



# SYED AMMAL ENGINEERING COLLEGE

(Approved by the AICTE, New Delhi, Govt. of Tamilnadu and Affiliated to Anna University, Chennai)

**NBA Accredited Courses: CSE & Mech**

Dr. E.M. Abdullah Campus, Lanthai, Ramanathapuram – 623 502.

Phone: 04567-222234, 9487304000, 304222, 304101

Web: [www.syedengg.ac.in](http://www.syedengg.ac.in)

Email: [saec@syedengg.ac.in](mailto:saec@syedengg.ac.in)



## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### FACULTY PROFILE

Name : **Dr. N. KIRUBANANDASARATHY**

Designation : PROFESSOR

Contact Address : Department of ECE,  
Syed Ammal Engineering College,  
Ramanathapuram – 623 502.



Contact Mobile No. : 98841-24186, 94875-24186

Email id : [dr\\_nksarathy@syedengg.ac.in](mailto:dr_nksarathy@syedengg.ac.in), [drnksarathy@gmail.com](mailto:drnksarathy@gmail.com)

Areas of Interest : Wireless Communication, VLSI Design

### Qualification

- B.E. (Electrical & Electronics Engineering)
- M.E. (Applied Electronics)
- Ph.D. (Electronics and Communication Engineering) – Area of Research: VLSI DESIGN

### Experience

- 16.06.2003 to 30.06.2005 : Lecturer – St. Micheal College of Engg & Tech, Kalayarkoil.
- 13.07.2005 to 31.05.2009 : Lecturer – St. Peter’s Engineering College, Avadi, Chennai.
- 01.06.2009 to 30.04.2011 : Assistant Professor – St. Peter’s Engineering College, Chennai
- 15.06.2011 to 30.06.2012 : Assistant Professor – Syed Ammal Engineering College
- 01.07.2012 to 13.12.2013 : Associate Professor - Syed Ammal Engineering College
- 14.12.2013 to Till : Professor - Syed Ammal Engineering College

### Publications in Conferences:

1. **Kirubanandasarathy, N**, “Online communication of SCADA based on Embedded system design using Pc” National Conference on Advances in Electronic Communication (ADELCO),



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National Engineering College, Kovilpatti, Tamilnadu, 3rd & 4th June 2004.

