics” conducted by ERTS Lab, IIT Bombay on 28th & 29th July 2023 at AVIT, Chennai.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed one week Faculty Development Programme on "Outcome Based Education for Effective Learning and Teaching", organized by AMET University from July 19th to 27th 2023.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed 5 days Faculty Development Programme on "Applications in Power Electronics Engineering", organized by NITTER, Chennai from July 10th to 14th 2023.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed 5 days Faculty Induction Programme on "High Impact Teaching Skills", organized by MVIT from June 26th to 1st July, 2023.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed 5 days Faculty Development Programme on "Quality in Teaching and learning Skills", organized by MVIT from 3rd to 7th July, 2023.
- Ms.D.Jasmine Susila, AP/R&A has successfully Completed 5 days Faculty Development Programme on "Recent Trends in Electric Vehicle Technology", organized by NSRIT, Visakhapatnam from June 19th to 23rd, 2023.
- JV. Pesha, Dr .G. Renukadevi, Srinath G, Sheshanth R and Premkumar.S, “Eco-Centric Landscaping: The Science and Strategy of 5-Meter Seed Ball Deployment”, International Conference on System, Computation, Automation and Networking 2023, 17th -18th, Nov, 2023.
- J.V.Pesha,"Design and implementation of GSM controlled versatile Robotic Vehicle using a PIC microcontroller", METSZET Journal,Volume 8,Issue 8,2023
- JV.Pesha, AP/RA, has successfully Completed 5 days Faculty development programme on “Recent Trends in electric Vehicle technology”, organized by NSRIT,Visakhapatnam, from June 19th to 23rd, 2023.

- JV.Pesha, AP/RA, has successfully Completed one week Faculty development programme on "Outcome based Education for effective learning and teaching", organized by AMET University, from July 19th to 27th, 2023.
- Mrs.JV.Pesha, AP/RA has completed and received Udey certification on "Digital Electronics and logic design" on 28.12.2023.
- JV.Pesha, AP/RA, has successfully Completed 5 days Faculty induction programme on "High impact teaching skills", organized by MVIT, from June 26th to 1st July, 2023.
- JV.Pesha, AP/RA, has successfully Completed 5 days Faculty development programme on "Quality in Teaching and learning Skills", organized by MVIT, from 3rd By my to 7 th July, 2023.
- Mrs.JV.Pesha, AP/RA has completed and received Udey certification on "Quality Control 7 Basic Tools.Basic Lean Improvement tools" on 23.19.2023.
- Mrs.JV.Pesha, AP/RA has completed and received Udey certification on "Autodesk Combustion Training Hands-on" on 06.01.2024.
- Mrs.JV.Pesha, AP/RA has completed and received Udey certification on "ROS for Beginners:Basics,Motion,and Open CV" on 23.08.2023.
- Mrs.Kiruba Sandou, "Optimizing Inventory Routing in Maritime Logistics: A Review Of Modeling Approaches And Solution Methods, PAGE NO: 62-74 DOI: 10.27896/METZET8.6/39.
- Mrs.Kiruba Sandou "Design and Implementation of Neuro-Fuzzy Control Approach for Robot's Trajectory Tracking" ICECA 7th International conference on Electronics, communication and aerospace technology, 2023, 9th February.
- Mrs.D.Kiruba Sandou, AP/R&A has successfully completed one week Faculty Development Programme on "Outcome Based Education for Effective Learning and Teaching", organized by AMET University from July 19th to 27th 2023.
- Mrs.D.Kiruba Sandou, AP/R&A has successfully Completed 5 days Faculty Development Programme on "Applications in Power Electronics Engineering", organized by NITTER, Chennai from July 10th to 14th 2023
- Mrs.Kiruba Sandou, AP/RA has completed and received Udey certification on "create a website using word press: free hosting and sub domain" on 08.01.2024.
- Mrs.Kiruba Sandou, AP/RA has completed and received Udey certification on "Introduction to Microsoft Excel" on 09.01.2024.

- Mrs.D.Kiruba Sandou, AP/R&A has completed and received NPTEL certification on “Accreditation and Outcome Based Education” on 30.10.2023.
- Mrs.D.Kiruba Sandou, AP/R&A has completed and received NPTEL certification on “Foundations of Cognitive Robotics” on 06.11..2023.
- Mrs.D.Kiruba Sandou, AP/R&A has completed one day workshop on curriculum development and syllabus framing on 5th January 2024.



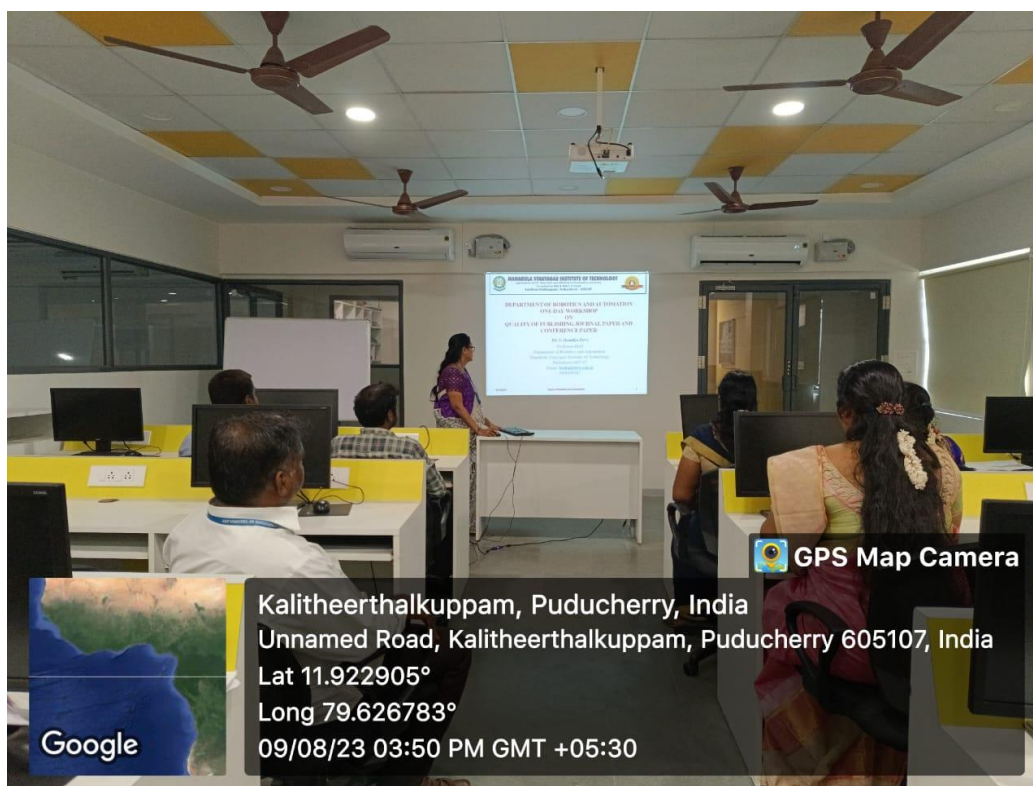
Dr.G.Renuka Devi, Prof/R & A, has attended SAE MC meeting at SRM university on 15.07.2023



Dr.G.Renuka Devi, Prof/RA and Dr.V.Govindan, ASP/RA has Attended BoS Meeting on 20.07.2023 at Pondicherry University



