



Dr. Vinoj P G

Professor in Electronics and Communication Engineering

Administrative Responsibilities

Institute level :

- Amala Research group member
- Institution's Innovation Council (IIC)
- Innovation and Entrepreneurship Development Centre (IEDC)

Departmental responsibilities:

- NBA Criteria 7
- Tutor Batch 2024-2028
- Project Club S7 Coordinator

Education Summary

Doctoral work(PhD): *"Brain Actuated System for Assisting the Paralysed "* (August 2024)

APJ Abdul Kalam Technological University, Thiruvananthapuram.

Post-Graduation: **M. Tech** in Embedded System (2009)

National Institute of Electronics and Information Technology, Calicut.

Graduation:

B. Tech in Electronics and Communication Engineering (2004)

Cochin University of Science and Technology, Kochi

Employment History

Teaching and Research

- Professor in Electronics and Communication Engineering, Christ college of Engineering, Irinjalakuda (August 2025-present)
- Associate Professor, SCMS School of Engineering and Technology, From October 2024 (9 Months)
- Asst.Professor, SCMS School of Engineering and Technology, from September 2010- September 2024 (14 years)
- Asst. Professor, Saintgits College of Engineering from June 2005 to August 2007 (2 Years)
- As guest Lecturer in Cochin University of science & technology for 4 Months

Industry experience

- R&D engineer Robhatah Robotic Solution, Bangalore for 2 years (2008-2010)

Journal/Papers Published

Over 20 publications in international journals, **5 SCI Indexed**, **7 Scopus Indexed Journals** and **260 citations** with an **h-index of 5**.

A. Publications in International Journals with SCI Index

1. **PG Vinoj**, Sunil Jacob, Varun G Menon, Sreeja Rajesh, Mohammad Reza Khosravi “Brain-controlled adaptive lower limb exoskeleton for rehabilitation of post-stroke paralyzed”, IEEE Access, 2019
2. S Jacob, VG Menon, F Al-Turjman, **PG Vinoj**, “**Artificial** muscle intelligence system with deep learning for post-stroke assistance and rehabilitation, IEEE Access, 2019
3. Sunil Jacob, Varun G Menon, Saira Joseph, **PG Vinoj**, Alireza Jolfaei, Jibin Lukose, Gunasekaran Raja, “A novel spectrum sharing scheme using dynamic long short-term memory with CP-OFDMA in 5G networks”, IEEE Transactions on Cognitive Communications and Networking, 2020
4. **PG Vinoj**, Sunil Jacob, Varun G Menon, Venki Balasubramanian, Md Jalil Piran, “IoT-powered deep learning brain network for assisting quadriplegic people”, Elsevier, Computers & Electrical Engineering, 2021
5. **PG Vinoj**, Sunil Jacob, Varun G Menon, “Hybrid brain actuated muscle interface for the physically disabled, Basic & Clinical Pharmacology & Toxicology”, Wiley, 2018

B. Publications in Scopus Indexed journals/International/National Conferences

1. **Vinoj P.G**, Vineeth VV, WIRELESS IRIS RECOGNITION SYSTEM USING ZIGBEE International Conference on VLSI and Communication, ICVCom, 16-18 April 2009.
2. Sunil Jacob, Mukil Alagirisamy, **PG Vinoj**, R Parvathi, Sandeep Verma, “Deep Learning Brain Actuated Bidirectional Communication and Rehabilitation aid for the Quadriplegic”, 2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)
3. Mary Catherine VG, Binu Paul, **PG Vinoj**, “Wearable Fabric Tactile Sensors for Robotic Elderly Assistance”, 2022 Smart Technologies, Communication and Robotics (STCR)

