Curriculum Vitae

Dr. B. Malarkodi
Associate Professor of ECE

Dr. B. Malarkodi is an Associate Professor in the Department of Electronics and Communication Engineering from the National Institute of Technology, Tiruchirappalli. She is a life member of IETE and ISTE. She completed her Master's in the field of Applied Electronics from Anna University, CEG campus Chennai by 1990. She completed her PhD in 2010 from National Institute of Technology, Tiruchirappalli, in the research area of ad hoc networks. She has teaching experience in the field of optical communication, computer networks, ad hoc networks and wireless communication. She has published many papers in international conferences and journals and her research interests include ad hoc networks and wireless communication networks.

Name   Dr. B. Malarkodi

Designation: Associate Professor

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Telephone: Extn (Optional):

Email (Primary): malark@nitt.edu   Email (Secondary):

Field(s) of Specialization: Ad hoc networks

Employment Profile

Job Title	Employer	From	To
Associate Professor	NIT Trichy	1.1.2006	Till date
Senior Lecturer (SG)	NIT Trichy	1.1.2001	31.12.2005
Senior Lecturer	NIT Trichy	16.1.1996	31.12.2000
Lecturer	NIT Trichy	16.11.1990	15.11.1996

Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	NIT, Trichy	2010	NA	Ad hoc networks
M.E.	CEG, Anna UV, Chennai	1990	First class with distinction	Applied Electronics
B.E.	GCT, Bharathiyar UV, Coimbatore	1986	First Class	Electronics and Communication
HSC	State Board, TN	1982	First Class	Maths, Physics, Chemistry and Biology
SSLC	State Board, TN	1980	First Class	General

Academic/Administrative Responsibilities within the University

1. Treasurer for ECE association (more than 10 years)
2. Fiber optics lab establishment in SJB (2008) and in charge for both UG and PG (till date)
3. Class coordinator and PAC chairperson for both UG and PG level (till date)
4. Chairperson for PHD selection committee (2015-16)
5. Chairperson for both UG and PG project evaluation committee (2016-18)
6. Chairperson for NBA accreditation work- PG communication system (2017)
7. Chairperson for BOS meeting (2018)

Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Member (Board of Studies)	♣ SASTRA, Tanjore ♣ CEG, Chennai	2017	
Member (Ph.D. doctoral committee)	♣ SSN college, Chennai, ♣ MIT Chrompet, Chennai ♣ NIT, Puducherry ♣ SASTRA, Tanjore	2013	Till date
Examiner (Ph.D. viva voce board)	♣ SSN college, Chennai, ♣ MIT Chrompet, Chennai, ♣ NIT, Puducherry	2013	Till date
Member-Inspection Committee-provisional affiliation	♣ K.S.K college of engineering and technology, Tanjore 612702	01.04.2014	

Details of Academic Work

(i) Curriculum Development

- Involved in procuring equipments for developing Fiber optics laboratory
- Involved in revising the syllabus for Networks and Protocols (UG), High speed communication networks (PG)
- Involved in framing syllabus for broadband access technologies, wireless adhoc networks and wireless sensor networks (both UG and PG) Courses

(ii) Courses taught at Postgraduate and Undergraduate levels

- Analog communication systems
- Communication techniques
- Communication electronic circuits
- Signals and systems
- Digital electronics
- Satellite communication systems
- Fiber optics
- Optical communication systems
- Broadband access technologies
- Computer networks
- Networks and protocols
- High speed communication networks
- Wireless adhoc networks
- Wireless sensor networks

(iii) Projects guided at Postgraduate level

1. Multi-aware relaying based lifetime extension (MARBLE) protocol in wireless body are3a networks for patient monitoring (2018)
2. Secure Lightweight Cryptography for internet of things (2018)
3. Design of wireless sensor network topologies using ZigBee and its applications (2017)
4. Implementation of drag and drop interaction based on sixth sense technology (2017)
5. Directional antenna based efficient location aware routing in MANET (2017)
6. A multi aware multi levels heterogeneous routing protocol for wireless sensor networks (2017)
7. BER analysis of OFDM base WiMAX model for various modulation techniques (2016)
8. Cognitive radio based overlay/underlay technique using GNU RADIO, RTL SDR AND USRP (2016)
9. Augmentation of spectrum sensing in cognitive radio networks (2016)
10. Cooperative spectrum sensing to improve the probability of detection in CR wireless networks (2016)