G.Renuka Devi, Prof/RA, Dr.V.Govindan, ASP/RA and Ms.D.Jasmine susila has attended BoS Meeting on 25.07.2023 at Pondicherry University

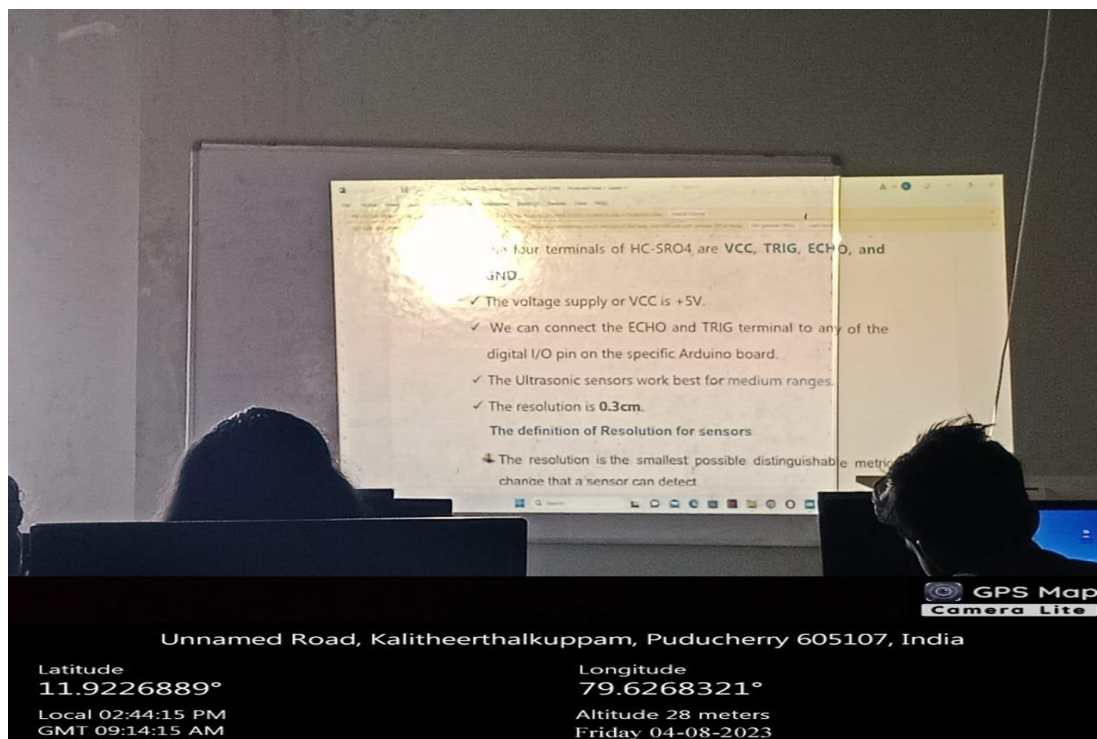


Dr. G. Renuka Devi, Prof /R&A has handled the session on “Quality of publishing journal paper and conference paper” for faculty members on 09.08.2023.

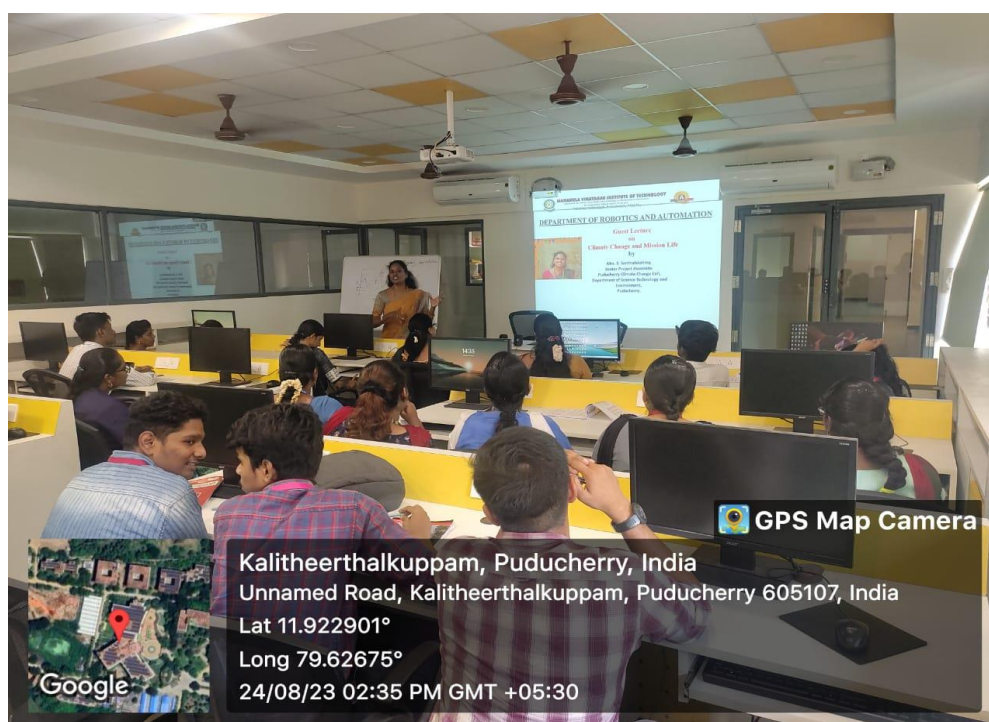


Dr.G.Renuka Devi, Prof/ R & A and team has received Career Guidance Cell (CGC) award on 09.11.2023.

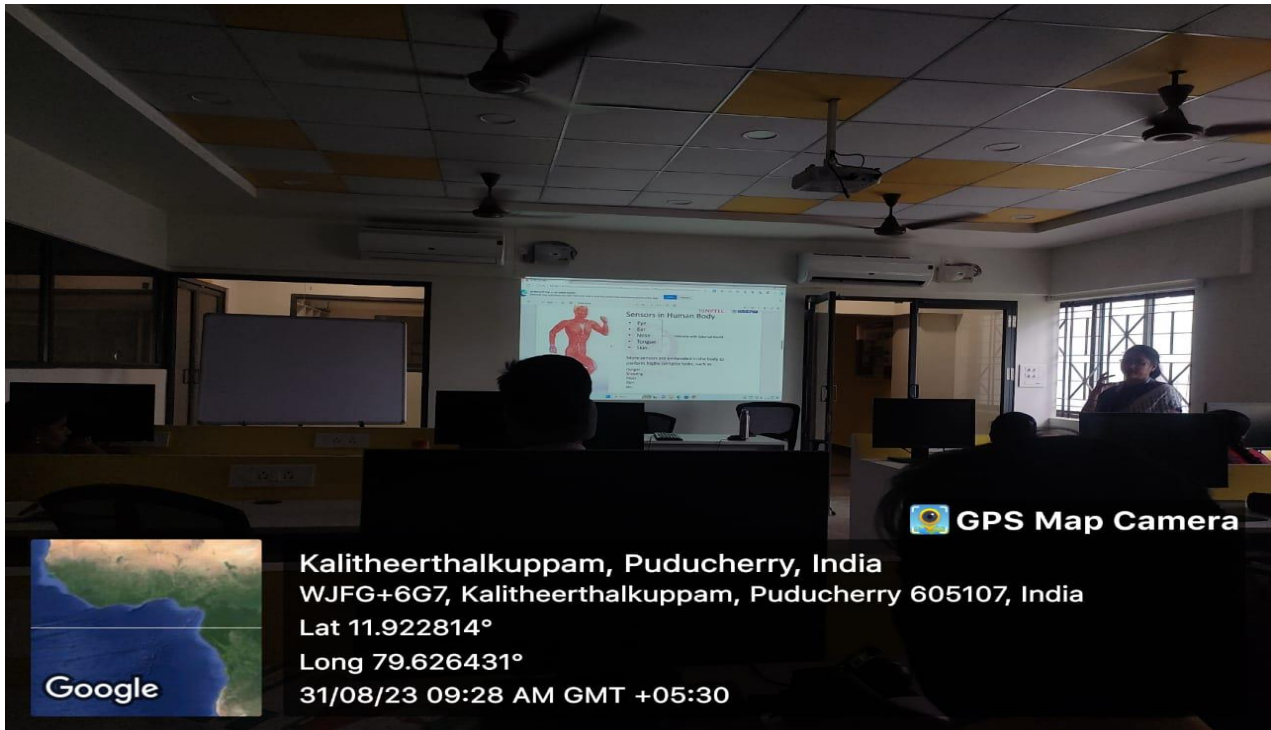
Department Activities:



Department of Robotics and Automation has organized Value Added Course on Introduction to IOT- ITS certification on 28.07.2023 to 04.08.2023



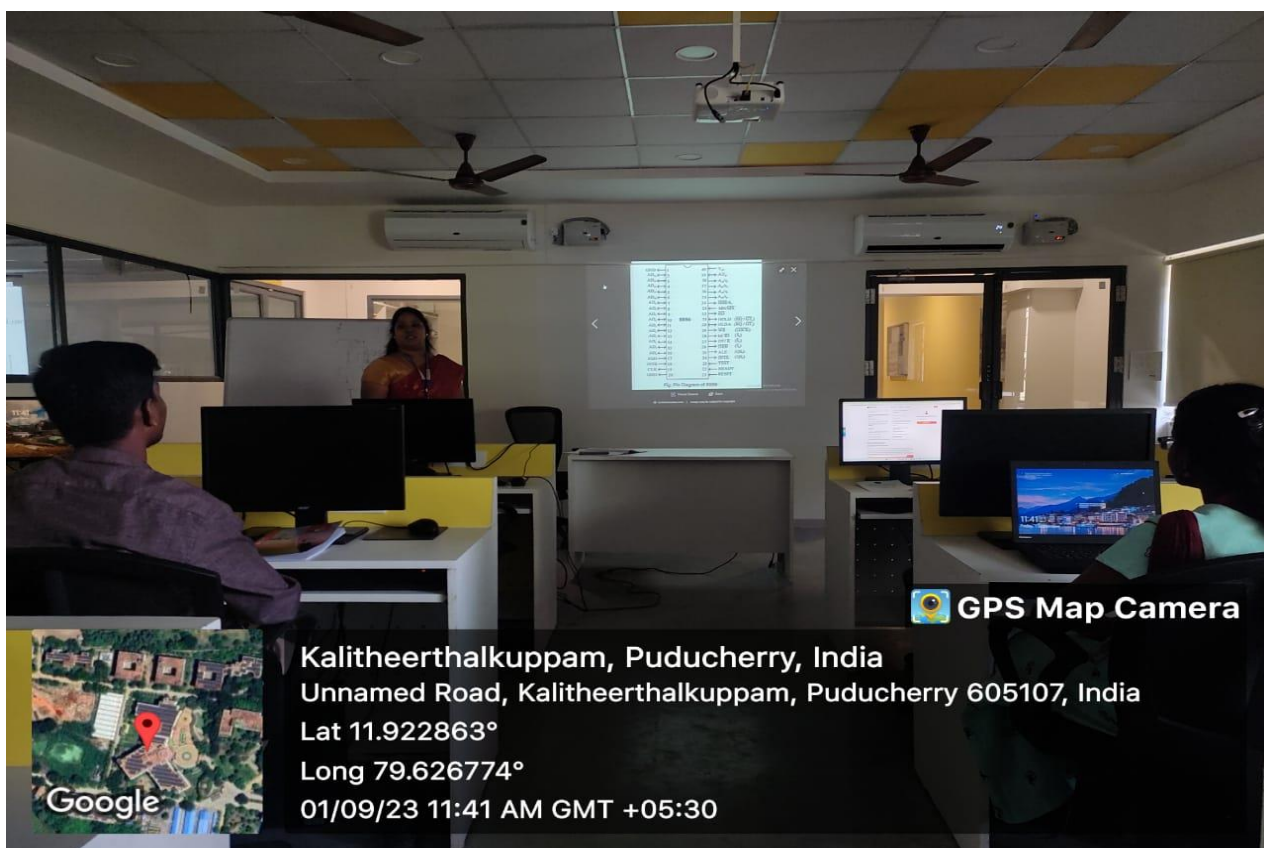
Department of Robotics and Automation has conducted expert lecture on SDG Goal 13 - **Climate Change and Mission Life** for R & A students on 24.08.2023



Dr. G. Renuka Devi, Prof/R&A, has delivered a technical session on "Sensors and Instrumentation" on August 31, 2023.



Mrs. J.V. Peshu, AP/R&A, has delivered a technical session on "Analog Electronics" on August 31, 2023.



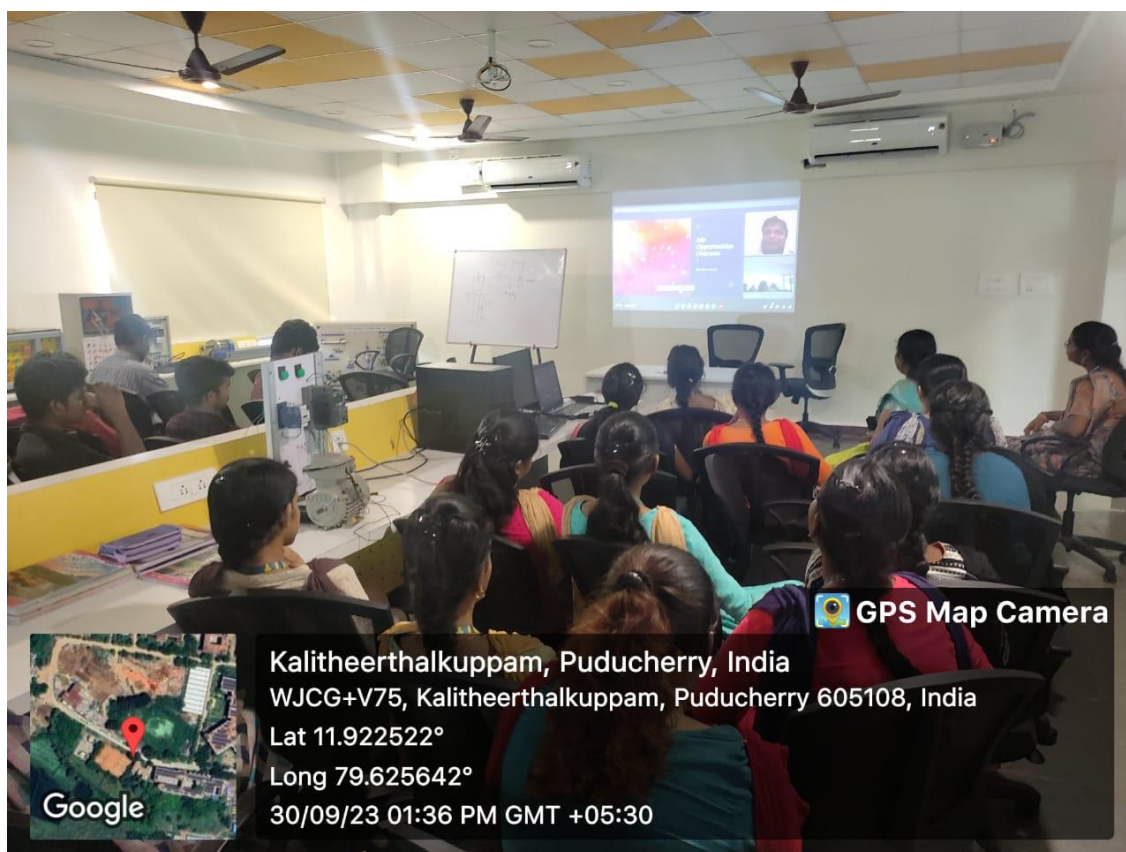
Mrs. KirubaSandou, AP/R&A, has delivered a technical session on "Microprocessor and Microcontroller" on September 1, 2023.