2. **Kirubanandasarathy, N**, Vasudevan, N and Baskar K, “Embedding Sensor data in an Active RFID Time Series” National Conference on Emerging Trends in Communication, Computing and Networks, Rajalakshmi Engineering College, Chennai, 4th & 5th March 2007.PP No : 201-204
3. A.Selvakumar, R.Muthammal, and V.Sathish Kumar and **Kirubanandasarathy, N**, “A BIST TPG for Low power Dissipation and High Fault Coverage”. Proceedings of An International Conference on Emerging Scenarios in Space Technology and Application (ESSTA), Sathyabama University, Chennai, 13-15 Nov 2008, pp.574-578.
4. **Kirubanandasarathy, N** and Karthikeyan, K, (2010). VLSI Design of Mixed Radix FFT for MIMO OFDM In the wireless communication. Proceedings of the IEEE International conference on communication computing control technologies, October 7-9, 2010, Ramanathapuram, India, pp: 98-102.
5. Jebasingh, S. J and **Kirubanandasarathy, N**, “Analysis of Multicarrier CDMA With Dual Spreading in Different Fading Channels” National Conference on Emerging Trends on Bio-telemetric and Medical Imaging (NCBTMI’11), Sriram Engineering College, Chennai, 24th & 25th February 2011.PP No : 1-5.
6. Ruban Thamos, D and **Kirubanandasarathy, N**, “VLSI Implementation of Network On chip Using CDMA Technology” National Conference on Emerging Trends on Bio-telemetric and Medical Imaging (NCBTMI’11), Sriram Engineering College, Chennai, 24th & 25th February 2011.PP NO : 274 – 279.
7. **Kirubanandasarathy, N**, Dr. Karthikeyan, K, and Thirunadana Sikamani, K, “A Novel Pipelined FFT / IFFT Processor for OFDM System Using FPGA” National Conference on Information Processing Security and Communication 2011(NCIPSC’11), St.Peter’s University, Chennai, 4th & 5th March 2011.
8. Ruban Thamos, D, and Jebasingh, S.J and **Kirubanandasarathy, N**, “Analysis of Network On Chip Architecture with a Genetic Algorithm Based Technique” National Conference On Innovations in Wireless Communication and Embedded Systems (NCIWCES’11), Sakthi Engineering College, 16th March 2011, PP No: 137-142.
9. Jebasingh, S.J, and Ashok, R and **Kirubanandasarathy, N**, “Performance Analysis Of Multi-Carrier DS-CDMA Wireless Communication System” National Conference On Innovations in Wireless Communication and Embedded Systems (NCIWCES’11), Sakthi Engineering College, 16th March 2011, PP No: 165-168.
10. Lakshmi Priya, P and **Kirubanandasarathy, N** “Design & Performance investigation of Fault Tolerant Quadded logic with Multi Voltage logic” Proceedings of the An International conference on Emerging Engineering Trends and Science, 29th March, 2016, Latha Madhavan Engineering College, Madurai, India, pp: 45-50.
11. P Lakshmi Priya and **Kirubanandasarathy N**, “A Novel Fault tolerant Voter for Identical Core in satellite Application” Proceedings of an International Conference on Advanced Communication, Control and Computing Technologies, May 25th & 27th, 2016, Syed Ammal Engineering College, Ramanathapuram, India, PP-944-948.
12. **Kirubanandasarathy N**, and Ragavi E “Partial Low cost Triple Modular Redundancy Techniques for Arithmetic Logic Unit Protection” AICTE Sponsored International Conference



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on Nanotechnology: Ideas, Innovations & Initiatives, Syed Ammal Engineering college, Ramanathapuram, Dec 12 – 14, 2019.

13. B. Monisha and Kirubanandasarathy N, “An Effective Ring Partition with GLCM Feature Based Recovery of Tampered Images”, International Conference on Innovative Research in Applied Engineering and Computing Methodologies, Ramanathapuram, India, 13-14, August 2021

### Publications in Journals:

1. **Kirubanandasarathy, N**, Karthikeyan Kottaisamy, and Rajmohan, M, “Study and Survey about Mixed radix FFT Processor in MIMO OFDM”, International Journal of MC Square Scientific research (IJMSR) ISSN 0975-0932. Volume 2/2010. PP No: 46-52.
2. **Kirubanandasarathy, N** and Karthikeyan, K, “VLSI Design and Implementation of MIMO OFDM System for wireless communication”, European Journal of Scientific research (EJSR), ISSN 1450-216X, Vol 73, No.2, EuroJournals Publishing, Inc. 2012, March 2012, pp. 269-277. (SCOPUS Indexed Journal) (Secured cash award Rs. 2,500/- for publishing this research paper in Anna university Chennai Annexure – II)
3. **Kirubanandasarathy, N** and Karthikeyan, K, “VLSI Design of Pipelined R2MDC FFT for MIMO OFDM transceivers”, Journal of Applied Sciences (JAS), ISSN 1812-5654, Vol. 13, No.1, Science Alert Publications, Jan 2013, pp. 197-200. (SCOPUS Indexed Journal)
4. **Kirubanandasarathy N**, Umashankar A and Vasudevan N “Low power architecture for reconfigurable FIR filter for SDR” International Journal of Engg. Research and Industrial research (IJERIA), ISSN 0974-1518, Vol. 6, No. III, August 2013, pp. 107-118.
5. **Kirubanandasarathy, N**, Umashankar, A, and Vasudevan, N “Design a novel slice reduction Algorithm for low power and area efficient FIR filter” Global journal of Engineering and applied Sciences, 2013, 3(3), pp. 149-153.
6. **Kirubanandasarathy, N**, Kavitha, G. and Kirthiga, B “Performance analysis of an area efficient and low power MOD- R2MDC FFT For MIMO OFDM” Applied Mechanics and Materials Vol. 573 (2014) pp 176-180. (SCOPUS Indexed Journal)
7. **Kirubanandasarathy, N** and Ramesh, G.P, “Design and Analysis of an area efficient and low power New R2MDC FFT for MIMO OFDM in wireless Communication” International Journal of Computer Science and Engineering Communications, ISSN:2347-8586, Vol. 2, No. 4, July 2014, pp. 400-406.
8. **Kirubanandasarathy, N** and Karthikeyan, K, “VLSI Design and Investigation of an area efficient and low power MOD-R2MDC FFT for MIMO OFDM” Journal of Engineering and Technology (JET), Vol. 5, No. 1, Jan 2015, pp: 36-40. (SCOPUS Indexed Journal)
9. **Kirubanandasarathy, N** and Rekha, M, “Performance Analysis of Low Power MIMO Decoding Accelerator Using Euclidean Orthogonal Architecture” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 12-19.



