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Present Position

Professor, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai from November-2012.

Present Additional Responsibility

- Additional Director, Ramanujan Computing Centre, Anna University, Chennai from May-2019.

Previous Positions

- Professor, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai from November-2012.
- Associate professor, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai during June-2007 and November-2012.
- Assistant Professor, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai during November-2006 and June-2007.
- Lecturer Sl.Grade, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai during June-2004 and October-2006.
- Lecturer Sr. Grade, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai during June-1999 and June-2004.
- Lecturer, Ramanujan Computing Centre, College of Engineering Guindy, Anna University, Chennai during June-1994 and June-1999.

Previous Additional Responsibility

- Deputy Director, Anna University, Anna University, Chennai during April-2010 and May-2019.
- Network Coordinator, Ramanujan Computing Centre, Anna University, Chennai during April-2006 and March-2010.

Other Employment

- Computer Engineer, National Institute of Technology for 3 Years 5 Months.
- Testing Engineer, Sterling Computers Limited for 02 years.
- Systems Engineer, Softlink Computer Systems for 09 Months.

Degree

- ❖ M.E. in Computer Science, National Institute of Technology, Bharathidasan University, Tiruchirappalli (1990 - 1992).
- ❖ B.E. in ELECTRONICS AND COMMUNICATION ENGG , Government College of Engineering, Tirunelveli, Madurai Kamaraj University (1982 - 1986).

Research Degree

- ❖ Ph.D. in Wireless Networks from Faculty of Information and Communication Engineering , College of Engineering (CEG), Anna University, Chennai (1997 - 2006).
Title: Energy Efficient Routing Protocols for Mobile Ad Hoc Networks .

Area of Specialisation

- Wireless Networks and Network Security

Membership in Professional Organization

- Computer Society of India
- Indian Society for Technical Education
- The Institution of Electronics and Telecommunication Engineers

Research Guidance

Number of Ph.D Scholars Guided	: 8
Number of Ph.D Scholars Guiding	: 8
Number of M.S (By Research) Students Guiding	: 1
Number of M.E./ M.Tech. Projects Guided	: 22
Number of M.E./ M.Tech. Projects Guiding	: 2

Papers Published in Journals

Research Papers Published in International Journals	: 29
Research Papers Published in National Journals	: 0

1. Murugan K. and Shanmugavel S., " Traffic Dependent and Energy Based Time Delay Routing Algorithms for Improving Energy Efficiency in Mobile Ad Hoc Networks", EURASIP Journal on Wireless Communications and Networking, published by Hindawi Publishing Corporation. Vol. 2005, pp. 625-634 (2005).
2. Murugan K. and Shanmugavel S., "Performance Study and Effects of Route Caching Mechanisms in On-Demand Routing Algorithms for MANET", IETE Journal of Research , pp. 35-53 (2006).
3. Murugan K. and Shanmugavel S., " Delay and Traffic Based On-Demand Routing Algorithms for Improving Energy Efficiency in Mobile Ad Hoc Networks", International Journal of Wireless and Mobile Computing, published by Inderscience Enterprises Ltd. Vol. 2, pp. 362-372 (2007).
4. Suresh Kumar M, Sathya Priya S, and Murugan K, "Improving TCP Performance Using Crosslayer in Wireless networks", Journal of Science, Technology and Management, Issue 2, pp. 29-35 (2010).
5. Thanigaivelu K and Murugan K, " Grid Based Clustering with Dual Cluster Heads to Alleviate Energy Hole problem for Non-Uniform Node distribution in Wireless Sensor Networks", International Journal of Mobile and Network Design and Innovation , published by INDERSCIENCE publication. Vol. 4, Issue 1, pp. 3-13 (2012).
6. Thanigaivelu K and Murugan K, " Grid based Clustering with Predefined Path Mobility for Mobile Sink Data Collection to Extend Network Lifetime in Wireless Sensor Networks", IETE TECHNICAL REVIEW, published by The Institution of Electronics and Telecommuni. Vol. 29, Issue 2, pp. 133-147 (2012).
7. R Arthi, P Devaraj, and Murugan K, " RSS based Localization of Sensor Nodes by Learning Movement Model", WSEAS Transactions on Communications, published by World Scientific and Engineering Academy and So. Issue 11, pp. 560-569 (2013).
8. Reshmi.T.R, and Murugan.K, " Application of Fuzzy Sets for Isolating Selfish nodes by Trust E valuation during Auto-configuration and Service Establishment in MANETs", Journal of Network and Innovative Computing (JNIC) , published by MIR LABS. Vol. 1, Issue 1, pp. pp.65-73 (2013).
9. Karthika Keshav.K, Arthi. R, Murugan.K, "Secure Localization and Key Distribution in Wireless Sensor Network", International Journal of Research in Engineering & Advanced Technology, Vol. 2, Issue 2, pp. 1-5 (2014).
10. Bhagyalakshmi.L and Murugan.K, "Extending Network Lifetime by Balancing Energy consumption to Avoid Energy Hole Problem in WSN", International Review on Computers and Software(IRECOS), Vol. 9, pp. 9-17 (2014).
11. Bhagyalakshmi.L and Murugan.K, "Avoiding Energy Holes Problem using Load Balancing Approach in Wireless Sensor Network", KSII Transactions on Internet and Information Systems(KSII), Vol. 8, Issue 5, pp. 1618-1637 (2014).
12. Sandhya.M.K, and Murugan.K, "Eliminating False Data and Improving Network Lifetime using Mobile Data collector in Wireless Sensor Networks", International Review on Computers and Software(IRECOS), Vol. 9, pp. 9-17 (2014).