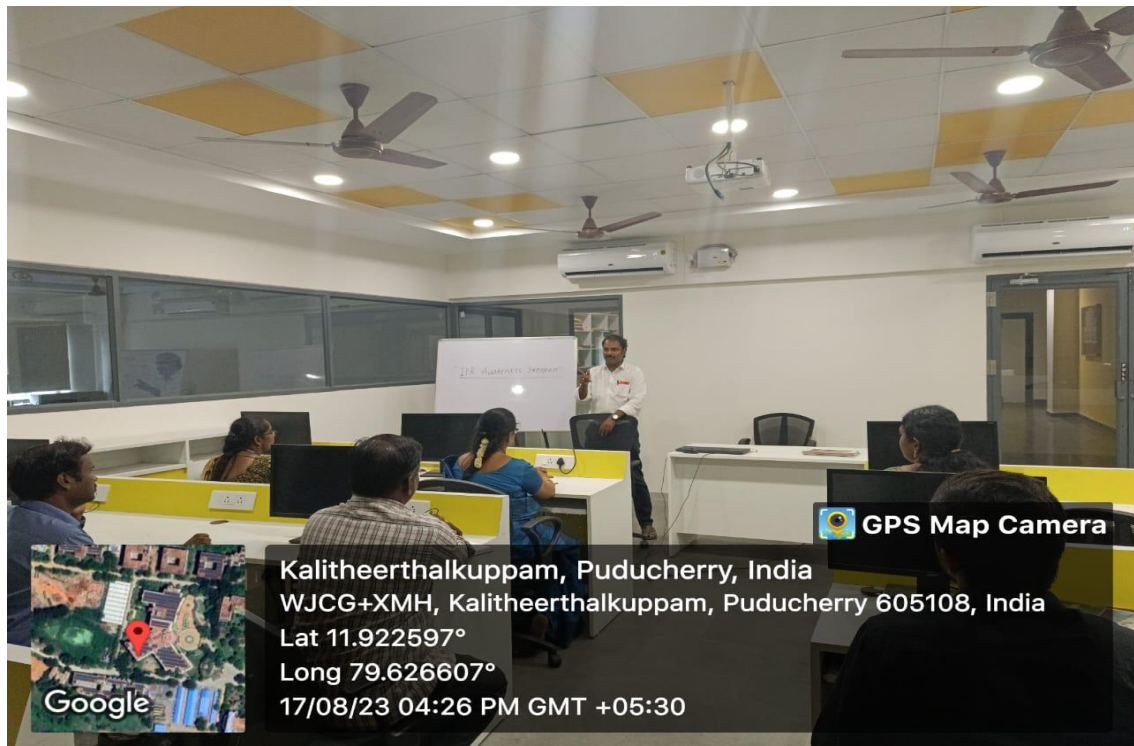
Dept.of R & A has arranged the Guest Lecture on “**Climate Change and Mission Life**” for III and IV year R & A students on 24.08.2023. The session was delivered by **Mrs. S. Santhalakshmy, Senior Project Associate, Puducherry Climate Change Cell, Department of Science Technology and Environment, Puducherry.**



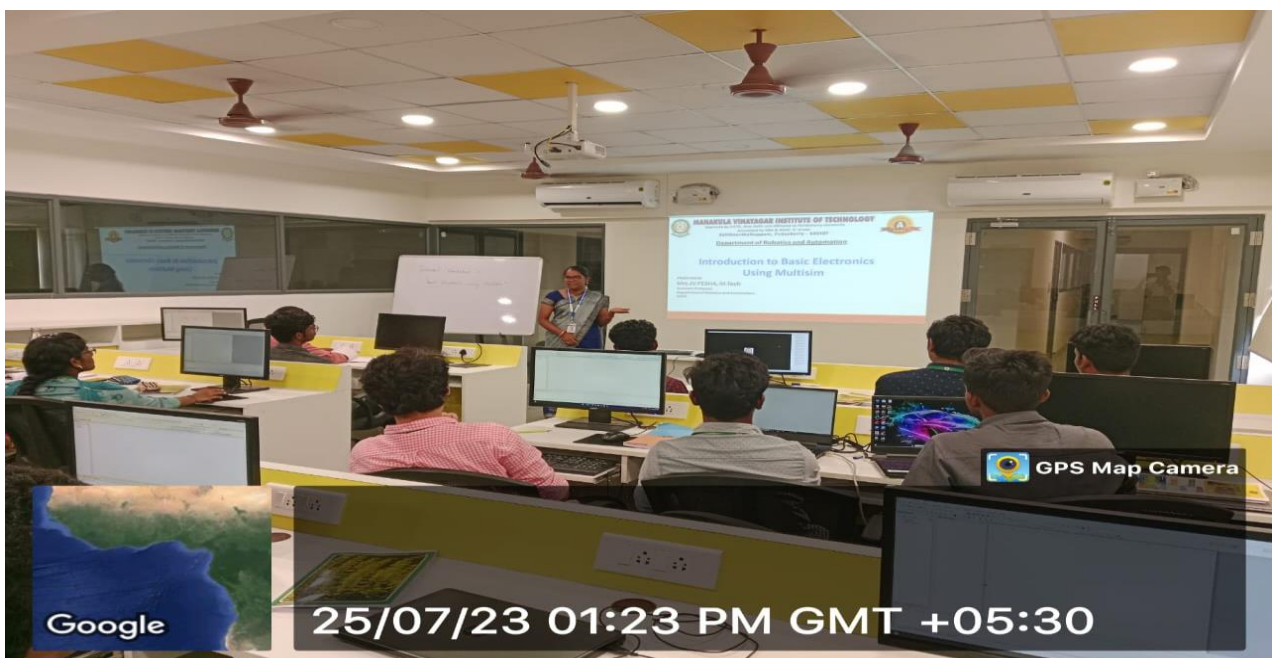
Department of robotics and automation have organized a Guest Lecture on the topic of **“Product Development and Entrepreneurship”** by Mr.T.Suvedhan, CEO& Product Architect, SACDEEIL AEROSPACE PVT LTD, Tamilnadu on 23.09.2023 for II, III & IV-year R & A, students



