

RAMA MURTHY GARIMELLA

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Research Interests:

Wireless Sensor Networks, Adhoc Wireless Networks, Multi-Dimensional Neural Networks, Performance Evaluation,

Courses Taught:

Performance Evaluation of Computer Networks, Computer Networks, Computer Systems, Electronic Circuits, Digital Signal Processing, Soft Computing, Linear Control Systems, Information Theory and Coding, Signals and Systems, Error Correcting Codes, Topics in Wireless Communication

EDUCATION:

86-89	Ph.D	Computer Engineering, Purdue University, West Lafayette, U.S.A. (GPA: 5.83/6.0).
85-86	M.S	Electrical Engineering, Louisiana State University, Baton Rouge U.S.A. (GPA: 4.0/4.0)
80-84	B.Tech	Electronics & Communications Engineering, S.V. University, Tirupati, India
75-79	S.S.C, Inter	School for Gifted Children, Govt. of AP

*** Selected for M.Tech in ECE Department of IIT, Kharagpur & IIT, Kanpur.

Ph.D Thesis: Transient and Equilibrium Analysis of CDMA slotted ALOHA Networks: Finite Memory and Matrix Geometric Recursions

EMPLOYMENT INFORMATION

July 2016	Visiting Researcher, Simon Fraser University, Canada
December 2014 to May 2015	Visiting Professor, Tampere University of Technology, Tampere, Finland
June 2014	Visiting Researcher, Wroclaw University of Technology, Poland
May 2006---July 2006	Visiting Scholar, University of Illinois at Urbana
April 2005---June 2005	Research Associate, Purdue University
June 2004---July 2004	Research Associate, IISc, Bangalore
July 2001 - Present	Associate Professor, IIIT
Feb 2000 - June 2001	Manager, Hellosoft
Jul 94 - Jan 2000	Defended the Theory of Cybernetics & Consultant
Jul 91 - July 94	Consultant
Feb 90- July 91	Member of Technical Staff, Bellcore, USA
Jan 87 – Dec 89	Research Assistant, EE Department, Purdue University, USA
Aug 86 – Dec 86	Teaching Assistant, Department of Mathematics, Purdue University, USA
Jan 85 – May 86	Teaching Assistant, EE Department Louisiana State University, USA

HONORS AND AWARDS

- *Rashtriya Gaurav Award (2009) from IIFS, New Delhi
- *Second Rank, B. Tech, S.V. University, Tirupati, India, 1984.
- *Second Prize, All India Technical Essay Contest, 1982.
- *Certificate of Merit for an All India Contest on ' Decision Making,' 1983
- *Third Prize, 14th All India Design Competition for engineering students, 1983.
- *National Merit, State Merit and A.P. Residential Scholarships (77-83,79-83,76-79)
- Listed in MARQUIS Who's Who in the World (in Science and Engineering)
- Outstanding Researcher Award (2015), Venus International Foundation, Chennai
- Bharat Excellence Award (2016), Friendship Forum of India, New Delhi

Professional Memberships:

- Eta Kappa Nu, Phi Kappa Phi (Honor Societies in USA)
- IEEE Computer Society, Computer Society of India
- Senior Member, Association for Computing Machinery (ACM)
- Fellow, IETE (Institution of Electronics and Telecommunication Engineers)

LEADERSHIP ACTIVITIES

- *Secretary, EE Association, S.V.U. College of Engineering, Tirupati (82-83).
- *President, Rotaract Club, S.V.U. College of Engineering, Tirupati (82 –83).
- *Vice-President, Rotaract Club, S.V.U. College of Engineering, Tirupati (81 –82).
- *Office Bearer, India Student's Association, Purdue University (1988)
- *Academic Counsellor, Alumni Association, IIT—Hyderabad (2003)

REFERENCES

Available upon request

PUBLICATIONS

Total Publications (Journal + Conference) = 241

Journal Publications = 56

Wireless Sensor Networks: (including ACM, IEEE Conference Publications):

[-5] Gadiraju Divija Swetha and G. Rama Murthy," D2D Communication as an Underlay to Next Generation Cellular Systems with Resource Management and Interference Avoidance," International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET), 2017, 22-24 March 2017.

[-4] Gadiraju Divija Swetha, Jitender Grovor and G. Rama Murthy, "Efficient Method for Dynamic Channel Allocation with special regard to Small Cells using Integer Programming", Journal of Information and Optimization Sciences (JIOS) - Special Issue On: Smart Computing And Optimization

[-3] G. Rama Murthy and Rhishi Pratap Singh,"Time Optimal Spectrum Sensing,"

Accepted for SmartTech 2017. Also appears in Journal of Information and Optimization Sciences (JIOS) - Special Issue On: Smart Computing And Optimization

[-2]. Aishwarya Vardhan, Muzzammil Hussain, Ramamurthy Garimella, "*Simple and Secure Node Authentication in Wireless Sensor Networks", *Second IEEE International Conference on Recent Advances and Innovations in Engineering 2016, Jaipur.