13. Reshmi.T.R, and Murugan.K, " Filter based Address Autoconfiguration (FAACP) in MANETs", Computing, Springer, published by Springer. (2014).
14. Sandhya.M.K, Murugan.K and Devaraj.P, "False Data Elimination with Location-based Selection of Aggregator Nodes in Heterogeneous Wireless Sensor Networks", IETE Journal of Research, published by Taylor and Francis. Vol. 60, Issue 2, pp. 145-155 (2014).
15. Sherly Pushpa Annabel L and Murugan K, "Energy Efficient Quorum Based MAC Protocol for Wireless Sensor Networks", Electronics and Telecommunications Research Institute , published by Wiley. Vol. 37, Issue 3, pp. 480-490 (2015).
16. Sathya Priya.S and Murugan.K, "Enhancing TCP Fairness in Wireless Networks using Dual Queue Approach with Optimal Queue Selection", Wireless Personal Communications, published by Springer. pp. 1359-1372 (2015).
17. Sandhya.M.K and Murugan.K, " Selection of Aggregator nodes and Elimination of false data in Wireless Sensor Networks", Wireless Networks, published by Springer. Vol. 21, Issue 4, pp. 1327-1341 (2015).
18. Sathya Priya S, and Murugan K, " Improving TCP Performance in Wireless Networks by Detection and Avoidance of Spurious Retransmission Timeouts", Journal of Information Science and Engineering, published by Institute of Information Science, Academia Sini. pp. 711-726 (2015).
19. Reshmi T. R. and Murugan K., "Secure and Reliable Autoconfiguration Protocol (SRACP) for MANETS", Wireless Personal Communications, published by Springer. pp. 1243-1264 (2016).
20. Sherly Pushpa Annabel. L and Murugan.K, "Traffic Based Energy Efficient MAC Protocol for Wireless Sensor Networks", International Journal of Information and Communication Technology, published by Inderscience. Vol. 8, Issue 2, pp. 249-262 (2016).
21. Bhagyalakshmi.L and Murugan.K, "Energy Balancing Zone Based Cluster Head Approach to Energy Hole Problem in Wireless Sensor Network", International Journal of Information and Communication Technology, published by Inderscience. Vol. 8, Issue 2, pp. 263-282 (2016).
22. Reshmi T. R. and Murugan K., " Selective Address Allocator Configuration Protocol (SAACP) for Resource Constrained MANETs", Journal of Information Science and Engineering, published by Institute of Information Science, Academia Sini . Vol. 32, Issue 1, pp. 197-211 (2016).
23. Sherly Puspha Annabel, L and Murugan, K, " An Asynchronous and Adaptive Quorum Based MAC Protocol for Wireless Sensor Networks", Journal of Information Science and Engineering (JISE), published by Institute of Information Science, Academia Sinica. Vol. 33, pp. 1307-1322 (2017).
24. Reshmi.T.R and Murugan.K, " Light Weight Cryptographic Address Generation (LWCGA) Using System State Entropy Gathering for IPv6 Based MANETs", IEEE China Communications, published by China Communications Magazine.Co.Ltd. Vol. 14, Issue 9, pp. 114-126 (2017).

