Dr. SABITHA RAMAKRISHNAN
Associate professor, Department of Instrumentation Engineering

Cellphone   :   +919789977989

e-Mail ID   :   sabitha.ramakrishnan@gmail.com

Address   :   New No. 5, Shanthi Nagar Main Road,
                Adambakkam, Chennai - 600088.

Present Position

Associate professor, Department of Instrumentation Engineering, Madras Institute of Technology, Anna University, Chennai from November-2016.

Present Additional Responsibility

➢ Deputy Director, Internal Quality Assurance Cell, Anna University, Chennai from December-2015.

Previous Additional Responsibility

➢ Member, , Anna University, Chennai during May-2014 and August-2021.

➢ Project Officer, National Hub for Healthcare Instrumentation Development, Anna University, Chennai during March-2012 and September-2016.

➢ Co-coordinator - Calib Facility, National Hub for Healthcare Instrumentation Development, Anna University, Chennai during September-2011 and September-2016.

Other Employment

➢ Lecturer, Crescent Engineering College, Chennai for 5 years 2 months.

➢ Senior Lecturer, Easwari Engineering College, Chennai for 10 months.

➢ Assistant Professor, Easwari Engineering College, Chennai for 2 years 3 months.

➢ Assistant Professor (Sr. Gr.), Dept. of Instrumentation Engg, MIT Campus, Anna University for 4 years.

➢ Assistant Professor (Sel. Gr.), Dept. of Instrumentation Engg, MIT Campus, Anna University for 3 years.

Degree

❖ M.E. in ELECTRONICS, MADRAS INSTITUTE OF TECHNOLOGY CAMPUS, ANNA UNIVERSITY (2000 - 2002).

❖ B.E. in ELECTRONICS AND COMMUNICATION ENGG , COLLEGE OF ENGINEERING, GUINDY, ANNA UNIVERSITY (1993 - 1996).

Research Degree

❖ Ph.D. in WIRELESS SENSOR NETWORKS from Faculty of INFORMATION AND COMMUNICATION ENGINEERING, MIT CAMPUS, ANNA UNIVERSITY, ANNA UNIVERSITY (2006 - 2012).
Title: INVESTIGATIONS ON TRANSMISSION POWER CONTROL TECHNIQUES FOR ENERGY EFFICIENCY IN WIRELESS SENSOR NETWORKS.

Area of Specialisation

➤ Wireless Networks, Signal Processing, VLSI and Embedded Systems

Membership in Professional Organization

➤ IEEE, IETE, ISTE

Research Guidance

Number of Ph.D Scholars Guiding : 6
Number of M.E./ M.Tech. Projects : 15
Guided
Number of M.E./ M.Tech. Projects : 1
Guiding

Papers Published in Journals

Research Papers Published in International Journals   : 10
Research Papers Published in National Journals   : 0

1. Sabitha Ramakrishnan and T. Thyagarajan, " Energy Efficient Medium Access Control for Wireless Sensor Networks", International Journal of Computer Science & Network Security (IJCSNS), published by IJCSNS. Vol. 9, Issue 6, pp. 273-279 (2009).

2. Sabitha Ramakrishnan and T. Thyagarajan, " Performance enhancement of Fuzzy Logic based Transmission Power Control in Wireless Sensor Networks using Markov based RSSI prediction", European Journal of Scientific Research, published by European Journals Inc.. Vol. 59, Issue 1, pp. 68-84 (2011).

3. Sabitha Ramakrishnan and T. Thyagarajan, " Fuzzy Logic Based Transmission Power Control algorithm for Energy Efficient MAC Protocol in Wireless Sensor Networks", International Journal of Communication Networks and Distributed Systems (IJCNDS) – special issue on "Optimization Issues in Energy Efficient Distr, published by Inderscience Publishers, UK. Vol. 9, Issue 3, pp. 247 - 265 (2012).