[-1] Sonal Jain, Muzzammil Hussain, Ramamurthy Garimella, "*Primary User Authentication in Cognitive Radio Network using Authentication Tag", *Second IEEE International Conference on Recent Advances and Innovations in Engineering 2016, Jaipur.

[0] Priyanka Sharma, G. Rama Murthy and Naveen Chilamkurti, "Mathematical Modelling of Energy Wastage in Absence of Levelling & Sectoring in Wireless Sensor Networks" Accepted for Journal of Communication Networks and Distributed Systems, Inderscience Publishers

[1] Kunal Sankhe and Garimella Rama Murthy, "Distributed Spatial Modulation - OFDM in Uplink Relay-assisted Cellular Network", accepted in 18th International Symposium on Wireless Personal Multimedia Communication 2015 (WPMC - 2015).

[2] Kunal Sankhe, Sachin Chaudhari and Garimella Rama Murthy, "Distributed Spatial Modulation with Dynamic Frequency Allocation", Accepted for Publication in Physical Communication, Elsevier Proceedings

[3] Chandan Pradhan and Garimella Rama Murthy. "Full-Duplex Transceiver for Future Cellular Network: A Smart Antenna Approach.", accepted in IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS 2015), ISI Kolkata.

[4] Chandan Pradhan and Garimella Rama Murthy. "Analysis of Path Loss mitigation through Dynamic Spectrum Access: Software Defined Radio.", accepted in International Conference on Microwave, Optical and Communication Engineering (ICMOCE-2015), IIT Bhubaneswar.

[5] Chandan Pradhan and Garimella Rama Murthy. "Full-Duplex Communication for Future Wireless Networks: Dynamic Resource Block Allocation Approach.", Physical Communication, 19, Elsevier Proceedings, pp. 61-69

[6] G. Rama Murthy and Deepthi Singhal, "Energy Efficient Cognitive Cross Layer MAC protocol," Proceedings of International Conference on Advances in Computing, Communication and Informatics (ICACCI 2015)

[7] G. Rama Murthy, "Concurrent Cyber Physical Systems: Tensor State Space Representation," IEEE International Conference on Control and Automation (ICCA 2014), June 2014

[8] Deepti Singhal, Chandan Pradhan, Kunal Sankhe and G. Rama Murthy, Book Chapter: "Cognitive Radio Networks: Issues and Solutions" in Handbook of Research on Self-Organized Mobile Communication Technologies, IGI Global. – Accepted for Publication

[9] Deepti Singhal and G. Rama Murthy, "Cognitive Cross Layer Multipath Probabilistic Routing for Cognitive Networks," Accepted for Publication in Springer Wireless Networks Journal

[10] Kunal Sankhe, Chandan Pradhan, Sumit Kumar and G. Rama Murthy, "Machine Learning Based Cooperative Relay Selection in Virtual MIMO", in Wireless Telecommunication Symposium 2015, New York City, USA.

[11] Chandan Pradhan, Kunal Sankhe, Sumit Kumar and G. Rama Murthy, "Full-Duplex eNodeB and UE Design for 5G Networks ", in Wireless Telecommunication Symposium 2015, New York City, USA.

[12] Chandan Pradhan, Kunal Sankhe, Sumit Kumar and G. Rama Murthy, "Revamp of eNodeB for 5G Networks: Detracting Spectrum Scarcity ", in The 12th Annual IEEE Consumer Communications & Networking Conference 2014, Las Vegas, Nevada, USA.

[13] Kunal Sankhe, Chandan Pradhan, Sumit Kumar and G. Rama Murthy, "Cost Effective Restoration of Wireless Connectivity in Disaster Hit Areas using OpenBTS ", IEEE INDICON 2014, India.

[14] Chandan Pradhan, Kunal Sankhe, Sumit Kumar and G. Rama Murthy, "Cognitive Base Station Design for Efficient Spectrum Utilization in Cellular Network", Eleventh International Conference on Wireless and Optical Communications Networks WOCN 2014, India.

[15] K Viswanadh and G.Rama Murthy, "A Cognitive Femto Cell Access Point in HetNets to Mitigate Interference", Paper Accepted for ICICT 2014.

[16] K Viswanadh and G.Rama Murthy, "Interference Mitigation in HetNets using Power Control and Beam Forming", Paper Accepted for ICEIC 2015.

[17] Kunal Sankhe and G. Rama Murthy, "Novel Statistical Offline Nonuniform Sampling of Time-limited Signal", Paper Accepted for ICSCN 2015.

[18] G. Rama Murthy and Chandan Pradhan, "An Analytical Approach to Optimal Signal Design for Wireless Communication Channels", Paper Accepted for ICCCT 2015.

