

Faculty Profile



Dr. J. Jeyarani , M.E., Ph.D
Professor ECE

HIGHLIGHTS:

- Number of Journal/Conference Publications: 31
- H-Index: 6
- Project Funding Received: 2
- Patents Published: 3

PROFESSIONAL LINKS:

- Scopus ID: 58941952800
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=58941952800>
- Google Scholar ID: <https://scholar.google.com/citations?user=t29Br-QAAAAJ&hl=en>
- Anna University Faculty ID: **2621041978**
- AICTE Faculty ID: 1-7368604606
- Anna University Supervisor ID: 3540008
- LinkedIn: [inkedin.com/in/jeyarani-jeyaseelan-baa1a582/](https://www.linkedin.com/in/jeyarani-jeyaseelan-baa1a582/)

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 24 years
- Industrial Experience: Nil

AREA OF SPECIALIZATION:

- Optical Wireless Communication/Free Space Optics
- Digital Image Processing
- Antennas and RF Systems
- Signal Processing

Ph.Ds GUIDING:

- **Part Time Scholars : 2**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

1. AICTE Grant: Secured ₹50,000 under the AICTE GoC Scheme to organize an international conference in 2023.
2. AICTE Idea Lab Grant: Principal Coordinator in securing ₹1.1 Crore for the implementation of an Idea Lab at CARE College of Engineering.

PATENTS PUBLISHED/GRANTED:

- Hollowed Pentagon Model Patch Antenna (2023). Published by the Ministry of Commerce & Industry, Government of India.
- IoT-Controlled Context-Based Targeting Digital Advertisement Methodologies in Wearable Gadgets (2023). Published by the Department of Industrial Policy and Promotion, Government of India.

ACHIEVEMENTS AND AWARDS:

1. Convened 4 international conferences, organized 30 plus seminars and workshops
2. Designed the curriculum structure and syllabus for the new Autonomous regulation.
3. As Dean IQAC in previous College achieved NAAC, NBA accreditation
4. Received best department award consecutively for 6 years as HoD ECE in Previous Institution
5. Prepared and submitted the Deemed-to-be-University proposal to the UGC for the previous Institution.

SPECIAL SESSIONS DELIVERED:

- Presented lectures to MTech Students of NIT Trichy on Optical Wireless Communication
- Presented FDP sessions at Kings Engineering college , Tanjore

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED: 25

PROFESSIONAL MEMBERSHIPS: BES, IETE, ISTE, IEEE

PUBLICATIONS

Free Space Optical Communication & Wireless Communication

1. J. Jeyarani, Kumar DS, Caroline BE (2019) - A Novel Ergodic Capacity Analysis of MISO OFDM-PDM for Free Space Optical Communication System, Optik, ELSEVIER (SCI & Scopus).
2. J. Jeyarani, D. Sriram Kumar, B. Elizabeth Caroline (2018) - PolSK and ASK Modulation Techniques Based BER Analysis of WDM-FSO System for Under Turbulence Conditions, Wireless Personal Communications, 103, 3221-3227 (SCIE & Scopus).

3. J. Jeyarani, D. Sriram Kumar, B.E. Caroline (2018) - Performance Analysis of Free Space Optical Communication System Employing WDM-PolSK Under Turbulent Weather Conditions, Journal of Optoelectronics and Advanced Materials, 20, 506514 (SCIE).
4. J. Jeyarani, D. Sriram Kumar (2018) - Performance Analysis of Two-Way AllOptical Relay Assisted PM-FSO over Different Weather Conditions, Visnyk NTUU KPI Serii – RadiotekhnikaRadioaparotobuduvannia, 74, 30–35 (ESCI).
5. J. Jeyarani, D. Sriram Kumar (2015) - Performance of Free Space Optical System for PolSK and QPSK, International Journal of Applied Engineering Research, 10, 200043-200048 (Scopus).
6. J. Jeyarani, D. Sriram Kumar, B.E. Caroline - Disaster Management Using Free Space Optical Communication System, Photonic Network Communication, Volume-39, Pg-1 (SCIE & Scopus). Antenna & Smart Farming
7. Neethi Adhithya, B.E. Caroline, J. Jeyarani (2021) - Design of Reconfigurable TriBand Antenna for Wireless Communication, Journal of Physics, Volume-1717, Pg012058 (Scopus).
8. Britto E.C., Danasegaran S.K., Xavier S.C., J. Jeyarani (2021) - Soil Nutrient Detection Based on Photonic Crystal Hexagonal Resonator for Smart Farming, Brazilian Journal of Physics, Volume-51, Pg-1274 (SCIE & Scopus).