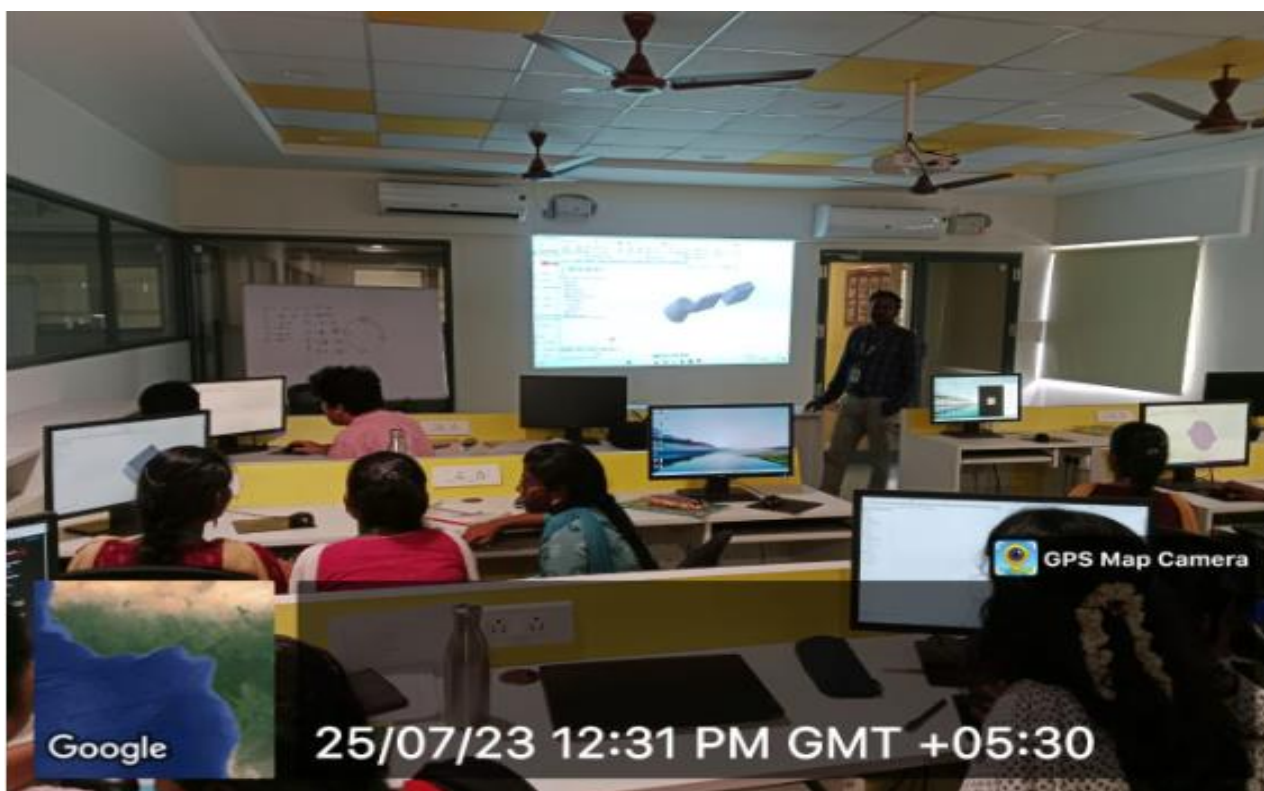
Department of Robotics and Automation conducted a Guest Lecture titled **“Job Opportunities in Overseas”** for 2nd, 3rd and 4th year students on 30.09.2023 through Google Meet. Mr.Elijah Enoch Joseph, Senior Account Executive, Keystone People Ltd, UK was the resource person.



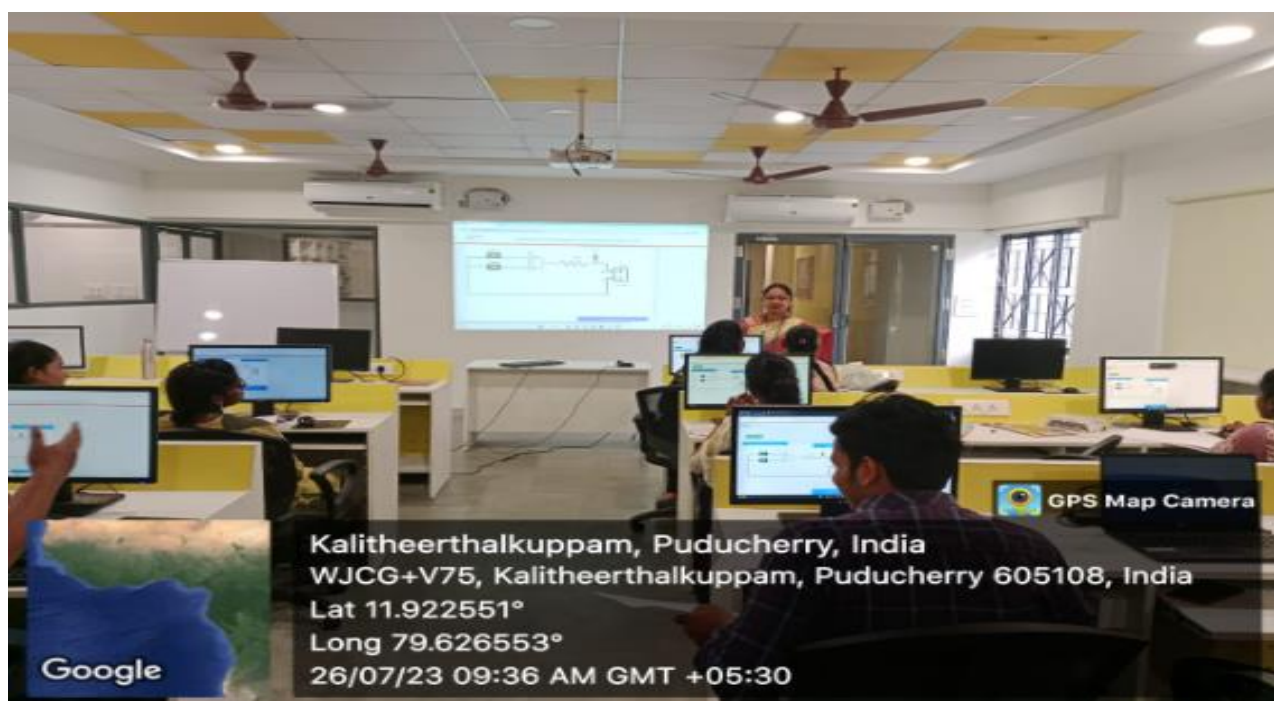
Department of Robotics and Automation conducted a seminar on **“Relevance of Intellectual Property Rights and Patents in Higher Education”** for Robotics and Automation faculty members on 17.08.2023 at RA Lab.



"Mrs. JV Pesha, AP/R&A, has delivered an Internal workshop on **Basic Electronics using Mustisim** for 1st -year students on July 25, 2023."



"Mr.A.Baskaran, AP/R&A, has delivered an internal workshop on **Solid Works** for 1st-year students on July 25, 2023."