11. An energy efficient transmission scheme for OFDM systems with improved BER performance (2015)
12. Cooperative spectrum sensing in cognitive radios for IEEE 802.22 WRAN (2015)
13. Trust based AODV routing protocol for mobile ad hoc networks (2015)
14. Performance of network coded wireless mesh networks using ant colony optimization and genetic algorithm (2014)
15. Peak to average power ratio reduction in OFDM system of 802.11 WLAN by using PTS based genetic and hybrid algorithm (2014)
16. Peak to average power ratio reduction in OFDM system of 802.11 WLAN by using PTS PSO (2013)
17. Signal strength based routing in mobile adhoc networks (2013)
18. TCP with optimized multipath hop oriented network coding in wireless mesh networks (2013)
19. Performance evaluation of ARAN -PAMAC protocols for adhoc networks (2010)
20. Carrier sensing energy efficient mac protocol for adhoc networks (2010)
21. Joint power control scheduling and routing for multicast in multihop energy harvesting sensor networks (2010)
22. Performance evaluation of ZRP under different mobility models (2010)
23. Timing synchronization and cell id search method for IEEE802.16E OFDMA downlink
24. Performance evaluation of ARAN with Poisson traffic sources (2009)
25. Performance comparison and path compression technique for on demand routing protocols (2008)

Number of Ph.D.'s Guided

Name of the PhD Scholar	Title of PhD Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award
B. Rebekka	Investigations on radio resource allocation schemes for LTE networks	Supervisor	2017
B.T. Vijay	QoS provisioning in WLANs using PHY/MAC Layer Enhancements	Supervisor	2019
Ninu Rachel Philip	Analysis of discontinuous reception in LTE networks	Supervisor	2020
Krishnaprasad satamraju(PT)	Security framework in IOT applications	Supervisor	Thesis submitted
VishnuPrasad	Analysis of network traffic for next generation fire wall	supervisor	ongoing
RS. Koteeshwari(PT)	Spectrum Sensing Techniques for 5G Wireless Networks	Supervisor	Ongoing
B. Rosalinekavitha	Design of wireless power system design for artificial	Supervisor	Ongoing

T.Ramesh(PT)	retina Analysis of Doppler Effect and Inter-Carrier Interference (ICI) reduction in OFDM Communication Link of Airborne Platform	supervisor	ongoing

Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
January 21 - February 02, 2002	QIP 2 weeks short term course on high speed networks	National	Participant	CSE dept, Anna university, Chennai-25	CEG, Chennai
March 2, 2002	One day workshop on experiments with He –Ne laser and fibers	National	Participant	REC, Trichy-15	RECT
December 2-13, 2002	Winter school sponsored by ISTE and AICTE on architecture programming and applications on DSP	National	Participant	REC, Trichy-15	RECT
December 29-31, 2006	Work shop on VLSI implementation of digital radio transceivers	National	Participant	NIT, Trichy-15	NITT
December 22, 2006	Seminar on research directions in information technology and applications		Participant	NIT, Trichy-15	NITT
January 4-6, 2007	International conference on trends in Industrial measurements and automation	International	Participant	NIT, Trichy-15	NITT
March 30-31, 2007	Workshop on research challenges in wireless and optical communication networks		Participant	CEG Campus, Anna University	Chennai

May 14-15, 2008	Workshop on internet technologies and tools under TEQIP		Participant	NIT, Trichy-15	NITT
December 27-29, 2009	Netcom 2009 international conference		Presented paper	Le Royal Meridian	Chennai
October 27-28, 2009	ARTCom 2009 international conference		Presented two papers and chaired One session	Kottayam, Kerala	Kerala
January 2-12, 2014	Two week ISTE workshop on signals and system conducted by IIT Kharagpur		Participant	NIT, Trichy-15	NITT
May 12-16, 2014	One week FDP on wireless sensor networks and its applications under TEQIP-phase II		Participant	NIT, Trichy-15	NITT
April 28-29, 2015	Conclave on Academic Reforms under TEQIP phase II		Participant	NIT, Trichy-15	NITT

Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW-2019)	International	May 22-24, 2019	TPC Chairperson	NITT
Modern Techniques for Wireless Communication Networks and Signal Processing	National	April 23-27, 2019	Coordinator	NITT

Computer Networks and Protocols	National	December 4-8, 2017	Coordinator	NITT
Evolution of Mobile Communication	National	November 15-19, 2017	Coordinator	NITT
Analog and Digital Communication Techniques	National	November 8-12, 2017	Coordinator	NITT

Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	ISTE	LM8481/12.4.1991
Life Member	IETE	M-189093

Academic Foreign Visits

Country	Duration of Visit	Programme
MALAYSIA	February 2010	Paper titled performance evaluation of AOMDV-PAMAC protocols for Ad hoc networks presented in ICCESSE 2010: "International Conference on Computer, Electrical, and Systems Science, and Engineering"

