

CURRICULUM VITAE
of
Prof. L. NIRMALA DEVI,
IEEE, FIEI, FIETE

Professor of Electronics and Communication Engineering



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Education:

- Ph.D. (ECE) 2014 Osmania University, Hyderabad, T.S, India
- M.E. (ECE) 2005 Osmania University, Hyderabad, T.S, India
- MBA 1999 Osmania University, Hyderabad, T.S, India
- B.E. (ECE) 1997 Osmania University, Hyderabad, T.S, India

Professional Experience (22 years):

Organization	Designation	Period
Nizam institute of Engg & Tech, Hyderabad	Assistant Professor	2002-2004
Scient institute of Tech-Hyderabad	Assistant Professor	2004-2005
Aurora's Engg College, Hyderabad	Assistant Professor	2005-2007
University College of Engineering, OU-Hyd	Sr. Assistant Professor	2007-2015
University College of Engineering, OU-Hyd	Associate Professor	2015-2018
University College of Engineering,OU-Hyd	Professor	2018-till date

University Administration / Corporate Life:

- **Head Department of Electronics and Communication Engineering** from 6th November 2021 to May 2023
- **Director, Campus Hostels for Women, Osmania University** from October 26th 2018 to 5th November 2021.
- **Chairman, Board of Studies (Global), Osmania University** from November 2019 to November 2021.
- **Chairman, Board of Studies (Autonomous), University College of Engineering, OU** from September 2014 to March 2017.
- **Chairman, Board of Studies** in Electronics and communication Engineering, OU
 - a) Introduced Choice Based Credit System(CBCS) and Revised Syllabi for BE& ME
 - b) Introduced PG program Railway Signaling and Telecommunication Engineering for IRISSET
- **Department Research Committee Member** in Dept of ECE
- **AICTE South west region Expert Committee member**
- **Recruitment Committee Member and V.C. Nominee for CBIT, Vasavi, Stanley College** of Engineering, Hyderabad.
- **Board of Studies Member for CBIT, Vasavi, Stanley, Lords College** of Engineering
- **Board of Studies Member for MLRIT (Autonomous) College** of Engineering, Hyderabad.
- **Board of Studies Member for CMRIT (Autonomous) College** of Engineering, Hyderabad.
- **Recruitment Committee Member and V.C. Nominee** for JNTU Affiliated Colleges.
- **Faculty Adviser** for M E Systems and Signal Processing Specialization, Dept of ECE, OUCE
- **Treasurer** for the ECE Alumina Association during 2017-2019
- **Member in Women Harassment Committee, Osmania University**

Awards, Honours and Recognition:

- Selected as the **Best Paper Award** in “7th International Conference on Machine Vision and Application” at Singapore, March 12-14, 2024
- Elected as an **Executive Committee member** of the Institution of Engineers in the Electronics & Telecommunication Engineering Division of Telangana State Centre for the session 2023-04&2024-25.
- Elected as Honorary **Joint Secretary of Institution of Engineers (IEI) India** Telangana State
- Received **Engineer of the year Award 2023** in recognition of outstanding contribution in academics & research, on the occasion of 56th Engineers day (Mokshagundam visveswaraya birth anniversary) by the **Institution of Engineers (India)** Telangana State.
- Received **Best Engineering Teacher Award** on the occasion of Teachers' Day on 5th **September, 2023**. In recognition of her outstanding contribution to the engineering education the IEI, Telangana State Centre.
- **Selected for AIM-ICDK World Water Innovation Challenge 2.0** by AIM Incubators and the Denmark Technical University (DTU) at NITI Aayog New Delhi Govt of India in the year **2022**.
- **Best Women Researcher in Science and Technology Award** in reorganization of contributions to research activities by Springer International in collaboration with JNTU Kakinada during 20-21 **August 2021**.
- **Outstanding Women in Engineering Award** during Annual women's meet (AWM 2018) in Chennai during 3rd march, **2018**.
- **Recipient of Merit Scholarship** from Government of Andhra Pradesh (**1987-1990**)