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(SCOPUS Indexed Journal)

10. **Kirubanandasarathy, N** and Rekha, M, “Performance Analysis of Low Power MIMO Decoding Accelerator Using Way Tag Detection Unit” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 59-65. (SCOPUS Indexed Journal)
11. **Kirubanandasarathy, N**, Banupriya, P. and Suganya, P “An Area Effectual Feed Forward Architectures Using FFT” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 426-430. (SCOPUS Indexed Journal)
12. **Kirubanandasarathy, N** and Vasudevan, N and Sarojini, R, “VLSI Design and Implementation of Pipelined Advanced Encryption Standard Architecture” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 1108-1115. (SCOPUS Indexed Journal)
13. **Kirubanandasarathy, N** and Vasudevan, N and Sarojini, R, “Optimal Linear Minimum Mean Square Error for MIMO Channel Estimation And Maximization” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 1116-1121. (SCOPUS Indexed Journal)
14. **Kirubanandasarathy, N**, Vinolia, V. and Vinciya, V “Vehicular Ad - Hoc Networks Based Intelligent Traffic Signal Control” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 1667-1672. (SCOPUS Indexed Journal)
15. **Kirubanandasarathy, N**, Gugan Raja, M, and John Samuel, B “Disaster alert notification and rescue management through Smart phones using GPS” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 2282-2287. (SCOPUS – Indexed Journal)
16. **Kirubanandasarathy, N** and Vasudevan, N and Sarojini, R, “Synthesis and Simulation of New-R2MDC FFT For OFDM Receivers” International Journal of Applied Engineering Research, ISSN:0973-4562, Vol. 10, No. 55, June 2015, pp: 4275-4280. (SCOPUS Indexed Journal)
17. **Kirubanandasarathy, N**, Umasankar, A, and Vasudevan, N, “Area Efficient and Low Power Reconfigurable FIR Filter” International Journal of Computer Science and Network Security, Vol. 15, No. 8, August 2015, pp: 50-54.
18. **Kirubanandasarathy, N** and Karthikeyan, K, “Design of MOD-R2MDC FFT for MIMO OFDM in wireless telecommunication system” Telecommunication Systems (Telecommun Syst), Vol. 63, No 3, Nov 2016, pp: 457-464. <https://link.springer.com/article/10.1007/s11235-016-0135-9> (SCI Indexed Journal) (Secured cash award Rs. 5,000/- for publishing this research paper in Anna university Annexure)
19. **Kirubanandasarathy, N** and Karthikeyan, K, “Design of pipeline R2MDC FFT for implementation of MIMO OFDM transceivers using FPGA” Telecommunication Systems (Telecommun Syst), Vol. 63, No 3, 2016, pp: 465-472.