Publications

(A) Refereed Research Journals:

Author(s)	Title of the paper	Journal	Volume No.	Page No.	Year
RS. Koteeshwari, Dr. B. Malarkodi,	Compressive Spectrum Sensing for 5G Cognitive Radio Networks LASSO Approach	Heliyon, Elsevier BV			2022
RS. Koteeshwari, Dr. B. Malarkodi,	Spectrum Sensing Techniques for 5G Wireless Networks: Mini Review"	Sensors International			2022

Krishna Prasad Satamraju Dr. B. Malarkodi	A decentralized framework for device authentication and data security in the next generation internet of medical things	Computer Communications, Elsevier	180	146-160	2021
Krishna Prasad Satamraju Dr. B. Malarkodi	Proof of concept of scalable integration of internet of things and blockchain in healthcare	Sensors – MDPI	1389		2020
B T Vijay, B Malarkodi	High Efficiency WLANs for Dense Deployment Scenarios	Sadhana - Springer	44	33	2019
Ninu Rachel Philip, B. Malarkodi	Extended hybrid directional DRX with auxiliary active cycles for light traffic in 5G networks	Article in Transactions on Emerging Telecommunications Technologies	30	e.3552	2019
B T Vijay, B Malarkodi	MAC improvements for very high throughput WLANs	Inderscience - International journal of communication networks and distributed Systems (IJCNDS)	22 (1)	74-97	2018
G. Jayasree, K.P. Indulekha B. Malarkodi	Directional antenna based efficient location aware routing in mobile adhoc network	ICTACT International Journal on Communication Technology	9	1765-1775	2018
K.P. Indulekha, G. Jayasree B. Malarkodi	A multi aware multi-levels heterogenous routing (mamhr) protocol for wireless sensor networks	ICTACT International Journal on Communication Technology	9	1729-1738	2018
P.K. Bhakthavatsalam, Thavamani Shanmugam, B. Malarkodi	Prevention of a SYNflood attack using Extreme XOS modular operating system	Inderscience - International journal of Internet Technology and Secured Transactions	7	364-377	2017

B T Vijay, B Malarkodi	QoS based MAC Layer Enhancement in WLAN IEEE 802.xx	International journal of Information Processing (IJIP)	10	1-19	2016
B T Vijay, B Malarkodi	Improved QoS in WLAN Using IEEE 802.11e	Procedia Computer Science journal	89	17-26	2016
B. Rebekka, B. Malarkodi	Multiple input multiple output detection using Roulette wheel based ant colony optimization Technique	WASET - International journal of Electronics and communication engineering	10	444-451	2016
B. Rebekka, S. Sudheep, B. Malarkodi	Priority-based quality of service guaranteed radio resource allocation in long term evolution network	International Journal of Information and Communication Technology, Inderscience publishers	9	420-437	2016
B. Rebekka, S. Sudheep, B. Malarkodi	An Optimal and Priority Based Rate Guaranteed Radio Resource Allocation Scheme for LTE Downlink	Wireless Personal Communications, Springer	83	1643-1661	2015
B. Malarkodi, S.K. Riyaz Hussain, B. Venkataramani	Performance evaluation of AOMDV-PAMAC protocols for adhoc networks	WASET - International journal of Electrical Computer Energetic, electronic and communication engineering	4	2	2010
B. Malarkodi, B. Prasana, B. Venkataramani	A Battery Power Scheduling Policy with Hardware Support in Mobile Devices	International journal on applications of graph theory in wireless ad hoc networks and sensor networks	2	3	2010
B. Malarkodi, B. Venkataramani	Protocols for increasing the lifetime of nodes of ad hoc wireless networks	International Journal on Communication Technology	1	7-16	2010

B. Malarkodi, B. Venkataramani X.T. Pradeep	Performance evaluation of AODV protocol with black list table for prevention of Denial of service attacks in wireless Ad hoc networks	WSEAS Transactions on Communications	5	107-114	2006

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of the paper	Title of the Proceedings	Venue	Page No.	Year
Krishna Prasad Satamraju Dr. B. Malarkodi	Intelligent Blockchain for Internet of Things Based Healthcare Management	International Conference on Secure Cyber Computing and Communications (ICSCCC-2021)	NIT-Jalandhar	1-5	2021
Krishna Prasad Satamraju Dr. B. Malarkodi	A PUF-based Mutual Authentication Protocol for Internet of Things	International Conference on Computing, Communication and Security (ICCCS-2020)	IIT-Patna	1-6	2020
Krishna Prasad Satamraju Dr. B. Malarkodi	A Secured and Authenticated Internet of Things Model using Blockchain Architecture	International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)	Tiruchirappalli	19-23	2019