4. Vinaya Venugopal, Sabitha Ramakrishnan, " Estimation of Received Signal Strength for Transmission Power Control in Wireless Sensor Networks using Kalman Filter", International Journal of Advanced Information Science and Technology, published by IJAIST. Vol. 2, Issue 10, pp. 59-62 (2013).

5. Sabitha Ramakrishnan, C. Bharath, "FDRRP - A Reliable Routing Protocol for Wireless Sensor Networks", Middle-East Journal of Scientific Research, published by International Digital Organization for Scientific . pp. 392-397 (2015).

6. Sabitha Ramakrishnan, Vinaya Venugopal, "Design and analysis of Kalman filter based distance estimation algorithm for various noisy channel conditions", International Journal of Applied Engineering Research, published by Research India Publications. Vol. 10, Issue 20, pp. 15505 - 15508 (2015).

7. Sabitha Ramakrishnan, Sukanya Sekar, Piranava Tamilselvan, " Design, Implementation and Analysis of Wearable Biomedical Assistance Device for Elderly ISSN: ", International Journal of Information and Communication Technology, published by Inderscience Publishers. Vol. 10, Issue 3, pp. 350-363 (2017).

8. Sabitha Ramakrishnan, Bhuma Krishna, Thangavelu Thyagarajan, " Transmission Power Control using State Estimation based Received Signal Strength Prediction for Energy Efficiency in Wireless Sensor Networks", Turkish Journal of Electrical Sciences & Computer Sciences, published by Scientific and Technological Research Journals, T. Vol. 25, Issue 1, pp. 591-604 (2017).

9. S Bhavatharangini, Sabitha Ramakrishnan, "Reducing the internet traffic in IoT based monitoring and control system through a combination of WSN and LoRaWAN networks", International Journal of Ad Hoc Networks and Ubiquitous Computing, published by Inderscience Publishers, UK. pp. 1 - 12 (2021).

10. G Anand, T Thyagarajan, Sabitha Ramakrishnan, "Fluorescence Nano Particle Detection in a liquid sample using the Smartphone for Biomedical application", Journal of Fluorescence, published by Springer Publications. pp. 1 - 9 (2021).

Papers Presented in Programmes

Research Papers Presented in International Programmes   : 11
Research Papers Presented in National Programmes   : 3

1. "Design and Analysis of PADSR Protocol for Routing in Ad hoc Networks" presented in a International level conference on IEEE - INDICON 2005, organised by IIT Madras, India .

2. "Received Signal Strength Estimation in Wireless Sensor Networks using Kalman Filter based Estimation" presented in a National level conference on DRDO sponsored National Conference ETVISPC-13, organised by Jayaram College of Engineering, Trichy, India .

3. Sabitha Ramakrishnan and Thyagarajan T, "Performance of PADSR Protocol in MANETs with respect to Network Scaling" presented in a International level conference on HiPAAC 2007, organised by SSN College of Engineering, India from 26-Jul-2007 to 28-Jul-2007.

4. Ranjith Kumar G, Sabitha Ramakrishnan and Thyagarajan T, "Identification of energy-efficient routing protocol for ad hoc / sensor networks" presented in a National level conference on AICTE/IEEE sponsored national conference on VLSI, Communication and Networks, VCaN 2008, organised by Easwari Engineering COllege, India from 04-Sep-2008 to 06-Sep-2008.

5. Sabitha Ramakrishnan, Thyagarajan, T., Ram, P.K and Vinodh, "A MAC-Level Performance Enhancement Technique for Wireless Ad Hoc / Sensor Networks" presented in a International level conference on Trends in Industrial Measurements and Automation (TIMA 2009), organised by Dept. of Instrumentation Engg, India from 02-Jan-2009 to 04-Jan-2009.

6. [2] Ajay Kumar, S., Aravind, D. and Sabitha Ramakrishnan, "Performance enhancement using directional antennas for Ad hoc / sensor networks" presented in a National level conference on National Seminar on Trends in Electronic Design (2009), organised by Institution of Engineers India, Cochin, India from 15-May-2009 to 16-May-2009.

