



St. Joseph's Institute of Technology

St. Joseph's Group of Institutions

OMR, Chennai – 119

Department of Electronics and Communication Engineering
(Accredited by NBA)

FACULTY DETAILS

Staff Name:	Dr.G.Rohini
Designation:	Professor
Date of Birth:	30.03.1971
Educational Qualification:	M.E., Ph.D
Area of Interest:	Digital Circuits, VLSI, Embedded System, WSN
Years of Experience:	26 Years
Area of Research:	VLSI
No. of Students Project Guided	70
FDP & Workshop Funding	<ul style="list-style-type: none"> • Sensor and its Application in Navigation System in Marine and Defence Environment funded by AICTE organized by ATAL at a cost of Rs. 93,000. • Biological Effects Of Electromagnetic Fields And Radiation funded by Board Of Research In Nuclear Science (BRNS) at a cost of Rs. 40,000. • Engineering In Diabetology funded by Indian Council Of Medical Research (DHR ICMR) at a cost of Rs. 50,000. • Entrepreneurship Awareness Camp funded by Department of Science and Technology- National implementing and Monitoring Agency for Training (DST-NIMAT) at a cost Rs.20,000/- for three times(Total Rs.60,000) • Recent Trends in VLSI with Machine Learning funded by AICTE organized by ATAL at a cost of Rs. 3,50,000.
R & D Activities	<ul style="list-style-type: none"> • Mining Haulage Tracking and Monitoring is funded by AROBOT at a cost of Rs 3,50,000. • Development of ARM CortexM4 Board is funded by Pantech Pro Labs at a cost of Rs.1,16,000. • Firmware development for Four Axle Cleaning Robot funded by Pantech Pro Labs Pvt Ltd at a cost of Rs. 2,06,750 • Development of SDR Application with Wireless module funded by Pantech Pro Labs Pvt Ltd at a cost of Rs. 2,05,200 • Computer Vision and RoS Integrated Driverless Vehicle funded by Pantech eLearning Pvt Ltd at a cost of Rs. 1,25,000 • AI and Computer Vision Integrated System for Smart

	<p>Agriculture funded by Pantech eLearning Pvt Ltd at a cost of Rs. 36,490</p> <ul style="list-style-type: none"> • Internet of Things for Medical & Smart City Application and Autonomous Vehicle funded by Pantech eLearning Pvt Ltd at a cost of Rs. 27,880
Publications Details	<p>Paper Publications:</p> <ul style="list-style-type: none"> • G.Rohini, C.Gnana Kousalya, “Multimodal Deep Learning for Activity Detection from IoT Sensors”, IETE Journal of Research, September 2023 • G.Rohini, “Energy-Efficient Cluster Head Selection in Manets Using Firefly Algorithm”, ICTACT Journal on Communication Technology, June 2023 • G.Rohini, “Predictive analysis and screening diagnosis of HDD storage deterioration using smart MI strategies”, Computer Integrated Manufacturing Systems, December 2022 • G.Rohini, C.Gnana Kousalya, “Autonomous Forecasting of Traffic in Cellular Networks Based on Long-Short Term Memory Recurrent Neural Network”, Cybernetics and Systems, January 2023 • G.Rohini, “Anti-Drone system using Image Processing”, International Journal of Innovative Research in Computer and Communication, June 2022 • G.Rohini, C.Gnana Kousalya, J.Bino, “Intrusion Detection System with an Ensemble Learning and Feature Selection Framework for IoT Networks” IETE Journal of Research, August 2022 • C.Gnana Kousalya, G.Rohini, T.Sasilatha, “Robot for Under Water Monitoring”, International Journal of Engineering and Advanced Technology (Special Issue 2019)- ISSN: 2249-8958, Volume-9, Issue-1S2, pp.26-32---- SCOPUS Indexed • Quality and Durability Checking Of Clothes, International Journal of Scientific & Engineering Research –IJSER. • Ring Cross Over Based Genetic Algorithm for DFMB Chip Design and Medical Image Compression, Current Signal Transduction Therapy, Bentham Science Publishers. • Automation of Longitudinal Time Series Data Visualization using Plot Specifications obtained from XL file”, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6, August 2019, pp. 3105-3109. • Quantum Optimization of Evolutionary Algorithm Using Droplet Based Advanced Digital Microfluidic Biochip and Clinical Prognosis Configuration, Journal of Medical Imaging and Health Informatics, Volume 9, Number 6, August 2019, pp. 1329-1336(8).