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<https://link.springer.com/article/10.1007/s11235-016-0136-8> (SCI Indexed Journal) (Secured cash award Rs. 5,000/- for publishing this research paper in Anna university Annexure)

20. **Kirubanandasarathy N**, Karthikeyan N and Ramasubramanian B “A Novel Algorithm for Hyperspectral Image Denoising in Medical Application” Journal of Medical Systems, Vol 43, no 9, 2019. (SCI Indexed Journal) <https://link.springer.com/article/10.1007/s10916-019-1403-5>
21. **Kirubanandasarathy N and R. Sandha** “: “QR image feature extraction effectiveness based on metrics using spectral clustering and grey level Co-Occurrence matrix algorithm” Materials Today: Proceedings Journal, Vol 33, Part 7, 2020, pp 4112-4116. (SCOPUS Indexed Journal) <https://doi.org/10.1016/j.matpr.2020.06.551>.
22. **Kirubanandasarathy N**, S.David and V.P.Ajay “VANET based self-governed vehicle strategy in association with multi-object recognition and key mapping features” Materials Today: Proceedings Journal, Vol 33, Part 7, 2020, pp 3838-3845. (SCOPUS Indexed Journal) <https://doi.org/10.1016/j.matpr.2020.06.224>.
23. **Kirubanandasarathy Nageswaran**, J. Sakubar Sadiq, C. Priya, S. Praveen Samuel Washburn, B. Monisha, M. Muneeswaran, “An effective low power halftoning based authentication and self-recovery of tampered images”, Materials Today: Proceedings, 2021. (SCOPUS Indexed Journal) <https://doi.org/10.1016/j.matpr.2021.01.818>.
24. **Kirubanandasarathy N**, C. Priya, S.M.H. Sithi Shameem Fathima, A. Valanarasid, M.H. Safana Begam, and N. Aiswarya, “Automatic optimized CNN based COVID-19 lung infection segmentation from CT image”, Materials Today: Proceedings, 2021. (SCOPUS Indexed Journal) <https://doi.org/10.1016/j.matpr.2021.01.820>.
25. **Nageswaran Kirubanandasarathy**, Selvan Murugeswari. and Gandhi Mahendran. A Hybrid Transform for Reduction of Peak to Average Power Ratio in OFDM System. Wireless Pers Commun 118, pp 3187–3197 (2021). (SCI Indexed Journal) <https://doi.org/10.1007/s11277-021-08174-z>.

### Patent published

| S. No | Application No | Title of Invention  | Publication Date |
|-------|----------------|---|------------------|
| 1     | 202141001385 A | INTELLIGENT SHOES FOR THE UNEVEN WALKING AREA FOR VISUALLY CHALLENGED PERSONS         | 15.01.2021       |
| 2     | 202141001745 A | AN INTELLIGENT FAST COMPOST GENERATOR BIN WITH AUTOMATIC SEGREGATION OF KITCHEN WASTE | 22.01.2021       |
| 3     | 202141019219 A | SMART BIOMEDICAL WASTE MANAGEMENT DEVICE IN HOSPITALS                                 | 07.05.2021       |



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|   |                |   |            |
|---|----------------|---|------------|
| 4 | 202141032709 A | LOW COST IOT BASED SOIL MONITORING AND IRRIGATION SYSTEM FOR TERRACE GARDENING                                | 23.07.2021 |
| 5 | 202241009503 A | DETECTING FACE MASK AND DICTATING NO MASK CUSTOMERS TO WEAR IT USING DEEP LEARNING TECHNIQUE IN SHOPPING MALL | 04.03.2022 |

### Funds Received / Raised

- Organized an International Conference on Advances in Applied Engineering & Technology – 2015 (ICAAET-15) during May 14-16, 2015. I have raised the fund about **Rs. 27,00,000/-** from this conference.
- Received **Rs. 4,82,000/-** from AICTE for conduction of Faculty Development Programme on Verification and Testing of VLSI circuits using EDA Tools in 2018-19.
- Received **Rs. 6,66,000/-** from AICTE for PRERANA Scheme for Preparing SC/ST Students for Higher Education in 2019-21.
- Organized an International Conference on Advances in Applied Engineering & Technology – 2020 (ICAAET-20) during May 14-16, 2020. I have raised the fund about **Rs. 2,50,000/-** from this conference.