Patents:

- Published an Indian patent with patent no : **202141006261A** for “Prototype on 3D protective mask based water quality monitoring system powered by solar with good detection “in the year 2022
- Published an Indian Patent with patent no : **202241070286** for “Design and Development of Autonomous Bird Deterrent System for Crop Protection Using UAVs” in the year 2023.
- Published an UK patent with design patent no: 6346700 for “Unmanned Aerial vehicle for Crop monitoring” in the February 2024

Books Published:

- Dr L.Nirmala Devi Published a Book titled “Unmanned Aerial Vehicle Systems” by Deccan Academic International Publishers India ISSN: 978-81-972-292-9-9, **2024**
- Dr L.Nirmala Devi Published a Book chapter “Directional Edge Coding for Facial Expression Recognition System” in the Book titled “Machine Intelligence for Research and Innovations” DOI: 10.1007/978-981-99-8129-8_6 2024
- Dr L. Nirmala Devi Published a Book “**Internet of Things**” ISBN: 978-81-963300-4-0 published by GCS Publisher India in **JUNE 2023**
- Dr L. Nirmala Devi Published a book Chapter Titled “A deviation assessment based Grey-Hole detection method for Ad-Hoc Wireless Networks” book titled “Next generation Systems and Networks” published by Springer Nature Singapore April 2023
- Dr L. Nirmala Devi Published a Chapter “**Hybrid Feature Vector Assisted Action Representation for Human Action Recognition using Support Vector Machine**” in the book titled “Methodologies and applications of Computational Statistics for Machine Intelligence”, DOI: 10.4018/978-1-7998-7701-1 in the year **2021**.

Books Reviewed:

KAVACH “Cab Signaling and automatic Train Protection System for Digital Railway System” published in association with Indian Railways Institute of Signal Engineering & Telecommunication (IRISET) Secunderabad by BS Publications @ 2023

Research Interest:

- Internet of Things (IoT), UAV Communication.
- AI& ML, Reinforcement learning.
- Wireless Communication and Wireless Sensor Networks,
- Mobile Adhoc Networks and Signal Processing
- Optical Networks and cognitive radio networks

Research Projects Completed:

1. **Title of the Project:**An Autonomous Bird Deterrent System for Crop Protection using UAVs”
Funding Agency :TiHAN-NMICPS, IIT Hyderabad on June 2022 to 30th Sep 24
Summary: The main aim of this research is to develop an autonomous UAV bird scaring system for agriculture. The suggested system includes the design of UAV flying at optimal height, Bird detection through machine learning algorithms, and Activation of a vibrator through the sensor.
2. **Title of the Project :** “Crop Protection system using Drones”
Funding Agency : Telangana state council of science and technology(TSCOST) during the year 2022-23
Summary: This project develops a simple and cost effective prototype based on Computer Vision, Machine Learning using Drones to scare the birds in the ripening stage of the maize, jawar crop in Telangana State.
3. **Title of the Project :** “Performance analysis of crop monitoring system using WSN
Funding Agency : University Grants Commission (UGC),Govt of India, during the year 2017-2020
Summary: India being an agricultural country needs some innovation in the field of agriculture this can be achieved through modern technologies which is assist computing, communication and control within devices. WSN serves the purpose of the needy with wide application of sensors and actuators in almost every field. Hence Wireless Sensor Networks have become a backbone for modern precision agriculture system. The research in the modern agriculture is becoming increasingly concentrated on monitoring and the controlling the entire greenhouse yielding process. Traditional agriculture systems can be modernized through the innovative technologies that assist computing, communication and control within devices and network. Precision Agriculture System raises the crop yield, labour cost saving and environmental protection against over pesticide or fertilizing. Therefore, demonstrated WSN system is able to communicate each other with low power consumption in order to deliver their real – data collected, to the farmers mobile via GPRS technology and to actuate the triggering of water sprinklers during the period of water scarcity.
4. **Title of the Project :** “Energy Management in Wireless Sensor Network”
Funding Agency : Ministry of Electronics and Information Technology (MeitY) Govt of India, during the year 2016-2019