7. Sabitha Ramakrishnan and Bhuma T. Krishna, "Closed Loop Fuzzy Logic Based Transmission Power Control for Energy Efficiency in Wireless Sensor Networks" presented in a International level conference on IEEE International Conference on Computer Communication & Systems , organised by Saveetha Engineering College, India from 20-Feb-2014 to 21-Feb-2014.

8. "Development Of Calibration Procedure and Calculation of Uncertainty for Critical Care Medical Parameters" presented in a International level conference on IEEE International conference on Green Computing, Communication and Electrical Engineering, organised by N.G.P Institute of Technology, India from 07-Mar-2014 to 08-Mar-2014.

9. "Implementation and Testing of Power Line Communication Network for Lamp Control Application" presented in a International level conference on IEEE International Conference on Advanced Communication Control and Computing Technologies, organised by Syed Ammal College of Engineering, India from 08-May-2014 to 10-May-2014.

10. Sabitha Ramakrishnan, Bhuma T. Krishna and Thyagarajan T, "Design and Analysis of Fuzzy Logic and Neural Network Based Transmission Power Control Techniques for Energy Efficient Wireless Sensor Networks" presented in a International level conference on Frontiers in Intelligent Computing, Theory and Application, organised by Anil Neerukonda Institute of Technology and Sciences, India from 14-Nov-2014 to 15-Nov-2014.

11. Ayesha Shaik, Ramesh P and Sabitha Ramakrishnan, "9th International Conference on Trends in Industrial Measurements and Automation (TIMA-2017)" presented in a International level conference on 9th International Conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by Dept. of Instrumentation Engg, MIT Campus, Anna University, India from 06-Jan-2017 to 08-Jan-2017.

12. "Real time Implementation of Arrhythmia Classification Algorithm using Statistical Methods" presented in a International level conference on 9th International Conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by Dept. of Instrumentation Engg, MIT Campus, Anna University, India from 06-Jan-2017 to 08-Jan-2017.

13. "Design of Wireless Sensor Network for Monitoring the Performance of Photovoltaic Panel" presented in a International level conference on 9th International Conference on Trends in Industrial Measurements and Automation (TIMA-2017), organised by Dept. of Instrumentation Engg, MIT Campus, Anna University, India from 06-Jan-2017 to 08-Jan-2017.

14. R Swetha, Sabitha Ramakrishnan, " k-means Clustering Optimized Fuzzy Logic Control Algorithm for Arrhythmia Classification" presented in a International level conference on IEEE International Conference on Advances in Electrical, computing, communications and sustainable Technologies â€" IEEE ICAECT-2021, organised by Shri Shankaracharya Technical Campus, Bhilai, Chhattisgarh, India from 19-Feb-2021 to 20-Feb-2021.

Current Sponsored Projects

1. "Design and Development of Automated External Defibrillator (2015-2018)", funded by DST (November-2015 - November-2017). Project Cost: 3166000.00.

Sponsored Projects Completed

1. "Establishing an Adhoc Network and Testing it for various applications (2007-2009)", funded by AICTE (January-2007 - January-2009). Project Cost: 1200000.00.

2. "University with Potential for Excellence - Antibiogrammoscope (Instrumentation)", funded by UGC (March-2017 - May-2020). Project Cost: 9800000.00.

Programme Chaired

1. Co Chairman, International level conference titled "IEEE ANTS 2013" conducted by SRM University from 15-Dec-2013 to 18-Dec-2013.

2. Co Chairman, International level conference titled "9th International conference on Trends in Industrial Measurements and Automation (TIMA 2017)" conducted by MIT Campus, Anna University from 06-Jan-2017 to 08-Jan-2017.

3. Chairman, National level conference titled "National Conference on Quality Assurance in Higher Education (2017)" conducted by Dr. MGR Educational and Research Institute from 10-Oct-2017 to 10-Oct-2017.

4. Chairman, International level conference titled "Virtual International Conference on Multi Disciplinary Innovations in Computing and Communicationâ€•(ICMICCâ€™21)" conducted by Easwari Engineering College, Chennai from 20-Apr-2021 to 20-Apr-2021.