- Enhanced Technique Based Design and Optimization of DMFB in Restricted Sized, Journal Of Computational And Theoretical Nano science, Vol.14, No. 5, 1546-1955/2017/14/2481/009, Pg. no.- 2481-2489, 2017.
 - Efficient Restricted Sized DMFB with Ring Cross Over Technique, International Journal Of Control Theory And Applications, ISSN : 0974 – 5572, volume 10, issue number 38, 2017, pg. 57 – 68.
 - Detection of Malignancy of Skin Lesions Based on Local Texture and Fractal Analysis, Research Journal of Pharmaceutical, Biological, and Chemical Sciences, Vol. 6, No. 2, pp. 408-412, 2015.
 - Genetic Algorithm based Optimization of Single Node in Reformed-Digital Micro Fluidic Biochip” Indian Journal of Science and Technology Vol 8(29), pg 1-8, ISSN (Print) : 0974-6846 ISSN (Online) : 0974-5645.
 - Energy efficient geographical key management scheme for authentication in mobile wireless sensor networks, The Journal of Mobile Communication, Computation and Information Springer US, pp 1–11, Vol 23 (ISSN: 1022-0038.)
 - Secured Transmission of Data in Mobile Wireless Sensor Networks, International Journal of Advanced Engineering Technology Vol. VII, ISSN 0976-3945.
 - ILP-Based Computer-aided testing and Optimization of Embedded Core, International Journal of Computer Applications, Vol. 11, No. 8, pp. 33-36, 2010.
 - Optimal Test Time for System-on-Chip Designs using Fuzzy Logic and Process Algebra, Journal of Computer Science, Vol. 6, No. 1, pp. 12-17, 2010.
 - An Efficient Approach to Wrapper Design, TAM Configuration and Test Scheduling for Embedded Cores, European Journal Scientific Research, Vol. 35, No. 4, pp. 593-602, 2009.
 - High Performance TAM Controller and Wrapper Design for Embedded Cores, International Journal of Engineering Research and Industrial Applications (IJERIA), Vol. 2, No. 6, pp. 47-57, 2009.
- Conferences:**
- Post –Accident Alert System using Client Server based Synchronous Communication Mechanism, International and Research in Marine Electrical and Electronics Engineering, ICIRMEEE 2021, AMET, University, Chennai
 - Intellectual Spyrobot for Military Operation, 12 th International conference on Science and Innovative Engineering
 - Smart Mask for COVID-19 E-Ware, International Conference on Emergent Converging Technologies and Bio-Medical Systems (ETBS-2021)