Summary: Wireless Sensor Network (WSN) is an emerging technology. It is predicted that in future WSN will change the human life totally. Energy optimization is one of the challenging issues in WSN, which composed of a set of tiny sensor nodes the nodes are continuously sense and transmit the data. WSN nodes operate on batteries due to this WSN has a Limited life time. So increasing the life time of wireless sensor network are two important problems. Several studies have been done on optimizing energy at different layers. However, there are limited studies for optimizing the energy using cross layer methods. Hence proper selection of transmit power, duty cycle at MAC layer routing protocols at network layer and transport layer protocols; it is possible to get an improved optimization. Considering these aspects, and developed a cross layer optimization model and test it on real time Wireless Sensor Network.

5. **Title of the Project:** “Security and Data transmission issues in Mobile Ad– hoc Network”

Funding Agency : Department of Science and Technology, Government of India, during the year 2013-2015

Summary: Secure information exchange is important information technologies there are many scientist, research persons working in developing protocols and schemes that can secure different aspects of a communication network. MANET is also one area of networking which is upcoming these days and many persons are working on it now a day’s increasing number of mobile devices and being used by service persons, business man and scientist students etc. Mobile Ad – hoc networks is used for example in Personal Area Networks (PANs, Bluetooth, IEEE 802.15) for military and rescue operation for moving command/ secure canters, solders, firemen and builders. It can also be used for information distribution, internet/intranet hotspots (public transportation), localized advertising, hoping etc. In future there are plans to use in vehicles to avoid congestion and accidents.

International Visits:

- **Singapore:** Attended 7th International Conference on Machine Vision and Application March 12th -14th, 2024.
- **Thailand, Bangkok:** Attended 2nd International Conference on Computational Intelligence and Intelligent Systems 23rd -25th November 2019.
- **China, Shanghai:** Attended IEEE International Conference on Communication (ICC) 2019 during May 20th-24th, 2019 (flagship conference)
- **London, U.K.:** Attended International Conference on Advances in Computing, Communication and Information Technology(CCIT) during June 01st – 02nd, 2014
- **Cairo, Egypt:** Attended 2009 IFIP International Conference on Wireless and optical Communications Networks during April 28th –30th, 2009.

Students Supervised:

Ph.D. Dissertations Graduated:

1. G. Karthik Reddy “Optimal Energy Cooperative Protocol in Green Sustainable IoT Networks” July 2022.
2. R. Jawaharlal “Design of a QoS Constrained Routing framework for Wireless Multimedia Sensor Networks” Dec 2022.
3. P.Srividya “Trust aware Routing for Intrusion detection in WSN, May 2022
4. B. Pavani “Optimal Energy harvesting for multihop routing IoT Networks” July 2023
5. K.V.Subba Reddy “Visual Surveillance of Human Activity under Multiple Views through Machine Learning” Dec 2023.
6. S.Satya Narayana “Development of High Performance Video Transmission Algorithms for Wireless Multimedia Network” Dec 2023.

Current PhD Students	: 6
M.E Theses Graduated	:75
B.E Theses Graduated	: 100

Reviewer for the Journals/Books

1. Springer Nature
2. IEEE Sensor
3. Journal of Institution of Engineers India(IEI)
4. Journal of Communication Networks
5. ACM Transaction