### FDP Organized

- Organized AICTE sponsored Two Week Faculty Development Programme on ‘Verification & Testing of VLSI Circuits using EDA Tools’ (VTEC’19) during 01-14, Nov 2019.

### Details of Training Programme/ workshops organized

- Coordinator for two days workshop on “CADENCE Tool” by Vi-Microsystems Pvt. Ltd. on 11<sup>th</sup> – 12<sup>th</sup> November 2013.
- Coordinator for One Day Workshop on Advanced Switching Circuits Design using Cadence Tool on 3rd Mar 2017
- Coordinator for One Day National Level Workshop on “Importance of Multirate Signal Processing for Digital Communication”, 9<sup>th</sup> Sep 2017.
- Coordinator for the National Level Technical Students Symposium “INNOWAVE 2020” held at Syed Ammal Engineering College, on 31<sup>st</sup> Jan 2020.



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### Details of Seminars/Conferences organized

- Reviewer and Session chair for ICACCCT'12, an IEEE International Conference on Advanced Communication, Control and Computing Technologies conducted on 23<sup>rd</sup> – 25<sup>th</sup> Aug 2012.
- Executive Committee member for ICACCCT'14, an IEEE International Conference on Advanced Communication, Control and Computing Technologies conducted on 8<sup>th</sup> – 10<sup>th</sup> May 2014.
- Organizing Secretary and Session chair for ICAAET'15, 2015 International Conference on Advances in Applied Engineering and Technology conducted on 14<sup>th</sup> – 16<sup>th</sup> May 2015.
- Executive Committee member and Session chair for ICACCCT'16, an IEEE International Conference on Advanced Communication, Control and Computing Technologies conducted on 25<sup>th</sup> – 27<sup>th</sup> May 2016.
- Organizing Secretary and Session chair for ICAAET'20, 2020 Second International Conference on Advances in Applied Engineering and Technology conducted on 14<sup>th</sup> – 16<sup>th</sup> May 2020.

### Invited talk

- Delivered guest Lecture on the topic of “Recent Trends in RFID” for the ECE students, St. Michael College of Engg. & Tech., Kalayarkovil on 15.03.2014.
- Served as a workshop trainee and Delivered lecture on VLSI circuit design using Xilinx for two days workshop on Modern VLSI design using Xilinx and Cadence in St. Peter's University, Avadi, Chennai on 02 & 03 Nov, 2015.

### Acted as a reviewer in the following international journals and conferences

- International Conference on Advanced Communication Control & Computing Technologies (ICACCCT '12)
- International Conference on Advanced Communication Control & Computing Technologies (ICACCCT '14)
- International Conference on Advances in Applied Engineering and Technology (ICAAET'15)
- International Conference on Advanced Communication Control & Computing Technologies (ICACCCT '16)
- Concurrency and Computation (SPRINGER Journal)
- Journal of Medical Systems (SPRINGER Journal)
- Journal: Microprocessors and Microsystems (ELSEVIER Journal)
- Materials Today: Proceedings Journal (ELSEVIER Journal)
- International Conference on Advances in Applied Engineering and Technology (ICAAET'20)

### Supervisorship / Guideship

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Anna University Chennai recognized Supervisor under Faculty of Information and Communication Engineering since 2016. Ref. No - 2740033

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### Membership/Fellowship in Professional bodies

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- Life Corporate member - **MISTE**
- Life Corporate member - **MIE**
- Life Fellow member - **FIE**
- Life Fellow member - **FIETE**