[19] G. Rama Murthy," Concurrent Cyber Physical Systems: Tensor State Space Representation" Proceedings of 11th IEEE International Conference on Control & Automation, ICCA 2014, Taichung, Taiwan, June 18-20

[20] Priyanka Sharma and G. Rama Murthy," Energy Efficiency in Cellular Networks," National Seminar on Recent Advances in Wireless Networks and Communications (NWNC-2014), January 2014

[21] Sumit Kumar and G. Rama Murthy," Efficient Spectrum Sensing/Monitoring Methods and Testbed Development for Cognitive Radio based WSN", 2014 Wireless Innovation Forum Conference on Communications Technologies and Software Defined Radio (SDR-WInnComm 2014)

[22] Samdarshi Abhijeet, G. Rama Murthy," Doubly Optimal Secure and Protected Multicasting in Hierarchical Sensor Networks" Accepted for the International Journal of Wireless Networks and Broadband Technologies (IJWNBT).

[23] Arvind Visvanadhan, G. Rama Murthy and C. Naveen," Heterogeneous Dynamic Priority Scheduling in Time critical applications: Mobile Wireless Sensor Network," International Journal of Wireless Networks and Broadband Technologies (Accepted and to appear)

[24] C. Aparna, G. Rama Murthy and C. Naveen, "A Novel Levelled and Sector based Hybrid Protocol for Wireless Sensor Networks," Accepted and to Appear in SENSOR LETTERS, 2013.

[25] Abhishek Goyal, Navdeep Kaur, Padmavati, kuldeep, G. Rama Murthy," Distributed Energy Efficient Key Distribution for Dense Wireless Sensor Networks," 2009 International Conference on Computational Intelligence, Communication Systems and Networks, July 23-25, Indore, India

[26] T. Jagannadh Swamy, Jayant Srivastava and G. Rama Murthy,"Non-Uniform Grid Based Cost Minimization and Routing in Wireless Sensor Networks," International Journal of Wireless Networks and Broadband Technologies

[27] Sumit Kumar, G. Rama Murthy and C. Naveen," Cooperative Mesh Networks," Next Generation Wireless Technologies: 4G and Beyond, Springer

[28] Nayak P and G. R. Murthy," Survey on Constraint based Path Selection QoS Routing Algorithms: MCP & MCOP Problems," Journal of Information Systems & Communication (Bioinformatics), ISSN: 0976-8742 & E-ISSN: 0976-8750, Vol.4, Issue 1, 2013, Pages 384-390

[29] Sujeeth Nanda, Padmalaya Nayak and G. Rama Murthy,"Quality of Service Routing Algorithm for Cognitive Wireless Sensor Network," Accepted for Bonfringe Journal

[30] D. Balakrishna, M. Sujit Nanda and G. Rama Murthy," Mobile Wireless Sensor Networks : Healthcare in Hopitals," 5th International Conference on e-health, Telemedicine and Social Medicine (eTELEMED 2013), February 24 - March 1, 2013-Nice, France

[31] Shahansha Quadri and G. Rama Murthy HEDHRA: A Hybrid Energy-Efficient Data Centric based Hierarchical Routing Algorithm for Cognitive Wireless Sensor Networks," 2nd National conference on Advanced Communication Systems and Design Techniques(NCACD 2012),: 29th to 30th September 2012.

[32] Sujeeth Nanda, Sumit Kumar, Garimella Rammurthy," Mobile Wireless Sensor Networks: A Cognitive Approach, Book Title, "Wireless sensor networks:Theory and Applications" (Publisher: Taylor & Francis LLC, CRC Press, 2012.) (Accepted)

[33] Sujeeth Nanda and G. Rama Murthy,"Mobile Cognitive Wireless Sensor Networks : Precision Agriculture, Proceedings of AIPA, Organized at IIIT—Hyderabad, 2012

[34] Vasanth Iyer, G. Rama Murthy et.al," Modeling Unreliable Data and Sensors: Using Event log performance and F-measure attribute selection. Book Title: "Intelligent Sensor Networks: Across Sensing, Signal Processing, and Machine Learning"(Publisher: Taylor & Francis LLC, CRC Press, 2012.

[35] Sumit Kumar, Deepti Singhal, Garimella Rammurthy," Cognitive Radio based mobile and static Wireless Sensor networks. (Accepted), Chapter 17 in Book Title:"Intelligent Wireless sensor networks" Publisher: Taylor & Francis LLC, CRC Press, 2012.)

[36] Mohammad Jalil Piran, G. Rama Murthy, G. Praveen Babu, "CR-VASNET; a Novel Paradigm Towards Development and Improvement of Safety on Highway Roads" (Proceedings of 12th International Conference of Science and Technology impact on Development and Justice, Hyderabad, India to be held on 7th and 8th February 2012)

[37] Sujeethnanda M, Padmalaya Nayak and Rama Murthy Garimella," A Novel approach to an Energy aware Routing protocol for Mobile WSN : QoS provisioning," 2012- IEEE International Conference on Advances in Computing and Communications (ICACC-2012), Cochin, India.