25. Muthumeenakshi. R, Reshmi, T. R. and Murugan, K, "Extended 3PAKE Authentication Scheme for Value-Added Services in VANETs", Computers and Electrical Engineering, published by Elsevier. Vol. 59, pp. 27-38 (2017).
26. Sandhya.M.K , Murugan.K and P.Devaraj, " False Data Detection and Dynamic Selection of Aggregator Nodes with Pair-wise Key Establishment in Homogeneous Wireless Sensor Networks", International Journal of Advanced Intelligence Paradigms,, published by Inderscience. Vol. 10, Issue 2, pp. 83-102 (2018).
27. Reshmi, T. R. and Murugan, K., "Enhanced Passive Duplicate Address Detection (EPDAD) for Auto configuration in MANETs", Journal of Information Science and Engineering, published by Institute of Information Science, Academia Sinica. Vol. 33, Issue 5, pp. 1307-1322 (2018).
28. Balaji C.G., Nidhia Varghese, and Murugan, K, "Optimal Handover Scheme for Device-to-Device Communication in Highly Mobile LTE HetNets", International Journal of Communication Systems, published by Wiley. pp. 1-13 (2019).
29. Balaji C.G., Anu Monisha, and Murugan, K, "A Novel Hybrid UE Selection Scheme for Efficient Data Offloading Using D2D Communication", The Computer Journal, published by Oxford University Press. (2020).

Papers Presented in Programmes

Research Papers Presented in International Programmes : 36
 Research Papers Presented in National Programmes : 8

1. R.Punitha, TR Reshmi, and K Murugan , "Enabling QoS in stateful auto-configuration protocol used in IPv6 based MANETs" presented in a International level conference on Communications and Signal Processing, India .
2. Tamizharasi.A, Arthi.R and K.Murugan , "Bio-inspired algorithm for optimizing the Localization of Wireless Sensor Networks" presented in a International level conference on Computing , Communication and Networking Technologies, India .
3. Natarajan.M, Arthi.R and K.Murugan, "Energy aware optimal cluster head selection in Wireless Sensor Networks" presented in a International level conference on Computing , Communication and Networking Technologies, India .
4. Shiney Matilda Manoharan., Reshmi.T.R., and Murugan.K, "Internal Hardware States Based Privacy Extension of IPv6 Addresses" presented in a International level conference on Security in Computing and Communications, India .
5. Indhumathi C., Reshmi.T.R., and Murugan.K. , "Enhanced Passive Duplicate Detection During Auto-configuration of Mobile Ad-Hoc Networks" presented in a International level conference on Symposium on Intelligent Informatics (ISI-2014) , India .
6. Mahalakshmi.S., Reshmi.T.R., and Murugan.K, "Third International Symposium on Intelligent Informatics (ISI-2014) " presented in a International level conference on Intelligent Informatics (ISI-2014), India .