RESEARCH PUBLICATIONS

a) Papers published in International Journals

38

1. **Dr L.Nirmala Devi,Divya Bibi Reddy** “Impact of Interface Trap Charges on the Electrical and Analog/RF Performance of Dual Material Junctionless Tree FETs” Volume 14 Number 03 September 2024 Scope Journal
2. **Dr L.Nirmala Devi,Y.Roji**, “Implementing intelligent-based sparse channel estimation in Multi User-Multiple Input Multiple Output-Orthogonal Frequency Division Multiplexing system with hybridized optimization algorithm” International Journal of Communication system, May 2024, <https://doi.org/10.1002/dac.5817>
3. **Dr.L.Nirmala Devi, Divya Bibi Reddy**” Optimizing Device Dimensions for Dual Material Junction less Tree-FET: A Path to Improved Analog/RF Performance” ECS Journal of Solid State Science and Technology, 2024 13 073003
4. **Dr,L.Nirmala Devi ,Spandan Bandari** “ A multi-Objective Approach for Optimal Target Coverage UAV Placement: Hybrid Heuristic Formulation” Journal of Controls and decisions ,published by Taylor &Francis ,2024
5. **Dr L. Nirmala Devi, A. Chaitanya** “Localization of Defects on PCBs with Diverse Acquisitions” Journal of Image and Graphics Oct 2023 , **Journal of Image and Graphics, Vol. 12, No. 1, 2024**
6. **Dr. L. Nirmala Devi, G. Parameshwar** “Slime Would Based Collaborative Deep Boltzmann Machine for Intrusion Detection Model in Mobile Ad Hoc Network”, SSRG International Journal of Electrical Journal of Electronics Engineering, Vol 10 issue 11,31-38, Nov 2023, Doi:10.14445/23488379/IJEEE-V10111P103
7. **Dr L. Nirmala Devi, G. Parameshwar** “Fire-fly cyclic golden jackle optimization algorithm with wavelet artificial neural network s for blackmailing attack detection in MANETs” International journal of system of systems Engg, doi:10.1504/ijssse.2025.100058971) Scopus indexed with H- index 20, Inderscience Publisher Sep 2023
8. **Dr.L. Nirmala Devi, K.Venkata subba Reddy** “Spatio-Temporal Joint Descriptor for action recognition from skeleton Sequences” Journal of Data Acquisition and Processing,ISSN:1004-9037,DOI:10.5281/zenodo.7923019,2023.
9. **Dr L.Nirmala Devi ,K.Venkata Subba Reddy ,B.Pavani** “Relay-assisted wireless energy harvesting for multihop clustered IoT network” September 2023 Intelligent and Converged Networks 4(3):206-224 Follow journal DOI: 10.23919/ICN.2023.0018
10. **Dr L.Nirmla Devi ,Spandana Bandari** “A Comprehensive Survey: Benefits, Recent Works, Challenges of Optimal UAV Placement for Maximum Target Coverage” DOI: **10.1007/978-981-19-8742-7_58**, February 2023