[38] S. Quadri, G.Rama Murthy,"Energy Efficient Threshold Sensitive Hierarchical Routing Algorithm for Cognitive Wireless Sensor Networks," International Journal of Information and Electronics Engineering, Vol.2, No.2, March 2012

[39] **Mohammad Jalil Piran, G. Rama Murthy, Jagadeeswara Rao E., Stalin Babu .G, "Performance Analysis of Routing Metrics for Multi Radio Multi Channel in Wireless Mesh Networks", Global Journal of Computer Science and Technology, p.p.33-37, Vol. 11, Issue-23, December 2011.**

[40] Deepti Singhal, Manish Sharma and G. Rama Murthy, "Energy Efficient Localization of Primary Users for Avoiding Interference in Cognitive Networks," IEEE International Conference on Computer Communication & Informatics (ICCCI 2012), 10-12th January 2012

[41] Deepti Singhal and G. Rama Murthy, "Simple Median Based Information Fusion in Wireless Sensor Networks," IEEE ICCCI 2012, 10-12th January 2012

[42] Jagannadha Swamy, A. Srinivas, T. Sandhya and G. Rama Murthy, "Spectrum Sensing: Approximations for Eigenvalue Ratio based Detection," Proceedings of IEEE ICCCI 2012,

[43] Vasanth Iyer, G. Rama Murthy and S.S. Iyengar, "Modeling Unreliable Data and Sensors: Using F measure Attribute Performance with Test Samples from Low Cost Sensors," Proceedings of IEEE International Conference on Data Mining Workshop Climate KDD, Vancouver, Canada

[44] Mohammad Jalil Piran, G. Rama Murthy, G. Praveen Babu, Ehsan Ahvar, "Total GPS-free Localization Protocol for Vehicular Ad Hoc and Sensor Networks", IEEE International Conference on Computational Intelligence, Modeling and Simulation, Langkawai, Malaysia, 20-22 Sep, 2011.

[45] **Mohammad Jalil Piran, G. Rama Murthy and G. Praveen Babu " Vehicular Adhoc and Sensor Networks: Principles and Challenges", International Journal of AdHoc, Sensor and Ubiquitous Computing, Pages 38-49, June 2011**

[46] Deepti Singhal, Saurabh Barjatiya and G. Rama Murthy, "A Novel Network Architecture for Cognitive Wireless Sensor Network," Proceedings of IEEE International Conference on Signal Processing, Communication, Computing and Networking Technologies (ICSCCN 2001)

[47] Vasanth Iyer, G. Rama Murthy, M.B.Srinivas et.al, "Machine Learning Algorithms for Predicting Environmental Forest Fires, " 5th International Conference on Sensor Technologies and Applications, August 21-27, 2011, French Riviera, France

[48] Vasanth Iyer, S.S. Iyengar, G. Rama Murthy, K.Srinathan, R. Govindarajulu, M.B.Srinivas and Dhananjay Singh, "Needle in a Cross Layer Sensor Stack," International Conference on Advanced Communication Technologies, 2011

[49] **Sumit Kumar, Deepti Singhal and G. Rama Murthy, "Doubly Cognitive Architecture based Cognitive Wireless Sensor Networks," International Journal of Wireless Networks and Broadband Technologies (IJWNBT), Volume 1, Issue 2 (April—June 2011), IGI Global Publications**

[50] K.Vinod Kumar, G. Lakshmi Phani, K. Venkat Sayeesh, Aparna Chaganty, G. Rama Murthy, "Two Layered Hierarchical Model for Cognitive Wireless Sensor Networks," Proceedings of International Conference on Advances in Computing and Communications (ACC-2011), July 22-24, 2011, Lecture Notes in Computer Science (LNCS), Springer Series on Communications in Computer and Information Sciences,

[51] Mohammd Jalil Piran, [G. Rama Murthy](#), G. Praveen Babu "A New Approach to Vehicular Sensor Networks", International Journal of Wireless Networks and Communications - IJWNC, April 2011

[52] T.Sandhya, K.Vinod Kumar and G. Rama Murthy, "Energy Efficient Cross Layer Design Protocol by Using Token Passing Mechanism for WSN," International Symposium on Computers and Informatics, ISCI 2011, Kuala Lumpur, Malaysia, 20-22 March 2011

[53] T.Sandhya, K.Vinod Kumar and G. Rama Murthy, "Mobility Tolerant TDMA based MAC Protocol for WSN," International Symposium on Computers and Informatics, ISCI 2011, Kuala Lumpur, Malaysia, 20-22 March 2011

[54] Shahansha Quadri and G. Rama Murthy, "ETSHRA : Energy Efficient Threshold Sensitive Hierarchical Routing Algorithm for Cognitive Wireless Sensor Network," Proceedings of 2011 International Conference on Network Communication and Computer (ICNCC 2011), New Delhi, March 19-20.