Programme Organized

1. Coordinator, National level Short Course on "Digital Signal Processing" from 28-Nov-2011 to 04-Dec-2011.

2. Coordinator, National level workshop on "IEEE Students Skill Development Programme - Get Wired to the Wireless World" from 06-Feb-2013 to 06-Feb-2013.

3. Coordinator, National level Short Course on "Embedded Systems" from 30-Nov-2015 to 06-Dec-2015.

4. Coordinator, National level Short Course on "7 days Faculty Development Training Programme on "Embedded Systems"" from 30-Nov-2015 to 06-Dec-2015.

5. Coordinator & Resource Person, National level Short Course on "7-days Workshop on Critical Care & Laboratory Medicine Equipment – Maintenance & Calibration" from 04-Feb-2016 to 10-Feb-2016.

6. Coordinator, International level workshop on "2-days Workshop on "Internet of Things"" from 21-Oct-2016 to 22-Oct-2016.

7. Coordinator, International level conference on "Pre-conference Tutorial on "Industrial Internet of Things"" from 06-Jan-2017 to 06-Jan-2017.

8. Organizing Secretary, International level conference on "9th International conference on Trends in Industrial Measurements and Automation (TIMA 2017)" from 06-Jan-2017 to 08-Jan-2017.

9. Coordinator, National level workshop on "One-Day Workshop on Quality Assurance in Higher Education Institutions" from 13-Mar-2018 to 13-Mar-2018.

10. Coordinator, National level workshop on "FPGA based system design using NI LABVIEW and CRIO" from 17-Sep-2018 to 19-Sep-2018.

11. Coordinator, National level seminar on "NBA Accreditation â€" Dissemination of Good Practices, Tools and Processes to assess Attainment of Course Outcome and Programme Outcome " from 15-Mar-2019 to 22-Nov-2019.

12. Coordinator, National level workshop on "Administrative Procedures and Good Practices for Quality Assurance" from 21-Nov-2019.

Programme Attended

1. Participated in a International level conference on "9th International Conference on Trends in Industrial Measurements and Automation (TIMA-2017)" organized by Dept. of Instrumentation Engg, MIT Campus, Anna University, India from 06-Jan-2017 to 08-Jan-2017.

2. Attended a National level Short Course on "Faculty Development Training Programme" organized by Centre for Faculty Development, Anna University, India from 20-Nov-2017 to 26-Nov-2017.

3. Participated in a National level conference on "4th National Conference on Recent Trends in Instrumentation and Control" organized by Dept. of Instrumentation Engg, MIT Campus, Anna University, India from 02-Mar-2018 to 03-Mar-2018.

4. Attended a National level Short Course on "TEQIP-III sponsored FDP on "AI-The World of Prediction Machines"" organized by Government College of Technology, Coimbatore, Tamil Nadu, India from 20-Jun-2020 to 24-Jun-2020.

5. Attended a International level Short Course on "One week International FDP on Teachers Leadership quality in Higher Education" organized by Sri Sairam Engineering College, Chennai, India from 24-Jun-2020 to 30-Jun-2020.

6. Attended a National level Short Course on "AICTE sponsored STTP on "Internet of Things for Healthcare"" organized by Dr. Mahalingam College of Engineering and Technology, Pollachi, Tamil Nadu, India from 24-Aug-2020 to 29-Aug-2020.

Special Reprasentations

1. Member - Syllabus Revision Committee in Dr. Dharmambal Polytechnic for Women

Honours

1. "Best Outgoing Student" given by Govt. Polytechnic for Women, Chennai from India (1988).

2. "University Gold Medal" given by Anna University from India (1996).

3. "IEEE-MAS Appreciation award" given by IEEE Madras Section - R10 from India (2013).

4. "IEEE-MAS Appreciation award" given by IEEE Madras Section - R10 from India (2014).