4. J, Aravind and Ashok, Asish and C, Denny Jose and M, Gokul Das and **PG Vinoj**, Bidirectional Communication Channel for Speech Impaired (July 9, 2021). Proceedings of the International Conference on IoT Based Control Networks & Intelligent Systems - ICICNIS 2021, Available at SSRN: <https://ssrn.com/abstract=3883449> or <http://dx.doi.org/10.2139/ssrn.3883449>
5. Jafar Alzubi, Sunil Jacob, Varun G Menon, Saira Joseph, **PG Vinoj**, “A top-up design for pal to vga conversion in real time video processing system”, 2018 International Symposium on Advanced Electrical and Communication Technologies (ISAECT).
6. **Vinoj P.G**, Sreeja Rajesh, Chinn Mohannan, “IoT enabled renewable energy powered system for efficient sterilization and disposal of masks and gloves”, Journal of Technology, Volume 12, Issue 9, September, 2024
7. **Vinoj P.G**, Varun G Menon, “EEG actuated upper limb rehabilitation through LSTM”, International Journal of Science Technology and Innovation, Vol.1, No.1, March, 2024
8. Sagar P Gokul, Sayooj MJ, A.A Yunus, Anandu Suresh, **Vinoj P.G** “Optimizing firefighting performance with FPV drones”, AIP conference Proceedings, 3134, 140002, November, 2024

C. Book Chapter Published

- 1] Futuristic Trends in Robotics & Automation e-ISBN: 978-93-6252-060-9 IIP Series, Volume 3, Book 1, Part 2, Chapter 2 APPLICATIONS AND CHALLENGES IN SERVICE AND SECURITY ROBOT, May,2024

D. Funded Projects Completed

- 1] “Bionic Haptic Arm”, Funded by Kerala State Council for Science, Technology and Environment (KSCSTE) is an autonomous body under the ministry of S&T,2016
- 2] “Eco-friendly Traffic Junctions”, Funded by Kerala State Council for Science, Technology and Environment (KSCSTE) is an autonomous body under the ministry of S&T,2016
- 3] “Wearable device for Detection and Prevention of Heart Failure”, Kerala State Council for Science Technology and Environment (KSCSTE), 2017
- 4] IEEE funded Project “Muscle Machine Interface for the paralyzed”,2017
- 5] IEEE Funded Project “Smart Switching Toilet System”,2019
- 6] “Mute Horn”, Funded by Kerala State Council for Science, Technology and Environment (KSCSTE) is an autonomous body under the ministry of S&T,2020.
- 7] “Artificial Deep Learning Brain Actuated Lower Limb Exoskeleton For paralyzed”, Funded by BIRAC-Sitare GYTI for 15 Lakhs,2021-2024
- 8] “Brain Actuated Assistive Technology for the paralyzed”, CERD Research Seed Money funding of Rs 75000/-, 2021-2024
- 9] “Fire Fighting FPV Drone”, CERD, APJAKTU, student Project funding worth Rs 25000/-,2023
- 10] “Smart Mask and Gloves Disposal Unit” for tackling COVID 19 Institutional funded Project,2020
- 11] “Prediction Analysis and Smart mask based on social distancing system”, funded by Research council, Oman, 2020
- 12] “Brain Wave Nerve Excitation for Physically Disabled”, GYTI 2018

- 13] “A non-invasive anti- depression E-M stimulator”, Institutional funded project in Collaboration with hospitals, 2018
- 14] “Dynamic brake lighting emergency system”, Indian automotive technology and innovation awards, 2018
- 15] Life Detection and Rescue System Using Snake Robot, 3rd Prize, Third Dialogue India Academia Conclave (IIT, Delhi)

Patent Published and Granted

- 1) India Utility Patent Titled “Deep Learning Brain controlled assistive technology for the Paralyzed” published on 10/11/2022 in the field of Biomedical Engineering.
- 2) Indian Design Patent titled “MEDICAL TROLLEY INTEGRATED WITH WASTE DISPOSAL SYSTEM (SET), Granted on 29/07/2025

Areas of Interest

- BCI and Brain Actuated Systems
- Embedded system and Robotics
- Artificial Intelligence and IoT