[55] Mohammad Jalil Piran, G. Rama Murthy, "A Novel Routing Algorithm for Vehicular Sensor Networks," Scientific Research Publishing Inc, USA, Wireless Sensor Networks (www.scrip.org)

[56] Vasanth Iyer, G. Rama Murthy, M.B.Srinivas, "STACK: Sparse Timing of Algorithms using Computational Knowledge," Book Chapter in "New Developments and Applications in Sensing Technology", Springer Publishers

[57] Vasanth Iyer, G. Rama Murthy et.al, "Cognitive Models in Co-existing operation of Wireless Sensor Networks," Accepted for Publication in the 1st Workshop on New applications and performance of Cognitive Radio and resource aware communication networks, IEEE IPCCC 2010 (28th International Performance Computing and Communications Conference), December 9th-11th 2010, Albuquerque, New Mexico, USA

[58] Manish Sharma, G. Rama Murthy et.al, "Minimal Energy Consumption in the Localization of a Sensor Network," Proceedings of IEEE International Conference on Sustainable Energy Technologies (ICSET 2010), Kandy, Sri Lanka, December 6-9, 2010

[59] K.Vinod Kumar, G. Lakshmi Phani, K.Venkat Sayeesh and G. Rama Murthy, "Fault Repair Algorithm Using Localization and Controlled Mobility in Wireless Sensor Networks (WSN)," Proceedings of IEEE Globecom 2010 Workshop on Towards SmArt Communications and Network Technologies applied on Autonomous Systems (SaCoNAS 2010), December 6-10, 2010

[60] Ragesh Hajela, G. Rama Murthy, Deepti Sabnani," LCSD : Leveling, Clustering and Sectoring with Dissemination Nodes to perform energy efficient routing in Mobile cognitive wireless sensor networks,"Proceedings of IEEE CICN-10, Bhopal, November 2010

[61] G.Lakshmi Phani, K.Venkat Sayeesh, K.Vinod Kumar and G. Rama Murthy," Energy Efficient Combined Routing, Fusion, Localization Algorithm in Cognitive Wireless Sensor Networks," Proceedings of Seventh International Conference on Wireless and Optical Communication Networks, (WOCN-2010), September 2010, Colombo

[62] Ketema Adere and G. Rama Murthy,"Solving the Hidden and Exposed Terminal problems using Directional-Antenna based MAC protocol for Wireless Sensor Networks," Proceedings of Seventh International Conference on Wireless and Optical Communication Networks, (WOCN-2010), September 2010, Colombo

[63] Vasanth Iyer, G. Rama Murthy, S.S.Iyengar and M.B.Srinivas,"
" Cognitive Model Selections in Co-Existing Operation of Wireless Sensor Networks" Proceedings of CIMSIm2010, Bali, Indonesia

[64] Abdul Faheem Mohed, Garimella Rama Murthy and Ram Bilas Pachori,"Novel Orthogonal Signal based Decomposition of Digital Signals : Application to Sensor Fusion," Sensors and Transducers Journal, ISSN 1726-5479, pp. 42-55, Vol.14, Issue 3, March 2010

[65] T. Sandhya and G. Rama Murthy, "A Novel Routing / Fusion Algorithm for Topology Aware Wireless Sensor Networks," Global Journal (GJST), Vol. 10, Issue 4, March 2010

[66] T. Sandhya and G. Rama Murthy," Application of Topology under control wireless sensor networks in precision agriculture," 41st IETE Mid-Term Symposium on taking telecommunication & IT revolution to Rural India: Bridging the digital divide, April 2010

[67] Vasanth Iyer, G. Rama Murthy, M.B.Srinivas et.al, "INSPIRE: Intelligent Networks Sensor Processing of Information using Resilient Encoded-Hash" Proceedings of ICST2010

[68] M.Shaheer Zaman, G. Rama Murthy et.al "A new degree distribution for LT codes for broadcasting in ad-hoc network using Network coding" Proceedings of UKIWCWS 2009.

[69] M.Shaheer Zaman, G. Rama Murthy et.al "Clustered and Leveled Disjoint Multipath Routing Algorithm for Wireless Sensor Networks" Proceedings of UKIWCWS 2009.