7. Kavitha.B, Arthi.R, K.Murugan , "Localization in Wireless Sensor Networks by learning movement pattern using Hidden Markov Model" presented in a International level conference on Computer Science and Engineering, India .
8. Arthi.R and Murugan.K, "Localization in Wireless Sensor Networks by Hidden Markov Model" presented in a International level conference on Advanced Computing.
9. "A Mathematical model for management of chain centres to counsel for Engineering Admissions" presented in a International level conference on Ist International Conference on Logistics and Supply Chain Management , organised by PSG College of Technology, Coimbatore, India from 06-Aug-2001 to 08-Aug-2001.
10. Murugan K, Bhuvaneshwaran R.S, Sankaranarayanan V, "A Comparative and performance Study of On-Demand Routing Protocols for Mobile Ad hoc Networks" presented in a National level conference on Compute Society of India National Conference , organised by CSI, India from 29-Oct-2002 to 31-Oct-2002.
11. Madhan Mohan P, James Johnson J, Murugan K and Ramachandran V, " Comparative and Performance study of On Demand Multicast Routing Protocols for Ad hoc Networks" presented in a International level conference on International Conference on High Performance Computing, organised by HIPC 2002, India from 18-Dec-2002 to 21-Dec-2002.
12. Murugan K, Bhuvaneshwaran R.S and Sankaranarayanan V, "Bandwidth Efficient Neighbor Supporting Multicast Routing for Multihop, Ad Hoc Wireless Networks" presented in a International level conference on Robotics, Vision, Information and Signal Processing , organised by ROVISP, Malaysia from 22-Jan-2003 to 24-Jan-2003.
13. Murugan K, Madhan Mohan P, James Johnson J, Ramachandran V, "Multicast Performance Analysis of On Demand Routing Protocols for Mobile Ad hoc Networks" presented in a National level conference on National Conference on Innovations in Information and Communication Technology , organised by PSG College of Technology, Coimbatore, India from 07-Mar-2003 to 08-Mar-2003.
14. Murugan K, Dushyanth B, Gunasekaran E, Arivuthokai S, Bhuvaneshwaran R.S and Shanmugavel S, "Demand Based Bandwidth Assignment MAC Protocol for Wireless LANs" presented in a International level conference on Third Annual SPIE International Conference on Asia-Pacific Optical and Wireless communications, organised by APOC2003, China from 02-Nov-2003 to 06-Nov-2003.
15. 5. Murugan K, Sapthagiri Saravanan S, Venkatakrishnan J, Saravanan S and Shanmugavel S, "Delay and Energy Metric Based Routing Algorithms for Improving Efficiency in Mobile Ad Hoc Networks" presented in a International level conference on Third Asian International Mobile Computing Conference , organised by AMOC 2004, Thailand from 26-May-2004 to 28-May-2004.
16. Murugan K and Shanmugavel S, "Energy Based Time Delay Routing Algorithms for Mobile Ad Hoc Networks" presented in a National level conference on National Conference on Electronics circuit and Communication Systems (ECCS 2004) , organised by Thapar Institute of Science and Technology, Patiala,, India from 22-Sep-2004 to 24-Sep-2004.

17. Murugan K, Balaji S, Sivasankar S and Shanmugavel S, "Cache Based Energy Efficient Strategies in Mobile Ad Hoc Networks" presented in a International level conference on Personal Wireless Communications(IEEE), organised by ICPWC 2005, India from 23-Jan-2005 to 25-Jan-2005.
18. Murugan K, Kishore Kumar K.T, Balaji S. and Shanmugavel S. , "Performance study of Route Caching Mechanism in DSR and HER Routing Algorithm in MANET using GloMosim" presented in a National level conference on Proceedings of Second National conference on Analysis of Computer Algorithms, (NCAC 2005) , organised by Annamalai University, Chidambaram, , India from 18-Mar-2005 to 19-Mar-2005.
19. Murugan K, Sivasankar S, Balaji S and Shanmugavel S, "Implementation and Performance Study of Route Caching Mechanisms in DSR and HER Routing Algorithms for MANET" presented in a International level conference on Lecturer Notes in Computer Science (LNCS) – Springer Verlag, , organised by Springer, China from 02-Nov-2005 to 05-Nov-2005.
20. Murugan K. and Shanmugavel S, "Performance Study and Implementation of Self Organized Routing Algorithm for Mobile Ad hoc Network using GloMoSim" presented in a International level conference on Lecturer Notes in Computer Science (LNCS) – Springer Verlag, , organised by Springer, India from 22-Dec-2005 to 24-Dec-2005.
21. Chandrasekar K.C and Murugan K, "Network Lifetime Improvement in the Wireless Sensor Network by Energy Aware Distributed Data Gathering and Aggregation Protocol" presented in a National level conference on Second National Conference on Signals, Systems and Communication , organised by College of Engineering, Anna University, India from 01-Jun-2006 to 02-Jun-2006.
22. Elamaran V and Murugan K, "Peak-to-Average Power ratio Reduction in MIMO-OFDM using Space-Time Codes" presented in a National level conference on Third National Conference on Recent Trends in Communication Techniques (NATCON 2007) , organised by Noorul Islam College of Engineering, India from 08-Feb-2007 to 09-Feb-2007.
23. Elamaran V and Murugan K, "PAPR Reduction in MIMO-OFDM using Coded SLM Technique" presented in a International level conference on Information Technology INTL-INFOTECH , organised by Haldia Institute of Technology, India from 19-Mar-2007 to 21-Mar-2007.
24. Mohana Priya K and Murugan K, "Efficient Querying Mechanism in Sensor Networks" presented in a National level conference on National Conference on Emerging Trends in Engineering and Technology (NC(ET)2 -07), organised by Saintgits College of Engineering, Kerala, India from 05-May-2007 to 05-May-2007.
25. BalamallikarjunaRao J and Murugan K., "Energy Conservation and Minimizing end-to-end Delay using Data Dissemination for Wireless Sensor Networks" presented in a National level conference on Third National Conference on Signals, Systems and Communication, organised by College of Engineering, Anna University, India from 01-Jun-2007 to 02-Jun-2007.
26. Mohamed Suhail Vaseem, Kapil K, Sharmilee Y and Murugan K , "Network Lifetime Improvement in the Target Tracking Wireless Sensor Networks by Node Position Status (NPS) Based Power schedule" presented in a International level conference on Modeling and Simulation , organised by Coimbatore Institute of Technology, Coimbatore, India from 27-Aug-2007 to 29-Aug-2007.