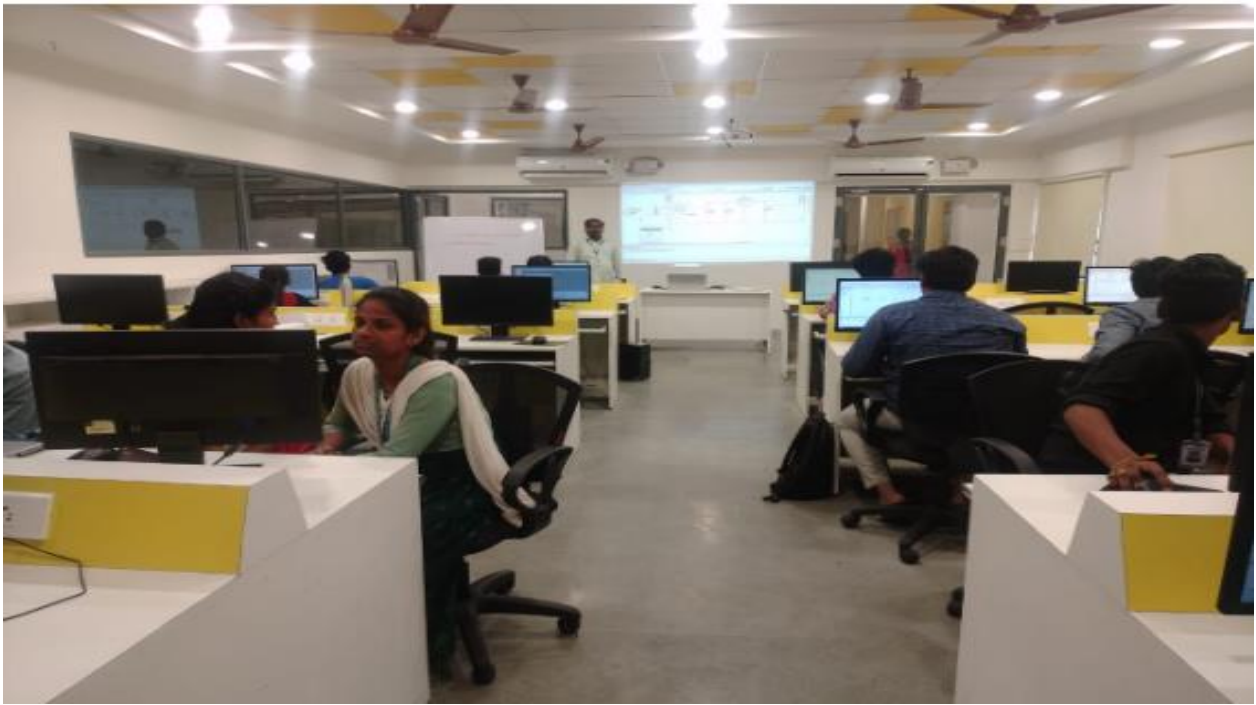
Dr. G. Renuka Devi, Prof/R&A, has delivered an Internal Workshop on **Virtual Lab** for 1st-year students on July 26, 2023."



"Mr.A.Baskaran, AP/R&A, has delivered a Quality Improvement Program on **PLC & SCADA** for **MNGPC Polytechnic Students** on July 11, 2023."



"Faculty members of Robotics and Automation conducted a Quality Improvement Program on **Quality Education and Hands-on Training on ROBOT** for **MNGPC Polytechnic students** on July 11, 2023."



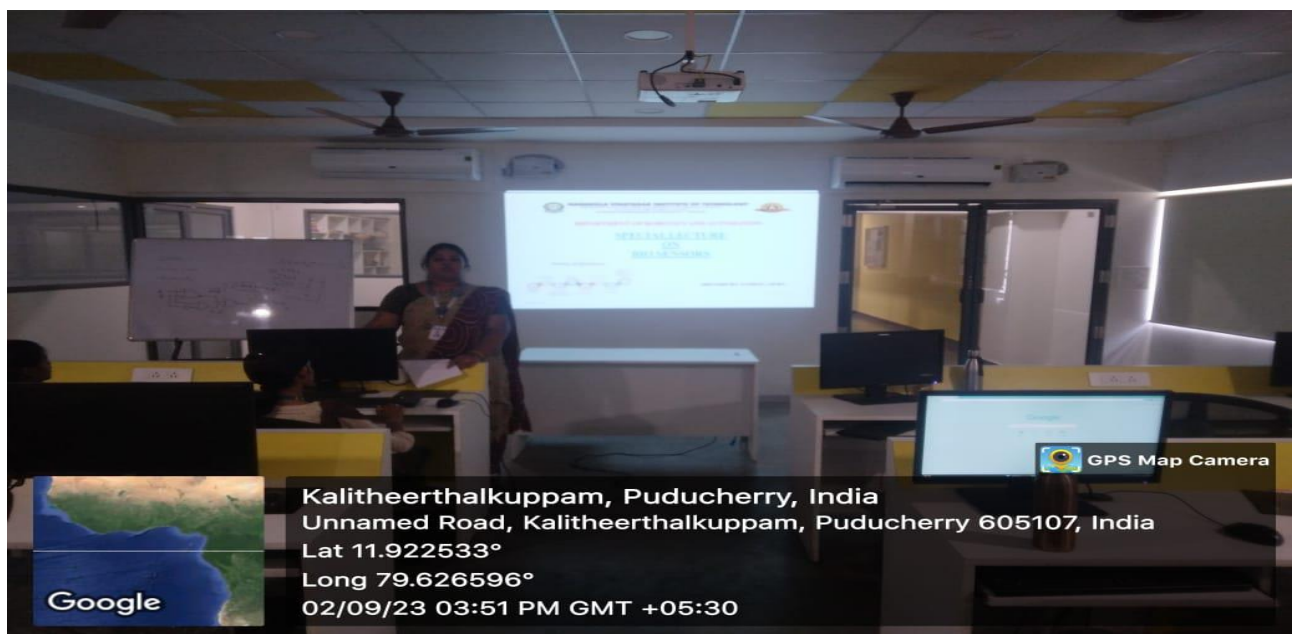
Dr. V. Govindan, ASP/R&A, has delivered a Quality Improvement Program on MULTISIM, for 1st-year students on July 21, 2023."



Ms.Kiruba sandou, AP/R & A delivered a Quality Improvement Program on DOBOT for I year RA students on 22nd July 2023.



MIC Calendar Activity – Q4 on the topic entitled "Celebrating the 3rd Anniversary of National Education Policy (NEP) 2020" for third-year and fourth-year students, as well as faculty members between 29.07.2023 to 30.07.2023.



Mrs. kiruba Sandou, AP/R&A, has delivered Special Lecture on "Bio-sensors" for 3rd R & A year students on 02.09.2023.



Dr.G.Renuka Devi, Prof/R&A, has delivered Special Lecture on “Robotics in Healthcare Applications” for R & A year students on 13.09.2023.