Achievements

- Recipient of Gandhian Young Technological Innovation Award 2020
- CERD Research CEED Money funding 2021
- UGC Net Qualified
- 5 SCI and 7 Scopus Indexed Journal Publication
- 6 NPTEL MOOC Course Certifications in Latest technologies
- 3 Coursera Certifications in Latest technologies
- Participation in more than 20 Faculty development Programs in last Five years
- Team member of Eyantra Robotics Lab setup
- Organizing Committee PPTIA 2013 and 2022,2024
- Reviewer International Journal of Super Computing
- Question Paper setter, Syllabus setting Committee, APJAKTU
- Judging Panel Smart India Hackathon 23
- Faculty in Charge, SSET Fablab
- Convener, Institution Innovation Council (IIC), SSET
- Coordinator national conference NCVCOM 07
- Coordinator national level technical symposium HORIZON 06
- Organizing Committee International Conference ICVCOM 09
- Best Project Robhatah Robotic Solution, Bangalore
- Sponsored Project at NSIC, Hyderabad
- Life Member ISTE
- Reviewer FIRA International Conference
- Reviewer Springer Nature Journal
- Team Member GYTI 2018 Award
- 2nd Prize at KTU Tech fest 2016
- 3rd Prize, Third Dialogue India Academia Conclave (IIT, Delhi)
- Member IEEE

Trainings/Workshop Conducted as Resource Person

1. Two Day Hands-on Workshop on “IoT & ROBOTICS” for MCA students organized by Computer Applications, Cochin University of Science & Technology (CUSAT), Cochin, Kerala in offline mode,2021.
2. Two Days Online INTRA SCMS ROBOTICS WORKSHOP on “Familiarization of Open-Source software for Robotics & Embedded Systems-2021” for First Year Engineering & Polytechnic students.
3. Online Webinar titled “INTRODUCTION TO ARDUINO, ROBOTICS & IoT” for Information Science & Engineering students at Mangalore Institute of Technology & Engineering (MITE), MANGALORE, Karnataka,2022.
4. Two Days Online INTRA SCMS ROBOTICS WORKSHOP on “Familiarization of Open-Source software for Robotics-2021” for SCMS School of Technology and Management, MCA students.
5. Expert Lecture in the FDP on “Research Trends and Applications of IoT”, Organized by SSET, Karukutty, May 2020.
6. Two Day “Online ROBOTICS Skills Development Workshop-2021” for School students.
7. “FABXL Workshop” for B. Tech students from different colleges in Kerala.
8. “Robotic Skill development” Workshop for School students, 2019.
9. “FABLAB, ROBOTICS, & IOT Workshop”, For Polytechnics Students,2019.
10. “TBT Challenge” for Faculty Members of Engineering College,2018
11. “3D Printing and Design workshop” for Faculty and B. Tech students
12. “2D design using Laser cutter” for B. Tech and School students,2020
13. “Fablab Familiarization and Robotics” Workshop 2019 for Engineering college faculty
14. Internship Programme on “Robotics and Automation” Daffodil University, International students,2019
15. Training for ECE & EEE faculty on making “Automatic hand Sanitizer”,2020.
16. “Fablab training on Machines & PCB design software” for B.Tech students,2020
17. Workshop on “Python & Raspberry Pi” for B. Tech students,2020
18. Workshop on “Swarm Robotics” for B. Tech students,2021
19. Workshop on “Drone Technologies” for B. tech students of all branches
20. “Train The Trainer” workshop for B. Tech students and Faculty,2022
21. Workshop on “Arduino and Tinker cad” for school students 2019
22. Familiarization of open-source software for Robotics & Embedded systems for Ist year B-Tech & Polytechnic students,2022
23. “Fablab Familiarization” workshop for PGDM and MBA students of SSTM,2022
24. “Product design using Fablab” workshop for PGDM and MBA students of SSTM,2023
25. Workshop on Arduino and Robotics for Polytechnic students, 2024

FDPs attended

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- NPTEL-AICET FDP (12 week) on **Introduction to Internet of Things**, July-Oct 2023 conducted by IIT, Madras

- NPTEL-AICET FDP (8 week) on **Embedded System Design with ARM**, Jan-March 2025, conducted by IIT, Madras
- NPTEL-AICET FDP (12 week) on **Data Analytics with Python, Jan-APR,2025**, conducted by IIT, Madras
- NPTEL-AICET FDP (4 week) on **Python for Data Science, July-Aug,2025**, conducted by IIT, Madras
- NPTEL-AICET FDP (12 week) on **Introductory Neuroscience and Neuro Instrumentation, Jul-Oct,2025**, conducted by IIT, Madras
- 5-day FDP on ‘Artificial Intelligence and data Science: A hands-on Orientation’, Organised by Department of Computer Science and Engineering, Organized by TKMIT, From 23rd June to 27 th June