	<ul style="list-style-type: none"> • Energy Harvesting from Machineries for Industries, International conference on System, Computation, Automation and Networking (ICSCAN 20), Manakula Vinayagar Institute of Technology. 27 &28-03-2020, Puducherry, India • Directed and Safe Driving Implementation using Multi-Featured Smart Helmet, International Conference On Innovations And Research In Marine Electrical And Electronics Engineering (ICIRMEEE 2018), 27th and 28th September 2018. • Autonomous Mobile Object Classification, National Conference On Recent Trends In Information And Communication (NCRTIC-18), 28th March 2018. • Dynamic Washout Multiple Droplet Lab On Chip Routing, 4th International Conference On Signal Processing, Communications And Networking (ICSCN'17), IEEE Conference. • FPGA prototyping of video stabilization for micro aerial vehicles, 2nd International Conference on recent trends in engineering and technology. • Dynamic washout multiple droplet lab on chip routing, 4th International conference on signal processing, communications and networking, March 16th– 18th 2017 • Design of Reusable and Flexible Test Access Mechanism Architecture for System-on-Chip, PIERS Proceedings, Hangzhou, China, pp. 916-921, March 24-28, 2008. • Area efficient TAM controller and wrapper design for embedded cores, Proceedings of IEEE International Conference on Control, Automation, Communication and Energy Conservation, INCACEC 2009, Perundurai, Erode, pp. 111-114, 2009. <p>Patent:</p> <ul style="list-style-type: none"> • A Machine Learning Algorithm to assess autism symptoms in Computer vision technique tools (Filed No. 202241046403) • Scheduling of Millimeter Wave (mm Wave) and Terahertz (THz) Communications in Cellular-Connected UAV Networks with Integrated Sensing, Communication and Control (Filed No. 202241065205) • Detection of Spoofing Vulnerability in Revolutionary IoT networks to Augment Security Mechanism (Filed No. 1195393) • IoT and Machine Learning based System to Identify Drowning Occurrences in Swimming-Pools (Filed No. 202241001812) • IoT based Contraption Observation and Electrical Control Structure (Filed No. 202141061582) • System and Method for Fuzzy-Based Control and Measurement
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	<p>of Temperature and Humidity for Greenhouse (Filed No. 2021100311 SPBI- 0002456363)</p> <ul style="list-style-type: none"> • IoT Based Touch Detecting Hand Glove for Post Pandemic Safety (Filed No. 2020102232 SPBI- 0002341102) • Gas Lighter With Leakage And Level Monitoring System, Official Journal Of The Patent Office (Filed No. 202041014653).
FDP & Workshop Attended Details	<ul style="list-style-type: none"> • FDP on Design and Development of Industry Led Curriculum in Technological Era, AMET University, Chennai. 14-12-2022 to 22-12-22 • FDP on Recent Trends in 5G Communication, Design & Technologies, Rajalakshmi Engineering College, Chennai, 5.7.2022 to 9.7.2022 • FDP on “Embedded System Design using Intel SoC FPGAs”, SSN College of Engineering, Chennai, 01-02-2022 to 05-02-2022 • FDP on “System Design for Healthcare and Assistive Technologies”, SSN College of Engineering, Chennai, 14-06-2021 to 18-06-2021 • FDP on Artificial Intelligence and 5G communication Technology, Poornima College of Engineering, Jaipur, 26/4/2021 to 1/5/2021 • FDP on Sensors Technology St. Joseph’s Institute of Technology, Chennai (AICTE & ATAL SPONSORED) 17/8/2020 to 21/8/2020 • Faculty Development Program on “Information Management and Coordination Department “from 21/10/19 to 25/10/19 at NITTR, Chandigarh. • Faculty Development Program on “Introduction to Internet of Things “JUL-OCT 2019 1 ½ Weeks at NPTEL -AICTE • Faculty Development Program on “Research Areas in Smart Antenna Design for CUBESAT Applications “31/10/19 to 06/11/19 at Sri Sairam Institute of Technology ,Chennai (AICTE SPONSORED) • Faculty Development Program on “Python 3.4.3 “10-5-2020 to14-5-2020 at Sri Krishna college of Technology, Coimbatore (Spoken Tutorial, IIT Bombay) • Faculty Development Program on “Data Analysis & Visualisation COVID 19 using Python “7-5-2020 at Jerusalem College of Engineering, Chennai. • Faculty Development Program on “Embedded and IOT BOOTCAMP “27-5-2020 to 29-5-2020 at Mohamed Sathak A J College of Engineering, Chennai • Faculty Development Program on “SCILAB “25-05-2020 to 27-05-2020 at St.Joseph’s Institute of Technology, Chennai.

	<p>Spoken Tutorial, IIT Bombay.</p> <ul style="list-style-type: none"> • Faculty Development Program on “Cyber Security “18-05-2020 to 22-05-2020 at AICTE & ATAL Academy. • Workshop on “Effective and Efficient Online Teaching in the Age of Corna “16-5-2020 at Bohitree Platform IIT, Bombay • Faculty Development Program on “Emerging Trends in Embedded Systems “02/07/18 to 07/07/18 at St. Joseph’s College of Engineering, Chennai. (AICTE-ISTE SPONSORED) • Faculty Development Program on “Machine Learning “ 1 Weeks at NPTEL -AICTE • Faculty Development Program on “Deep Learning “ 1 ½ Weeks at NPTEL -AICTE • Faculty Development Program on “Introduction to Industry 4.0 and Industrial IOT 1 ½ Weeks at NPTEL -AICTE • Faculty Development Program on “Industry 4.0 (Smart Manufacturing) “19/11/18 to 20/11/18 at St. Joseph’s Institute of Technology, Chennai. (MSME SPONSORED). • Faculty Development Program on “Ethical Hacking and Cyber Security “22/2/19 to 23/2/19 at AMET, Chennai. • Faculty Development Program on “Recent Advancements in Artificial Intelligence & Machine Learning “14/11/18 to 15/11/18 at S.A Engineering College, Chennai • Faculty Development Program on “Emotional Intelligence “14/5/2018 to 15/5/2018 at Anna Adarsh College for Women, Chennai
NPTEL Courses	<ul style="list-style-type: none"> • An Introduction to Artificial Intelligence • Deep learning • Machine learning • Industry 4.0 • Introduction to Internet of Things • Digital System Design
Professional Membership	<ul style="list-style-type: none"> • Member of IEEE RAS, IEEE WIE & IEEE EMBS • Member of IETE • Life member of ISTE