5. "Best paper award" given by IEEE International Conference on Computer Communication & Systems ICCCS 2014 from India (2014).

6. "Dr. APJ Abdul Kalam Award" given by Marina Labs (Research) from India (2016).

7. "Best paper award" given by IEEE-ISA International Conference on Trends in Industrial Measurements and Automation TIMA 2017 from India (2017).

8. "Best Quality Assurance Cell Coordinator" given by SEED Education Awards (SEA), Society for Educational & Entrepreneurship Development (SEED) from India (2017).

Patents Filed

1. Filed patent rights for Automated External Defibrillator System with Intelin India. File number: 2147483647 Filed Date: 10-May-2019.

Experience Abroad

1. Visited Analytik Jena GmBH, Germany from 10-Jul-2000 to 21-Jul-2000. Purpose of visit :To attend a training programme on Analytical Instruments.

2. Visited Indus Fairs and Events (India) Pvt. Ltd., Doha, Qatar from 06-Jan-2015 to 07-Jan-2015. Purpose of visit :Anna University Representative committee member to participate in the â€œIndia Education Exhibition 2015â€•.

Invited Lectures

1. Delivered a Lecture on "Wireless Sensor Networks based IoT applications" in AICTE SPONSORED STTP ON ADVANCES IN REMOTE SENSING AND ITS APPLICATIONS - PHASE II organized by Narasaraopeta Engineering College, Guntur, AP (19-Dec-2020).

2. Delivered a Lecture on "WSN as an enabling technology for IOT" in ATAL FDP on INTERNET OF THINGS organized by Sri Manakula Vinayagar Engineering College - Dept , Pondicherry (04-Feb-2021).

3. Delivered a Lecture on "Fuzzy Enhanced Energy Efficient MAC protocol for Wireless sensor networks" in AICTE SPONSORED STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES - SERIES-1 organized by Dr. MGR Education and Research Institute, Chennai (18-Feb-2021).

4. Delivered a Lecture on "Fuzzy Enhanced Energy Efficient MAC protocol for Wireless sensor networks" in AICTE SPONSORED STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES - SERIES-2 organized by Dr. MGR Education and Research Institute, Chennai (25-Mar-2021).

5. Delivered a Lecture on "Fuzzy Enhanced Energy Efficient MAC protocol for Wireless sensor networks" in AICTE SPONSORED STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES - SERIES-3 organized by Dr. MGR Education and Research Institute, Chennai (26-Apr-2021).

6. Delivered a Lecture on "Design of Sensor Networks for IoT Applications" in Webinar organized by Sri Manakula Vinayagar Engineering College and Ins, Pondicherry (30-Jun-2021).

Extension & Outreach Programme

1. Coordinator, 2-weeks SDP "Induction Training Programme on Pedagogy", participated by Faculty members (Statewide) and funded by AICTE at Crescent Engineering College, Chennai during 03-Nov-2003 and 16-Nov-2003. No. of participants: 30.

2. Coordinator, One day workshop "Get Wired to the Wireless World ", participated by Students (statewide) and funded by IEEE - Madras Section at MIT Campus, Anna University during 06-Feb-2013 and 06-Feb-2013. No. of participants: 300.

3. Coordinator , 2-days NAAC Awareness Seminar on Quality System in Higher Education, participated by Faculty members (Nationwide) and funded by NAAC, Bengaluru at Anna University during 29-Sep-2016 and 30-Sep-2016. No. of participants: 121.

4. Coordinator cum resource person, 2-days workshop on Internet of Things, participated by From all over Tamil Nadu and funded by IE-MIT at Dept. of Instrumentation Engg, MIT Campus during 20-Oct-2016 and 20-Oct-2016. No. of participants: 35.

5. Coordinator cum resource person, 1-day Pre-conference tutorial on Industrial Internet of Things, participated by From all over India and funded by IEEE, ISA and CIR (AU) at Dept. of Instrumentation Engg, MIT Campus during 06-Jan-2017 and 06-Jan-2017. No. of participants: 60.