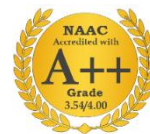





# SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution| Accredited with 'A++' Grade by NAAC)

Pulloor, Kariapatti –Taluk. Virudhunagar Dist-626115.



Department of Biomedical Engineering					
Name	Dr.N.MAHALAKSHMI				
Date of Birth	11.11.1976				
Unique ID	1-44726609605				
Educational Qualifications	M.E.,Ph.D				
Designation	Professor				
Email ID	Mahalakshmi@sethu.ac.in				
Alternate Email ID	ece.nmaha@gmail.com				
Experience	Industry	Teaching	Others	Total	
	Nil	22 yrs	-	22 yrs	
Date of Joining the Institution	07.07.2023				
Area of Specialization	Bio sensors/ Biomedical Antennas				
Courses taught	1. Medical device regulations, 2. Hospital planning management 3.Telehealth technology 4. Communication systems				
Research Focus	Microwave antennas for biomedical applications				
Research guidance (Number of Scholars)	Nil				
Subject Competency	Biosensors & Biomedical Antennas				
No. of papers published	National Journals		International Journals		Conferences
	21		11		14
PG Specialization	Communication Systems				
Ph.D. Specialization	Antennas for Biomedical applications				
Projects Carried out	7				
Patents (Filed & Granted)	5				
Technology Transfer	2				
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	1				



Level	Degree	Specialization	University	Year of Completion
UG	B.E.	Electronics and Communication	Madurai Kamaraj University.	1997
PG	M.E	Communication Systems	Anna University Chennai.	2011
Ph.D.	Ph.D	Microwave Antennas for Biomedical applications	Anna University Chennai.	2020

**Details of Journal Publication:**

1. M.Pandimadevi, N.Mahalakshmi, K.Kanimozhi, M.Sarathkumar, “DESIGN OF UWB MIMO Antenna Using Connectivity-Aware Graph Neural Network for smart Fabric Communications”, *International Research Journal of Communication systems*, Volume 38, Issue 11, June 2025.
- 2.N. Mahalakshmi, F. Abdul Rahman, D. Aswin Kumar, P. Aravind Siddharth, A. Gowtham,“Realtime Monitoring of Varicose Vein Parameters Using IoT and Embedded Systems”,*International Journal on Recent Researches in Science Engineering & Technology*, Volume 12, Issue 4. Pages 1-13, April 2024, ISSN:2348-3105.
- 3.Published a paper titled “Design of compact Implantable Meandered and Sharp Edged1 Meandered Shaped Antenna for Biomedical Application” in *European Journal of Molecular & Clinical Medicine*,Vol 7,issue (11), 87-93,2020.
4. Published a paper titled "Design and Analysis of X -MA Implantable Antenna for Biomedical Application" in *IJICS journal*, Vol 6,Issue 5,May 2019.
5. Published a journal paper titled " Mallet Shaped Implantable Antenna with Slotted ground for Biomedical Application in ISM band " in *IJICS journal* Vol 6,Issue 5,May2019.
6. Published a paper titled “Design of mirror-E shape implantable antenna for biomedical applications”, *Journal of Applied Mathematics and Information Science*, ISSN: 1935-0090, vol. 13, no. S1, Annexure I,2019.
7. Published a paper titled “Design of hexagon shape bow-tie patch antenna for implantable bio-medical applications”,in *Alexandria Engineering Journal*,Volume 56, Issue 2, June 2017, Pages 235-239.Impact factor:6.626
8. Published a paper titled, “Recognition of congestive heart failure using S-shaped slot antenna”, in the *Asian Research Publishing Network (ARPN)*,VOL.10,NO.9,pp.406-4071,May2015. Impact factor:0.38
9. Published a paper titled “A Review of implantable Patch Antenna –Design and its Evaluation”, in the *International Journal of Applied Engineering Research (IJAER)*, VOL(9),NO-21,pp.4928-4932,Jan 2015.
- 10.Published a paper titled "Decision Making Model for Supplier Evaluation andSelection

Using MCDM Methods", Bonfring International Journal of Industrial Engineering and Management Science, Vol. 4, No. 2, May 2014. Impact factor:0.528

11. Published a paper titled "Design and Development of single layer Micro strip Patch Antenna for Breast Cancer Detection", Bonfring International Journal of Research in Communication Engineering, vol. 2, special Issue 1, July 2012, Impact factor:0.528

### **Details of Conference attended:**

1. Presented Paper on "IOT Based Multi-Node Health Monitoring System" in 3rd International Conference on Applications of AI in Smart Technologies and Manufacturing (AISTM'25) at Laxman Reddy Institute of Technology and Management. 07&08/March /2025.