27. Sharmilee Y, Mohamed Suhail Vaseem, Kapil K, and Murugan K , "Energy Aware Distributed Data Gathering and Aggregation Protocol to Improve Wireless Sensor Network's Longevity" presented in a International level conference on Communication Systems software and middleware, organised by COMSWARE 2008,Bangalore, India from 07-Jan-2008 to 10-Jan-2008.
28. N. Ashokraj, C. Arun, K. Murugan , "Route Cache Optimization Mechanism Using Smart Packets for On-demand Routing Procotol in MANET" presented in a International level conference on Information Technology , organised by ICIT 2008,Bhubaneswar, India from 17-Dec-2008 to 20-Dec-2008.
29. K.Thanigaivelu and K.Murugan , "Reduced Energy Dissipation using Beacon Based Data Collection Algorithm for Mobile Sink in Wireless Sensor Networks " presented in a International level conference on Advanced Computing, organised by Madras Institute of Technology, Chennai, India from 13-Dec-2009 to 15-Dec-2009.
30. K.Thanigaivelu and K.Murugan , "Impact of Sink Mobility on Network Performance in Wireless Sensor Networks" presented in a International level conference on Networks and Communications, organised by AIRCCSE, India from 27-Dec-2009 to 29-Dec-2009.
31. Sathya Priya.S, Murugan. K, "Cross Layer Approach to enhance TCP performance over Wireless Networks" presented in a International level conference on TechSym 2010, organised by IEEE and IIT kharagpur, India from 03-Apr-2010 to 04-Apr-2010.
32. Arthi.R, Murugan.K , "Location Estimation of Sensor Nodes Using Learning Movement Patterns" presented in a International level conference on TechSym 2010, organised by IEEE and IIT Kharagpur, India from 03-Apr-2010 to 04-Apr-2010.
33. K.Thanigaivelu and K.Murugan , "To Alleviate Congestion using Hybrid Sink for Delay Sensitive Applications in Wireless Sensor Networks" presented in a International level conference on Wireless and Mobile Networks (WiMoN-2010), organised by AIRCCSE, Springer, India from 23-Jul-2010 to 25-Jul-2010.
34. Sathya Priya.S, Murugan.K , "Improving TCP performance over Wireless Networks using Cross Layer" presented in a International level conference on Networks and Communications, organised by Aircce,Springer, India from 23-Jul-2010 to 25-Jul-2010.
35. Arthi.R, Murugan.K , "Scenario Based Analysis of Localization of Sensor Nodes Using HMM" presented in a International level conference on Networks and Communications, organised by Aircce,Springer, India from 23-Jul-2010 to 25-Jul-2010.
36. M.K.Sandhya, Murugan.K , "Secure Framework for Data Centric Heterogeneous Wireless Sensor Networks" presented in a International level conference on Network Security and Applications , organised by Aircce,Springer, India from 23-Jul-2010 to 25-Jul-2010.
37. Sathya Priya.S, Murugan.K, "Improving TCP performance through Enhanced Path Recovery Notification" presented in a International level conference on Networks and Communications , organised by Aircce,Springer, India from 02-Jan-2011 to 04-Jan-2011.
38. Arthi.R, Murugan.K , "Cluster Localization of sensor Nodes Using Learning Movement Patterns" presented in a International level conference on Networks and Communications , organised by Aircce,Springer, India from 02-Jan-2011 to 04-Jan-2011.