- [70] **Vasanth Iyer, S.S. Iyengar, G. Rama Murthy, M.B. Srinivas** "**Computational Aspects of Sensor Network Protocols (Distributed Sensor Network Simulator)**" **Sensors & Transducers journal (ISSN 1726-5479), Vol.6, Special Issue on Modern Sensing Technologies II, August 2009, pp. 69-91^o**
- [71] Kuldeep Yadav, G. Rama Murthy," 'Distributed Key Management for Wireless Sensor Networks') Full paper in the Proceedings of **5-th ACM International Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWinet 2009)**
- [72] **Vasanth Iyer, S.S. Iyengar, G. Rama Murthy, M.B. Srinivas** "**Distributed Source Coding for Sensor Data Model and Estimation of Cluster Head Errors using Bayesian and K-Near Neighborhood Classifiers in Deployment of Dense Wireless Sensor Networks**" **Appeared in IJSSST journal (2009)**
- [73] **Santosh Bhima, Anil Gogada and G. Rama Murthy,** "**Level Controlled Gossip based Tsunami Warning Wireless Sensor Networks,**" **Sensors and Transducers Journal (ISSN 1726-5479), pp. 27-34, Vol. 106, No.7, July 2009**
- [74] A. Ravi, B. Bruhadeeshwar and G. Rama Murthy," Light Weight Token Passing Algorithm for Energy Efficient Data Dissemination in Resource Constrained Networks', Proceedings of 12th International Symposium on Wireless Personal Multimedia Communications, 2009
- [75] Abdul Faheem Mohed and G. Rama Murthy,"Empirical Mode Decomposition (EMD) For Fault Tolerant Integration Of Abstract Estimates In Wireless Sensor Networks' Proceedings of 12th International Symposium on Wireless Personal Multimedia Communications, 2009
- [76] Vasanth Iyer, S.S. Iyengar, M.B.Srinivas and G. Rama Murthy. "Multi-hop Scheduling and Local Data Link Aggregation Dependant Qos in Modeling and Simulation of Power-aware Wireless Sensor Networks," **Proceedings of ACM IWCMC 2009, Leipzig, Germany.**
- [77] **D. Vinay Kumar, K.Sankara Sastry and G. Rama Murthy,** "**Data Fusion Functions : Applications to Sensor Networks,**" **Sensors and Transducers Journal (ISSN 1726-5479), pp. 62-72, Vol. 106, No.7, July 2009**
- [78] Vasanth Iyer*, S.S. Iyengar†, N. Balakrishnan‡, Vir. Phoha§ and G. Rama Murthy, "Distributed Source Coding for Sensor Data Model and Estimation of Cluster Head Errors using Bayesian and K-Near Neighborhood Classifiers in Deployment of Dense Wireless Sensor Networks," *SENSORCOMM 2009, Athens, Greece.*
- [79] **Md. Aquil Mirza, G. Rama Murthy,** "**A Hybrid Localization Algorithm for Static & Mobile Wireless Sensor Networks,**" **Journal of Networks 2009, Academy Publishers (In Press).**
- [80] **Vasanth Iyer, G. Rama Murthy, M.B. Srinivas and Bertrand Hochet,**" **C-ERROR Simulator for Development for Sensor and Location Aware Sensing**

Applications,” *Sensors & Transducers Journal-July 2008, ISSN 1726-5479 2009 by IFSA.*

[81] Md. Aquil Mirza and G. Rama Murthy, "Maximizing the Functional Lifetime of Delay Sensitive Wireless Sensor Networks through Clustering Based Routing", Mosharaka International Conference on Communications, Networking and Information Technology(MIC-CNIT), Amman, Jordan, December 5-7th, 2008.

[82] Md. Aquil Mirza and G. Rama Murthy, "Energy Aware Directional Localization in Mobile Sensor Networks: A Novel Approach", Mosharaka International Conference on Communications, Networking and Information Technology(MIC-CNIT), Amman, Jordan, December 5-7th, 2008.

[83] G. Rama Murthy and Md. Aquil Mirza, "Dynamic Localization Protocol for Static Wireless Sensor Networks", IEEE International Conference on Recent Advances in Communication Engineering(RACE), Hyderabad, India. December 20-24th, 2008.

[84] Md. Aquil Mirza, Abdul Faheem Mohed., Prof. Rama Murthy Garimella, "Energy Efficient Sectoring Based Routing in Wireless Sensor Networks for Delay Constrained Applications: A Mixed Approach", IEEE International Region 10 Conference(TENCON), Hyderabad, India. November 18-21st, 2008.

[85] Md. Aquil Mirza and G. Rama Murthy, "Independent Directional Localization in Mobile Wireless Sensor Networks: A Contemporary Approach", Fifth IEEE Consumer Communications & Networking Conference Demonstration Proposals(CCNC), Las Vegas, USA. January 10-13, 2009.

[86] Md. Aquil Mirza and G. Rama Murthy, "PASCAL: Power Aware Sectoring Based Clustering Algorithm for Wireless Sensor Networks", The International Conference on Information Networking(ICOIN), Chiang Mai, Thailand. January 20-24th, 2009.

[87] Sai Krishna Tejaswi N and G. Rama Murthy, "Meshed Multipath Routing with Levelling in Route Discovery: An Efficient Strategy in Wireless Sensor Networks," Proceedings of International Symposium on Wireless and Pervasive Computing (ISWPC-2009), Melbourne, Australia

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[92] Vasanth Iyer, G. Rama Murthy, M.B. Srinivas and Bertrand Hochet, "**C-ERROR Simulator for Development for Sensor and Location Aware Sensing Applications**," Proceedings of *ICST '08* 30 Nov-- 3 Dec. Taiwan, Taiwan.

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[98] **Vasanth Iyer, G. Rama Murthy and M.B.Srinivas,** "Training Data Compression Algorithms and Reliability in Large Sensor Networks," 2008 *IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC 2008)* pp. 480-485, Taichung, Taiwan, June 11-13, 2008.