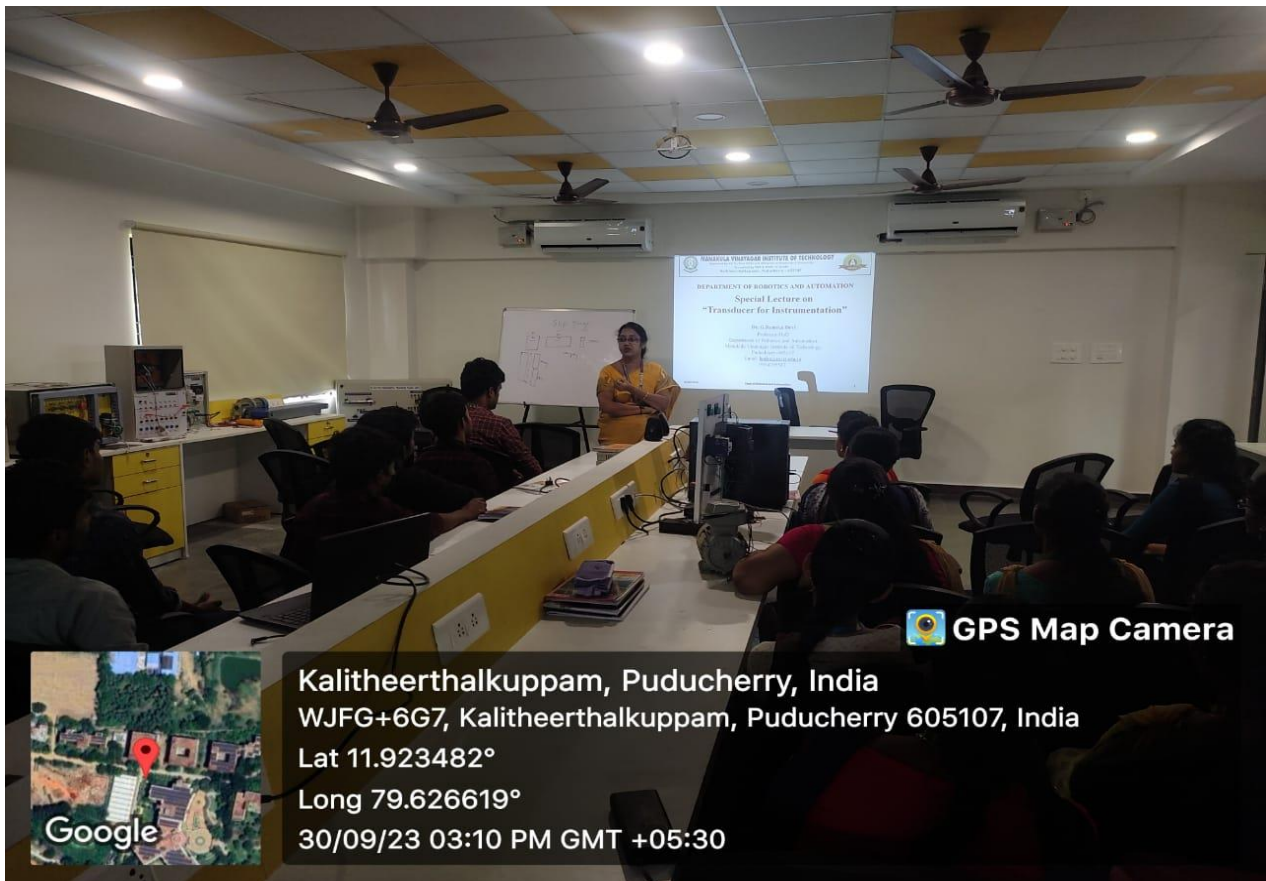
Special Lecture on “**Current Trends In Electronics**” for 2nd year Robotics and Automation students delivered by Mrs.J.V.Pesha AP/RA on 6th September 2023



Special Lecture on “Analyzing Natural and Forced Responses of a Spring Mass-Damper System in MATLAB” for 2nd year Robotics and Automation students delivered by Dr.V.Govindan ASP/RA on 16th September 2023



Ms.D.Jasmine Susila, AP/RA has delivered a special lecture on "Variable Frequency Drives & It's Applications" for 2nd, 3rd and 4th year RA students on 30.09.2023 from 4.00 - 4.40 PM at RA Lab.

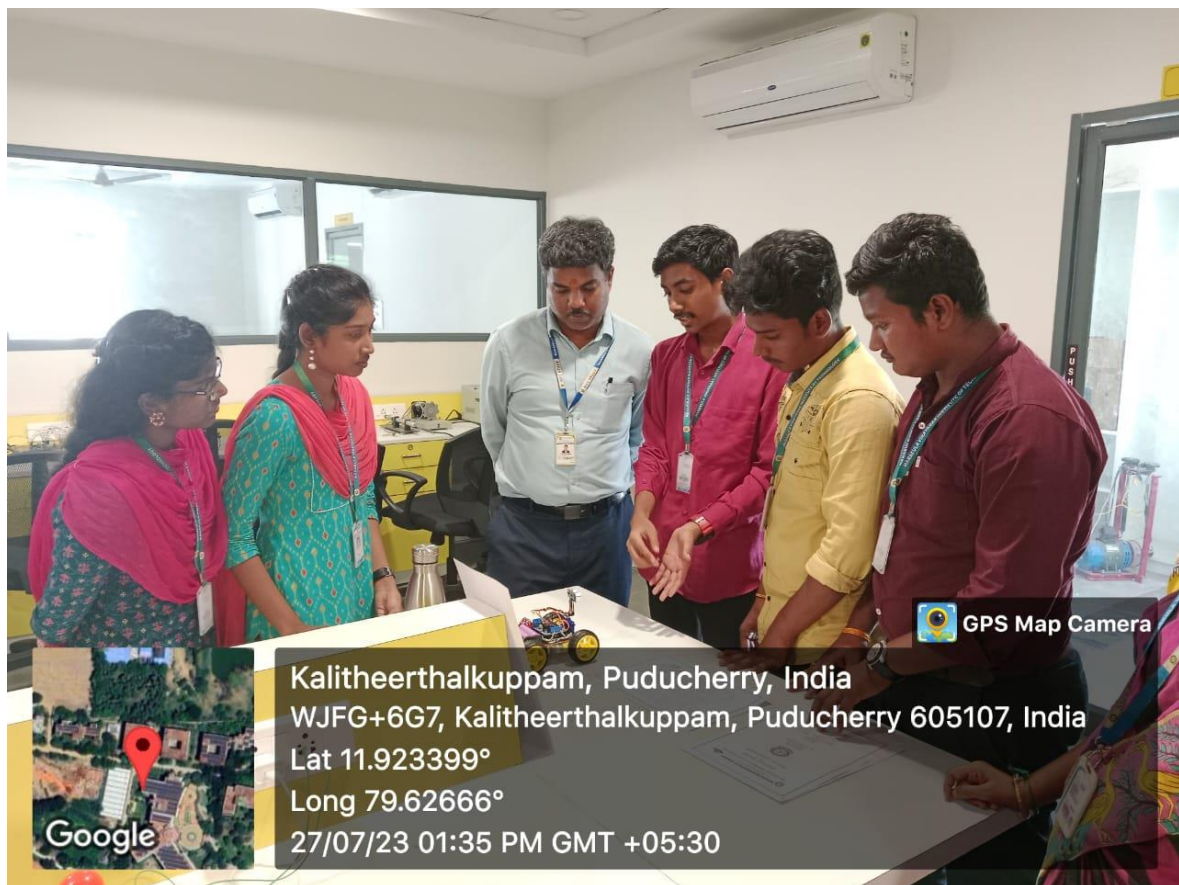


Dr.G.Renuka Devi, Prof/R&A, has delivered Special Lecture on "Transducer for Instrumentation" for R & A year students on 30.09.2023.





Dept.of R & A has arranged the industrial visit on Benlab, 27.07.2023(AN) for 2nd year students



Mini-Project Expo conducted for 2nd year students on 27.07.2023(FN)



Dr.V.Govindan/ASP/R & A has handled a Workshop on “Industrial Automation and DOBOT” on 10.10.2023 at Annaamalai Matriculation Higher Secondary School-Tiruvannamalai



Dr.V.Govindan/ASP/R & A has handled a Workshop on “Industrial automation and DOBOT” on 11.10.2023 at Koliyanur Govt.higher Secondary School



Ms.D.Jasmine Susila, AP/RA handled a workshop on "Hands-on Training on Robots" for Higher Secondary students of Don Bosco Matriculation Higher Secondary school, Pondicherry on 29.11.2023.