Rathina Vel, Gunavathi N, Rebekka, Malarkodi B	Novel NFV entities managing scheme for telecom providers using Proof of Concept Blockchain	International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)	Tiruchirappalli	288-292	2019
Thavamani Shanmugam, Dr. B. Malarkodi	Analysis of Recent Challenges and Solutions in Network Security	International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICICT)	Kerala	902-907	2019
Satish Ganta, Rebekka B, Gunavathi N Malarkodi B	Unique Identity Management Scheme for Distributed NFV Market Place using Ethereum	International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)	Tiruchirappalli	454-457	2019
Thavamani Shanmugam, Dr. B. Malarkodi	Analysis of Campus Network Management Challenges and Solutions	International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)	Tiruchirappalli	312-316	2019
Pitta vineel Anvith Dr. B. Malarkodi Dr. N. Gunavathi Dr. B. Rebekka	A Survey on Network Functions Virtualization for Telecom Paradigm	International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW)	Tiruchirappalli	302-306	2019

K.P Satamraju, B. Malarkodi	Design and evaluation of lightweight security framework for IOT applications	TENCON 2019, IEEE region 10 conference	Kerala	522-526	2019
G Jayasree, P Indulekha, B T Vijay, B Malarkodi	Optimal Location Aided Routing with directional antennas in mobile Adhoc Networks	International Conference on Computer Networks and Inventive Communication Technologies, IEEE	Coimbatore	148-159	2018
S. Naveen Naik Malarkodi B	An Experimental Setup of DSA Algorithm suitable for High Bandwidth Data Transfer Using USRP and GNU Radio Companion	International symposium on signal processing and intelligent recognition systems, Springer	Manipal	81-90	2017
B. T. Vijay and B. Malarkodi	A study of IEEE 802.11aa	International Conference on Computing, Communication and Networking Technologies	Delhi	1-6	2017
R. Radhika	Discerning white space and leveraging its potential using USRP and GNU radio	International Conference on Signal Processing, Communication and Networking, IEEE	Chennai	1-5	2017
Bhakthavatsalam, P. K., and B. Malarkodi	Analysis of Network Infrastructure threats using SonicWALL Analyser	In Proceedings of Third International Conference on Devices, Circuits and Systems, IEEE,	Coimbatore	6-9	2016

Bhakthavatsalam, P. K., B. Malarkodi	Securing Provenance by Avoiding Packet Drop Attack due to Congestion in Wireless Network	In Proceedings of International Conférence on Inventive Computation Technologies, IEEE	Coimbatore	1-4	2016
Rebekka B, Vinay Kumar B, Malarkodi B	Radio Resource Allocation with Energy Efficiency-Throughput Balancing for LTE Downlink	IEEE International conference on Electronics and Communication Systems	Coimbatore	111-115	2015
K. Phani and B. Malarkodi	Augmentation of spectrum sensing in Cognitive Radio networks	International Conference on Computer Communication and Informatics	Coimbatore	1-4	2015
Deepak, K. Malarkodi.B, Sagar, K.	NRZ encoded pilots for Semi Blind Channel estimation	IEEE International Conference on Electronics and Communication Systems	Coimbatore	360-363	2015
Rebekka. B, B. Malarkodi	Performance Evaluation of Resource Allocation Schemes in LTE Downlink	IEEE International conference on Electronics and Communication System	Coimbatore	1-4	2014
B. Malarkodi, S. Bavadharini, B. Venkataramani	Power Aware MAC protocol for wireless Ad hoc networks	IEEE sponsored International conference on recent advancements in electrical sciences,			2010
B. Malarkodi, SK. Riyas Hussain, B. Venkataramani	Performance evaluation of AOMDV-PAMAC protocols for adhoc networks	International Conference on Computer, Electrical, and Systems Science and Engineering	Malaysia	Vol:4, No:2	2010

B. Malarkodi, P. Rakesh, B. Venkataramani	Performance Evaluation of On-Demand Multipath Distance Vector Routing Protocol under Different Traffic Models	ARTCom '09 IEEE International Conference	Kerala	77-80	2009
B. Malarkodi, P. Gopal, B. Venkataramani	Performance Evaluation of Ad hoc Networks with Different Multicast Routing Protocols and Mobility Models	ARTCom '09 IEEE International Conference	Kerala	81-84	2009