2. Presented Paper on "High Efficiency Three Phase Interleaved Buck Boost Converter for fast Charging of EV" in 3rd International Conference on Applications of AI in Smart Technologies and Manufacturing (AISTM'25) at Laxman Reddy Institute of Technology and Management. 07&08/March /2025.

3. Presented Paper on "Inf-Net and Optimized GoogleNet for Lung infection analysis from CT images with FPGA implementation" in International Conference on Innovation in computing and Communication'25(ICICC'25) at Velammal college of engineering and Technology. 04&05/March /2025.

4. Presented Paper on "Predictive Modeling in Healthcare Using Advanced AI Techniques" in 4th International Conference on Biotechnology Emergence in Science and technology(ICBEST 2025) at SRM Institute of Science and Technology, Ramapuram, Chennai. 27&28/February/2025.

5. Presented Paper on "Predictive AI in Electronic Health Records for Detecting PARKINSON'S DISEASE" in International Conference on Recent trends in Information, Communication and Electrical Engineering (ICRTICE 2K24) at Sethu Institute of Technology. 27&28/March/2024.

6. Presented Paper on "Disaster zone alerting application to avert the spread of transmissible disease" in IEEE International Conference on Multidisciplinary Research in Technology and Management (MRTM'23) at New Horizon college of engineering. 22&23/September/2023.

7. Presented Paper on "Smart Garbage System for the waste management using ESP32 microcontroller" in IEEE International Conference on Multidisciplinary Research in Technology and Management (MRTM'23) at New Horizon College of engineering. 22&23/September/2023.

8. Presented Paper on "Disaster zone alerting application" in 10th International Conference on Emerging Trends in Engineering and technology (ICETET'23) at Pandian Saraswathi Yadav Engineering College, Sivagangai. 28&29/April/2023.

9. Presented Paper on "2D- Gaming warzone gateway" in 10th International Conference on Emerging Trends in Engineering and technology (ICETET'23) at Pandian

**10. Presented Paper on "Polarimetric sar image classification based on ensemble dual branch cnn & superpixel" in 10th International Conference on Emerging Trends in Engineering and technology(ICETET'23) at Pandian Saraswathi Yadav Engineering College,Sivagangai.28&29/April/2023.**

**11.Presented a paper titled "Design of Compact Coplanar Waveguide Feed Inverted - P Antenna for Biomedical Implants," IEEE EUROCON 2021 ,pp.51-54, doi: 10.1109/EUROCON52738.2021.9535623.**

**12. Presented a paper titled "Design of Compact Implantable Meandered and Sharp Edged Meandered Shaped Antenna for Biomedical Application" in the Fifth International Conference on Biosignals, Images and Instrumentation at SSN College of Engineering, Chennai. 14/Mar/2019-15/Mar/2019.**

**13. Presented Paper on"Implantable Hammer Shaped Antenna with Slotted Ground for Biomedical application in ISM Band" in 6th International Conference on Emerging Trends in Engineering and technology(ICETET'19) at Pandian Saraswathi Yadav Engineering College,Sivagangai.16/Mar/2019.**

**14.Presented a paper titled "Design of Dual spiral antenna for implantable Bio medical application" in the proceedings of 13th international conference on electromagnetic interference and compatibility -INCEMIC 2015 conducted by Andhra university, visakhapatnam. 22&23/Jul/2015.**

**15. Presented a paper titled "Design of inverted -P patch antenna for wireless capsule endoscope systems" in the proceedings of International Conference ICIESMS 2015 conducted by Vickram College of Engineering, Madurai, Tamilnadu. 11/Apr/2015.**

**16. Presented a paper titled "Recognition of congestive heart failure using Quad s-shaped slot antenna "in the proceedings of International Conference ICIESMS 2015 conducted by Vickram College of Engineering, Madurai, Tamilnadu. 11/Apr/2015**

**17.Presented a paper titled "wearable antenna for wireless telemedicine ", in the proceedings of International Conference ICIESMS 2015 conducted by Vickram College of Engineering, Madurai, Tamilnadu. 10/Apr/2015.**

**18. Presented a paper titled "Design of new shape bowtie antenna for gas leakage detection",in the proceedings of International Conference ICIESMS 2015 conducted by Vickram College of Engineering, Madurai, Tamilnadu. 10/Apr/2015.**