Department of Robotics And Automation has organized SAE activity an industry lecture on Practical Project Management: My Reflection for the R & A and ECE students on 13.10.2023s. The session was delivered by Mr. G. Muthukumar, Deputy General Manager - Program Management, MRV, Mahindra and Mahindra, Mahindra World City, Chennai.

Student Participation:



Pradaap.B, a second-year fourth-semester RA student, attended a one-day workshop on "Hands-on Training on Robotic Operating Systems" conducted by Chennai Institute of Technology on February 9, 2024.



Rangesh LMR, a second-year fourth-semester RA student, attended a one-day workshop on "Hands-on Training on Robotic Operating Systems" conducted by Chennai Institute of Technology on February 9, 2024.



Abishek.V, a second-year fourth-semester RA student, attended a one-day workshop on "Hands-on Training on Robotic Operating Systems" conducted by Chennai Institute of Technology on February 9, 2024.



Gopi P, a second-year fourth-semester RA student, attended a one-day workshop on "Hands-on Training on Robotic Operating Systems" conducted by Chennai Institute of Technology on February 9, 2024.



Robotic and Automation students from the second and third years actively took part in a workshop on the SAEISS Drone Controller Development Challenge. The event occurred at SRM Institute of Science and Technology, Kattankulathur, from November 4, 2023, to November 5, 2023,



Abishek.V, a second-year RA student, actively engaged in a National-level workshop focused on ArduBotics Robotics. The event took place at MIT, Anna University, Chennai, spanning from September 29, 2023, to September 30, 2023.



Rangesh L.M.R, a second-year RA student, actively engaged in a National-level workshop focused on ArduBotics Robotics. The event took place at MIT, Anna University, Chennai, spanning from September 29, 2023, to September 30, 2023



Pradaap.B, a second-year RA student, actively engaged in a National-level workshop focused on ArduBotics Robotics. The event took place at MIT, Anna University, Chennai, spanning from September 29, 2023, to September 30, 2023



Third year students of Robotics and Automation students Hariharan.S, Ateetha, Parthasarathi, Thiurupa And Jotham have won second prize with a cash amount of Rs. 20,000 in the E Waste Competition organised by Pondicherry government on 28.11.2023.



Golvainbec Jotham.J of III year Robotics and Automation Department presented a paper conducted by PTU, Puducherry on 05-10-2023



Dinakaran. S of III year Robotics and Automation Department presented a paper conducted by PTU, Puducherry on 05-10-2023.



Department of Robotics and Automation faculty members has motivated and encouraged the e Mohanane .P of III year Robotics and Automation on 05.09.2023,he is eligible for next state level 5km marathon.



Principal Sir has appreciated Mohanane .P of III year Robotics and Automation bagged 3rd place for 5km on 07.11.2023.



Hariharan.S of III year Robotics and Automation presented a paper on Ai based weather prediction received a consolation price of Rs 600 & Certificate of achievement in All India Seminar challenges and mitigation strategies for SDG-13: Emerging trends in IOT to Combat Climate Action Held At MVIT Puducherry.



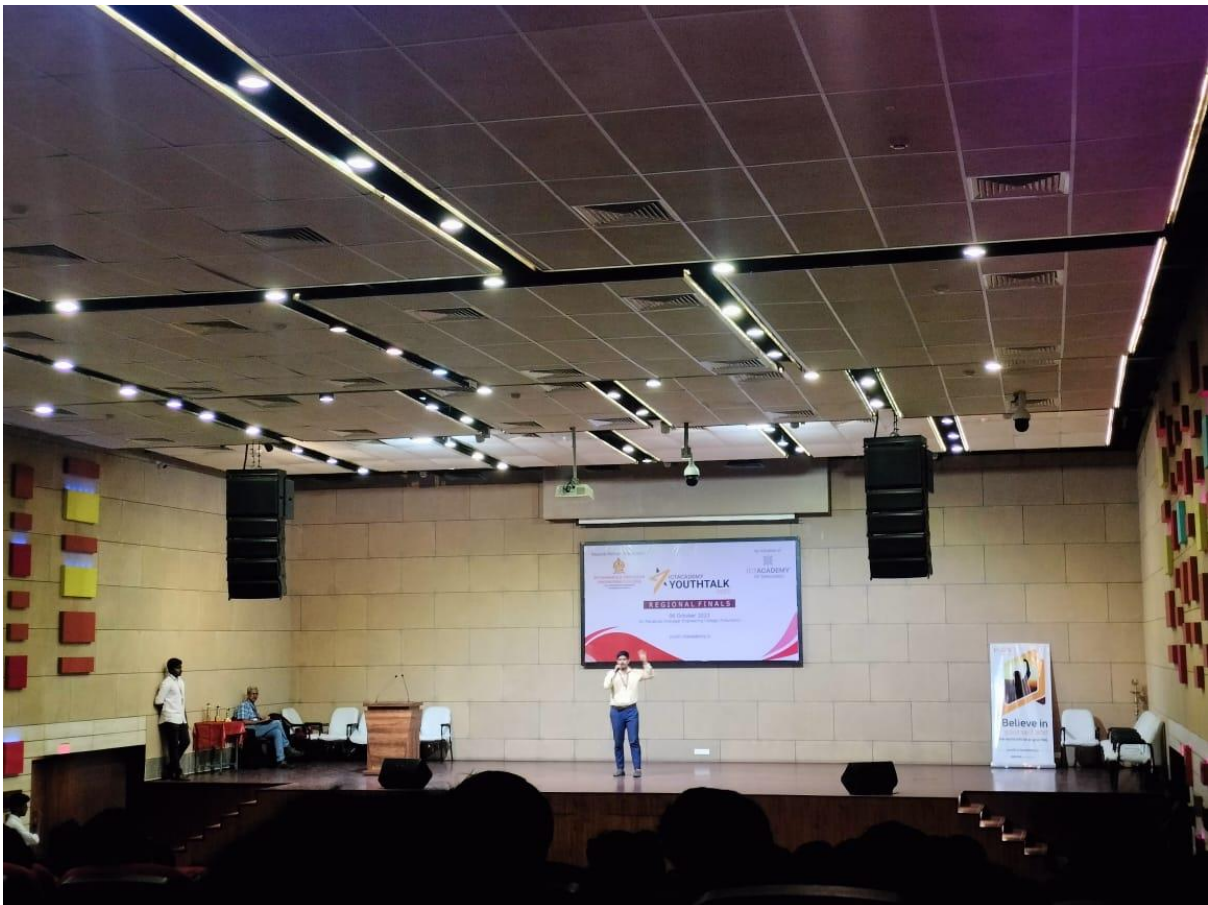
III year Robotics and Automation students completed internship for one week in the ponlait cooperative milk producer's puducherry from 14.08.2023 to 19.08.2023



III year Robotics and Automation students completed Internship in Hindustan Unilever LTD from 21.08.2023 to 26.08.2023



Hariharan .S and Jagadeesh .A of Robotics And Automation Department visited Pondicherry Technical University, Atal Incubation Center and explained the project concept with the CEO of bank of Maharashtra through CII puducherry on 22.07.2023



Akshay Sharma, IV Year RA has participated and shortlisted as Top -10 on ICT Academy Youthtalk, Tamilnadu 2023 on the topic of Human Trafficking on 06.10.2023.