39. M.K.Sandhya, Murugan.K , "Secure Data Aggregation in Wireless Sensor Networks using Privacy Homomorphism" presented in a International level conference on Computer Science and Information Technology, organised by Aircce, Springer, India from 02-Jan-2011 to 04-Jan-2011.
40. Sherley Puspha Annabel, L and Murugan, K, "Adaptive Quorum Based MAC Protocol in Non Uniform Node Distribution of Wireless Sensor Networks" presented in a International level conference on Advances in Computer Science and Information Technology, organised by Aircce, Springer, India from 02-Jan-2012 to 04-Jan-2012.
41. Sherley Puspha Annabel, L and Murugan, K, "An Energy Efficient Wakeup Schedule and Power management Algorithm for Wireless Sensor Networks" presented in a International level conference on Recent Trends in Information Technology , organised by MIT, Anna University, Chennai, India from 19-Apr-2012 to 21-Apr-2012.
42. Reshmi.T.R and K.Murugan, "Trust based Dynamic Distributed IP addressing protocol for MANETs using Fuzzy rule set" presented in a International level conference on World Congress on Information and Communication Technologies (WICT 2012) , organised by MIR Labs, IEEE, India from 30-Oct-2012 to 02-Nov-2012.
43. L.Bhagyalakshmi, Sanjay Suman, and K.Murugan, "Corona based clustering with mixed routing and data aggregation to avoid energy hole problem in wireless sensor network" presented in a International level conference on Advanced Computing , organised by MIT, Anna University, Chennai, India from 13-Dec-2012 to 15-Dec-2012.
44. Sanjay Suman, L.Bhagyalakshmi, and K.Murugan, "Non cooperative power control game for wireless ad hoc networks" presented in a International level conference on Advanced Computing, organised by MIT, Anna University, Chennai, India from 13-Dec-2012 to 15-Dec-2012.

Special Representations

1. Tender Scrutiny Committee member in CCTNS in Tamil Nadu Police Department from 01-Feb-2012 to 31-Dec-2013.

Honours

1. "IETE - K.S. Krishnan Memorial Award" given by The Institution of Electronics and Telecommunication Engineers from India (2015).

Invited Lectures

1. Delivered a Lecture on "Software Maintenance" in Delivered Lectures for Two hours in QIP Short term course on "A Practical Approach to Software Engineering" organized by Ramanujan Computing Centre, Anna university, Chennai (17-Sep-2001).
2. Delivered a Lecture on "Network Security" in Delivered Lectures for Two hours in QIP Short term course on "Network Security" organized by Ramanujan Computing Centre, Anna university, Chennai (11-Nov-2002).

Extension & Outreach Programme

1. Remote Centre Coordinator, IITB ISTE Two Week Workshop on Basic Electronics , and funded by NMEICT under MHRD at Ramanujan Computing Centre, Anna University during 28-Jun-2011 and 08-Jul-2014. No. of participants: 82.
2. Remote Centre Coordinator, IITB ISTE Two Week Workshop on Engineering Mechanics, and funded by NMEICT under MHRD at Ramanujan Computing Centre, Anna University during 26-Nov-2013 and 06-Dec-2014. No. of participants: 45.
3. Remote Centre Coordinator, IITB ISTE Two Week Workshop on Fluid Mechanics , and funded by NMEICT under MHRD at Dept. of Civil Engineering, Anna University, Chennai during 20-May-2014 and 30-May-2014. No. of participants: 40.