**19.Presented a paper titled "Antenna design for multisection floating sleeve antenna using medical application", in the proceedings of International Conference ICIESMS 2015 conducted by Vickram College of Engineering, Madurai, Tamilnadu. 10/Apr/2015.**

**20.Presented a paper titled "A Review of implantable Patch Antenna -Design and its Evaluation",in the International Conference on pattern recognition and multimedia signal Processing, held at Annamalai university, annamalainagar- 9/Jan/2015-10/Jan/2015- 2days**

**21. Titled "Performance Analysis of Multicarrier CDMA technique for 4G mobile communication" ICWET Thakur Group of Institutions and Technology, Mumbai. 25/Feb/2011 - 26/Feb/2011**

**22. Presented a paper titled "Design and Analysis of X -MA Implantable Antenna for Biomedical Application" in National Conference on Advancements in Computer Science and**

**Engineering – NCACSE 2019 at New Horizon College of Engineering, Marathahalli, Bangalore on 24/April/2020.**

**23. Presented a journal paper titled " Mallet Shaped Implantable Antenna with Slotted ground for Biomedical Application in ISM band " in National Conference on Advancements in Computer Science and Engineering – NCACSE 2019 at New Horizon College of Engineering, Marathahalli, Bangalore on 24/April/2020.**

**24. Presented a paper titled "Implantable Quad-P structured microstrip patch antenna for Biomedical application" National conference SDIP'16 conducted by KPR Institute of Engineering & Technology, Coimbatore, 02/Apr/2016.**

**25. Presented a paper titled "Design of T-Shaped MIMO Antenna with Band notch Characteristics for portable UWB Applications" National conference SDIP'16 conducted by KPR Institute of Engineering & Technology, Coimbatore, 02/Apr/2016**

**26. Presented a paper titled "Design of Dual Band U-Shaped Antenna for ISM Band applications" National conference SDIP'16 conducted by KPR Institute of Engineering & Technology, Coimbatore, 02/Apr/2016**

**27. Presented a paper titled "Design and Performance Analysis of Multisection Floating Sleeve Antenna Using Medical Applications", in the proceedings of national conference ARIVAM'15 conducted by Kalasalingam institute of technology, Anand nagar, Krishnankoil, Tamilnadu. 26/Mar/2015.**

**28. Presented a paper titled "Systematic approach for multivariable system" at the National conference on System Design and Information Processing-SDIP 2014 held at PSNA college of Engineering and technology, Dindigul. 21/Mar/2014**

**29. Presented a paper titled "Wearable plus shaped slot antenna" at the National conference on System Design and Information Processing-SDIP 2014 held at PSNA college of Engineering and technology, Dindigul. 21/Mar/2014**

**30. Presented a paper titled "Implantable dental antenna" at the National conference on System Design and Information Processing-SDIP 2014 held at PSNA college of Engineering and technology, Dindigul. 21/Mar/2014**

**31. Presented a paper titled "Intelligence Based Controllers For Robot Arm" at the National conference on System Design and Information Processing-SDIP 2013 held at PSNA college of Engineering and technology, Dindigul. 22/Mar/2013**

**32. Presented a paper titled "Design of a compact wearable folded UWB antenna for wireless body area network" at the National conference on System Design and Information Processing-SDIP 2013 held at PSNA college of Engineering and technology, Dindigul. 22/Mar/2013.**

#### **Details of Book Chapter and Books Published:**

**Optical communication Networks (Lakshmi publications) on 01/Jul/2011.**

#### **Details of Patents Filed and Granted:**

**1. "Implantable BATON Antenna using coplanar wave guide feed"-Patent application**

**No.201941035032 is published in 5th March 2021**

2. “WRISTBAND ANTENNA”-Patent Application No. 201941016138 (EP patent 214) is published in October 2020.
3. “5G Antenna for wireless communication”-Patent Design No. 438189-001 is granted on 23 November 2024.
4. “AI- Driven Diagnostic Tool for Automated analysis of Medical Imaging”-Patent Application No. 202441096182 A is published in 13 December 2024.
5. “Deep Learning- Enabled Vibration Monitoring system for Satellite Launch Vehicles with GPS payloads”-Patent Application No. 202441093333 is published in 16 December 2024.

**Expert Lecture Delivered:**

**“Design and analysis of microwave antenna for biomedical applications” at Thiagaraja College of Engineering**

**Presented a technical Seminar on "Telemedicine "at Vickram College of Engineering.**