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- (8) G. Rama Murthy and S. Spoorthy, "The Warped Chirp Z-Transform," Accepted for Session on Nonstationary Signal Analysis Methods and Applications, 5th Indian International Conference on Artificial Intelligence (IICAI-11), Tumkur, December 14-16, 2011
- (9) G. Rama Murthy and R.B. Pachori, " Novel Orthogonal Signal based Decomposition of Digital Signals: Application to Sensor Fusion, Accepted for publication in National Conference on Advances in Signal Processing (NCASP-09), 20-21 November 2009, Vizag, India
- (10) G. Rama Murthy and N. Ahuja, " Non-Uniform Sampling : A Novel Approach, " To appear in the **Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP-09)**,
- (11) G. Rama Murthy, T. Sandhya and N. Ahuja, " Innovative Approach to Non-Uniform Sampling, " International Journal of Recent Trends in Engineering, Vol. 2, No. 3, November 2009**
- (12) G. Rama Murthy, G. Satyanarayana and N. Avinash Babu, "Computational Complexity of Rank Order Filtering : Threshold Decomposition, " National Conference on Current Trends in Communication, Devices and Computation, SMIT, Sikkim, 15-17 September 2007
- (13) Karthik, Sheryl John, Swetha Sampath and G. Rama Murthy, " Unified Approach to Filtering: Threshold Decomposition, " Submitted to IETE Journal of Research
- (14) * G. Rama Murthy, N.C. Eswar Reddy, K. Sampurnanand and S.K.B. Shah, " Micro-processor based recursive digital filter for voice signal processing, " Proceedings of the Institution of Engineers, India, August, 1984**
- (15) *G. Rama Murthy and N.C. Eswar Reddy, "Micro-processor based combinational lock, " Instruments and Electronics Developments, June 1984.**
- (16) Bhanu Kalyan, Raghu Kishore and G. Rama Murthy, "Low Cost Distributed Anonymous File Server for the Internet, " Poster paper presented at the International Conference on Information Technology, CIT, Hyderabad, 2004**
- (17) Rajat Gupta, BVL Narayana, P Krishna Reddy, G. Rama Murthy et. Al, "Understanding Helicoverpa Armigera Pest Population Dynamics related to Chickpea Crop Using Neural Networks, " Proceedings of International Data Mining Conference, 2003, Florida, USA

(18) G. Rama Murthy and Sajid Ali Khan, "Generic Framework for cluster computing," Proceedings of International Conference on Systemics, Cybernetics and Informatics (ICSCI), 2006

INVENTIONS:

(1) G. Rama Murthy, " Combined Localization, Fusion, Routing in Wireless Sensor Networks (WSNs), Indian Patent Application Submitted to AP Patent Cell

(2) G. Rama Murthy, "Fire Control System, "Submitted to the U.S. Patent and Trademark Office.

(3) G. Rama Murthy "Efficient Water, Related Resource Utilization / Control System: Disaster relief technologies " Submitted to the U.S. Patent and Trademark Office.

(4) G. Rama Murthy, "Intelligence Testing Solids, " submitted to the U.S. Patent and Trademark Office.

(5) G. Rama Murthy, "Pollution Control System, "Submitted to the U.S. Patent and Trademark Office.

(6) G. Rama Murthy, "Wave Radiation Therapy Equipment, "submitted to the U.S. Patent and Trademark Office.

(7) G. Rama Murthy, "Principles, Mechanisms of Instrument Innovation: Illustrations --- (a) Playing Card Holder, (b) Musical / Artificial Chair, (c) Fly Zipper etc " Submitted to the U.S. Patent and Trademark Office.

INVITED TALKS:

(1) Transient Analysis of Computer Networks at **BELL LABORATORIES, USA** ...July 1991

(2) Performance Evaluation of Computer/ Communication Systems at **Indian Space Research Organization (ISRO), Sriharikota**.....July 2003.

(3) Design of Future Information Processing Machines, INDO-FRENCH workshop on Brain Assymetries, Sri Rama Chandra Medical College, Chennai

(4) **Key note speaker** at the National Conference on Artificial Neural Networks, Organized by Sree Nidhi Institute of Science and Technology (SNIST), Ghatkesar, Hyderabad.....November 2005

(5) **Key note speaker** at the National Conference on Wireless and Mobile Communications (NCWMC), Vardhaman College of Engineering, Shamshabad, 10-11 March 2006

(6) Delivered guest lecture at the **Institute of Mathematical Sciences, Taramani**, Chennai

(7) Delivered guest lecture at the **Tata Institute of Fundamental Research, (TIFR)** Mumbai

(8) Delivered Key Note Lecture at the Christu Jyothi Jubilee PG College, Guntur

(9) Delivered Invited Lecture at the International Conference on Soft Computing and Intelligent Systems, December 27-29, 2007