Networking & IoT Applications

9. J. Jeyarani, R. Deepalakshmi, R. Vanitha, M. Shivashankari (2022) - Analysis of QAM Based Wavelength Division Multiplexing – Free Space Optical Communication Systems, Journal of Analog and Digital Communications, Volume-7, Issue-3 (Sept-Dec 2022).
10. J. Jeyarani, R. Deepalakshmi, R. Vanitha, M. Shivashankari, S. Shanthi (2022) - Design and Analysis of Hybrid Software-Defined Network System for Stability Enhancement, International Journal of Scientific Research in Network Security and Communication, Volume-10, Issue-3 (June 2022).
11. J. Jeyarani, R. Vanitha - Eviot: Futuristic Automation System for Electric Vehicle Charging Station Point Prediction and Booking System, Journal for Basic Sciences, ISSN: 1006-8341.
12. J. Jeyarani, M. Shivashankari - Precision Agriculture Decision-Making System in Crop Field Monitoring Using IoT-Based WSN, Journal for Basic Sciences, ISSN: 1006-8341.

Healthcare & Environmental Monitoring

13. R. Deepalakshmi, R. Vanitha, M. Shivashankari, J. Jeyarani (2022) - Development of Health Care Monitoring System for Elder People Using Internet of Things, International Journal of Research and Analytical Reviews (April 2022).
14. R. Deepalakshmi, R. Vanitha, M. Shivashankari, J. Jeyarani, S. Shanthi (2022) - Air Quality Measurement: Digital Dashboard Using Smartphone, International Journal of Research and Analytical Reviews (March 2022). Blockchain, AI & IoT Applications
15. J. Aanto, J. Jeyarani, S. Shanthi (2023) - Creating a Secure and Decentralized Document Verification System Using Non-Fungible Tokens, International Journal of Research and Analytical Reviews (May 2023).
16. R. Deepalakshmi, J. Jeyarani, R. Vanitha, M. Shiva Shankari (2023) - Eyes and Voice-Based Electric Wheelchair Control System, International Journal of Research and Analytical Reviews (May 2023).

17. R. Vanitha, J. Jeyarani, R. Deepalakshmi, M. Shiva Shankari (2023) - Sustainable Waste Management Through Intelligent Dustbins, International Journal of Research and Analytical Reviews (May 2023).

18. M. Shiva Shankari, J. Jeyarani, R. Vanitha, R. Deepalakshmi (2023) - IoT-Based Smart Classroom Management System, International Journal of Research and Analytical Reviews (May 2023).

19. Jeyarani, Jeyaseelan and Alan, Jeyaseelan. "Quantum-secured Free-space Optical Communication for disaster management: a QPSK-Based system with hybrid atmospheric modelling and advanced mitigation strategies" Journal of Optical Communications. <https://doi.org/10.1515/joc-2025-0051>.

Conferences International Conferences

1. Jeyarani, J., et al. (2023). Performance Analysis of PolSK MIMO-FSO Over Strong Atmospheric Turbulence Conditions. IMICPW, IEEE Conference, NIT Tiruchirappalli.

2. Jeyarani, J., et al. (2017). Performance Analysis of Multiuser FSO System Using PolSK Modulation Under Different Weather Conditions. ICMOC, Karaikudi, India.

3. Jeyarani, J., et al. (2015). Fading Mitigation Technique for MIMO in Free Space Optical System. IC-GET, Coimbatore, India.

4. Jeyarani, J., et al. (2015). BER Analysis of Serial Relay Assisted FSO Systems Over Strong Atmospheric Turbulence. ICSCN, Chennai, India.

5. Jeyarani, J., et al. (2014). Relay and Forward in Free Space Optical Communication – A Qualitative Review. International Conference on Light and Matter, Calicut, India.

6. Jeyarani, J., et al. (2012). VLSI Implementation and Performance Evaluation of Adaptive Filters for Impulse Noise Removal. IEEE International Conference on Emerging Trends in Science, Engineering, and Technology.

7. Jeyarani, J., et al. (2012). Reconfigurable DCT/IDCT Architecture for Video Codec: A Review. IEEE International Conference on Computing, Communication, and Networking Technologies.

National Conferences

1. Face Recognition System Using Multiple Face Model of Hybrid Fourier Feature Under Controlled Illumination (2012). JJ College of Engineering & Technology.

2. VLSI Implementation of Adaptive Rank Order Filter for Impulse Noise Removal (2012). JJ College of Engineering & Technology.

3. Design & Implementation of Adaptive Rank Order Filter in Reconfigurable Device for Impulse Noise Removal (2012). Mepco Schlenk Engineering College.

4. Enhanced Local Texture Feature Sets for Face Recognition Under Difficult Light Conditions (2011). Saranathan College of Engineering.

5. Implementation of Incremental Principal Components Analysis (2010). Dhanalakshmi Srinivasan Engineering College. 6. Emerging Trends in Communication (2007). Dhanalakshmi Srinivasan Engineering College.