(10) Delivered an Invited talk at the First International Workshop on "Future Internet Model and Services," Daejeon, South Korea, December 16-17, 2010

(11) Key note speaker, Second International Conference on Computer Communication and Informatics (ICCCI 2012), 10-12, January 2012, Coimbatore

(12) Delivered THREE (3) invited talks at the Wroclaw University of Technology, POLAND. Also delivered invited talk at the 14th POLISH-BRITISH Workshop, Poland

(13) Delivered INVITED talk at SIMON FRASER UNIVERSITY, Vancouver. JULY 2016

(14) Keynote Speaker at the 2nd IEEE International Conference on Next Generation Computing Technologies (NGCT-2016), Centre for Information Technology, University of Petroleum and Energy Studies, Dehradun, 14th and 16th October, 2016

(15) Keynote Speaker at International Conference on Systemics, Cybernetics and Informatics, 2017, Hyderabad, India

Editorship of Journals:

---Associate Editor, "International Journal of Wireless Networks and Broadcasting Technologies" (IJWNBT)" published quarterly by IGI-global

---Editorial Committee Member, International Journal on Multimedia and Ubiquitous Engineering

----Editorial Committee Member, International Journal of Advanced Networking and Applications (IJANA)

---Editor, International Network for Scientific Information (INSINET) PUBLICATIONS

---Editor, International Journal of Algorithms, Computing and Mathematics

---Guest Editor, International Journal of Neural Systems, Special issue on Complex Valued Neural Networks

PROJECTS:

***ECIL,Hyderabad: Developed a Cross Assembler utilizing the Assembly Language Programming.

***ISRO, Sri Hari Kota: Executed programs written in FORTRAN, COBOL etc.

***LSU, Baton Rouge: Developed Image Segmentation Software and applied it to real world data.

***HRC, Las Vegas: Developed Software for non-parametric statistical procedures.

Consultancy:

AT&T: Transient and Equilibrium Analysis of ISDN Networks: Overload and Congestion Control,

Qualcomm: Design of Public Key Cryptography Algorithms

Bose Musicals: Design and Implementation of Musical Chairs

Ameritech: Design of a tester for switching systems as well as VLSI modules.

Siemens: Performance model of a line concentrator based on call arrival rate, Performance model of a leaky bucket in SS7 networks.

3G Wireless Works:

Prepared a report on the comparison of 3GPP protocols H.323 and H.324

Design of Public / Private Key cryptography algorithms based on Nonlinear Dynamical systems.

Design of Chip Sequence generator for two dimensional signals (Images).

Program Committee Memberships, Reviewer:

---Member, Technical Program Committee, Sensor Network Information Processing Track for IEEE ISSNIP 2013 (the Eighth IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing, 2-5 April 2013, Melbourne, Australia).

---Member, Advisory Committee, Second International Conference on Computing, ICC 2011, 28th-29th December 2011

---Program Committee Member, Sensors, Circuits & Instrumentation Systems (SCI), International Multi-Conference on Systems, Signals & Devices, March 22-25, 2011, Sousse, Tunisia

---Member, Advisory Committee, DEVICE-2010, November 2010

---Member, Technical Advisory Committee, International Conference on Methods and Models in Computer Science (ICM2CS-2010), December 13-14, 2010.

---Member, Task Force on Complex Valued Neural Networks, IEEE CIS Neural Networks Technical Committee

---Member -Technical Board, International Workshop on Future Directions of Artificial Neural Networks-- FDANN10

---Member, Advisory committee, International Conference on Computing (ICC-2010), New Delhi, December 2010

---Member, Technical Program Committee, IEEE International Conference on Wireless & Mobile Computing, Networking and Communications [WiMob'2010]

-----Member, Technical Program Committee, ISSNIP 09, 5th International Conference on Intelligent Sensors, Sensor Networks and Information Processing, 7-10 December 2009, Melbourne, Australia

----Member, Technical Program Committee, ISWPC (International Symposium on Wireless and Pervasive Computing, 11-13 February 2009, Melbourne, Australia

----Member, Technical Program Committee, TENCON 2008

----Program Committee Member, National Conference on Research & Development in Hardware and Systems (CSI-RDHS 2008)

---Technical Committee member of International Conference on Systemics, Cybernetics and Informatics (ICSCI-2004, ICSCI-2005, ICSCI 2006).

---Program Committee member of a IEEE workshop on Next Generation Wireless Networks, High Performance Computing (HIPC), 2005. Also Program Committee Member of a workshop at HIPC---2006.

---Program committee member of 41st Annual Convention of Computer Society of India (CSI-2006)

---Reviewed papers for IEEE Transactions on Mobile Computing, ICSCI

---Reviewer of networking proposal submitted to DST, India

-----Served as reviewer of projects submitted by students to DOEACC society.

----Served as evaluator of Ph.D thesis from Jawaharlal Nehru University (JNU), Delhi, University of Hyderabad, Hyderabad, IIT—Kanpur, University of Mysore etc.