11. **Dr L.Nirmala Devi ,R.Jawaharlal** “HA2CR: Hierarchical Authentication Assisted Clustered Routing for Wireless Multimedia Sensor Networks” January 2023 [Journal of Communications](#) DOI: [10.12720/jcm.18.1.58-67](https://doi.org/10.12720/jcm.18.1.58-67)
12. **Dr L.Nirmala Devi ,B .Pavani, K.Venkata Subba Reddy** “Energy enhancement and efficient route selection mechanism using H-SWIPT for multi-hop IoT Networks” *Journal of Intelligent and Converged Networks* ,ISSN: 2708-6240,DOI:10.23919/ICN.2022.0013.
13. **Dr.L.NirmalaDevi,K.Venkata Subba Reddy** “View Invariant Spatio-Temporal Descriptor for action recognition from Skeleton Sequences” *IEEE Transactions on ArtificialIntelligence*,October22,ISSN:26914581,<https://doi.org/10.1109/TAI.2022.3213234>.2023
14. **Dr. L. Nirmala Devi, B. Pavani,** “Energy-Constrained route selection mechanism using Hybrid SWIPT for IoT Networks” *International Journal of Intelligent Engineering systems (IJIES)*, Vol.15, No.3, pp.554-565, 2022.
15. **Dr .L.Nirmala Devi ,S.K. Satyanarayana ,Dr A. Nageswar Rao** “MPIGA – Multipath Selection Using Improved Genetic Algorithm” *International Journal of Communication Networks and Information Security* ISSN: 2073-607X, 2076-0930 Volume 14 Issue 1s Year 2022 Page 67:78
16. **Dr.L.Nirmala Devi, Spandana Bandari,** “An optimal UAV height localization for maximum target coverage using improved deer hunting optimization algorithm”,*International Journal of Intelligent Robotics and Applications* volume 6, pages773–790 (2022)
17. **Dr.L.Nirmla Devi ,S.K Satyanarayana,** “A Reliable Link selection and data aggregation Strategy for Wireless Multimedia Networks”,*IEEE Sensors Letters* ,May 2022,ISSN: 2475-1472,<https://doi.org/10.1109/LSSENS.2022.3178756>.
18. **Dr. L. Nirmala Devi, K. VenkataSubbareddy,** “COVID-19 detection through Convolutional Neural Networks and Chest X-Ray images”, *Int. J. Medical Engineering and Informatics*, Vol. 14, No. 4, 2022, pp.336-346.
19. **Dr. L. Nirmala Devi, R. Jawaharlal Rathod,** “Quality and Energy Aware multipath routing in Wireless Multimedia Sensor networks”, *Journal of Communications*, Vol.17, No.8, 2022.
20. **Dr. L. Nirmala Devi, P.Srividya** “Trust Enabled Energy Effective Optimal Framework for detection of intrusions in the network using AI Scheme” *Accepted in Journal of Soft Computing Springer Nature*.
21. **Dr. Nirmala Devi,G. Karthik Reddy,** “Optimal Relay Coil Placement in Magnetic Resonant Coupling based Power Transfer” *IEEE Communication Letters*, Vol.25, No.9, pp.2874-2878, 2021.
22. **Dr.L.Nirmala Devi, A. Nageswra Rao,** “On Maximizing the Coverage and Network Lifetime in Wireless Sensor Networks through Multi-Objective Metaheuristics”*Journal of Institution of Engineers (India): Series B*, Vol.102, pp.111-122, November2020.
23. **Dr.L.Nirmala Devi, A. Nageswra Rao,** “On the Relay Node Placement in WSNs for Lifetime Maximization through Metaheuristics”*Materials Today Proceedings*, October 2020, <https://doi.org/10.1016/j.matpr.2020.09.527>
24. **Dr.L.Nirmala Devi, Putti Srividya** “Multi-Strategic Trust Evaluation for Intrusion Detection in Wireless Sensor Networks” *International Journal of Intelligent Engineering and Systems*, Vol.14, No.2, pp.106-120, 2020.
25. **Dr.L.Nirmala Devi, R. Jawaharlal Rathod,** “Collaborative correlation coding assisted routing algorithm for Wireless Mesh Sensor Networks” *Journal of Critical Reviews*, 7, pp.2907-2918, August 2020.

26. **Dr. L. Nirmala Devi, G. Karthik Reddy** “Scheduling Protocol for throughput maximization in Barrowing-Aided Energy Harvesting System” *IEEE Journal of Networking Letters*, Vol.2, No.4, pp.171-174, 2020.
27. **Dr. Nirmala Devi, A. Nageswra Rao**, “Clustered Relay Node Placement for WSN through Metaheuristics Algorithm” *International Journal of Intelligent Engineering and Systems*, Vol.13, No.6, 67-80,2020.
28. **Dr.L. Nirmala Devi, A. Nageswra Rao**, “Location Aware Relay Node Placement for Energy Constrained Wireless Sensor Networks”, *International Journal of Advanced Trends in Computer Science and Engineering*, Volume 8, No.3, pp.519-526, May - June 2019.
29. **Dr.Nirmala Devi, B. Lasyasri**, “Integration Approaches and Challenges of WSN for IoT” *International Research Journal of Engineering and Technology (IRJET)*, Volume: 05 Issue: 05, 1246-1248, May-2018.
30. **Dr.Nirmala Devi,B. Lasyasri**,“Pulse Based Modulation Techniques for Wireless Nano sensor Networks” *International Journal of Innovative Science and Research Technology*, Volume 3, Issue 4, pp.365-369, April – 2018.
31. **Dr. L. Nirmala Devi, B. Lasyasri**, “Energy Optimization in WSN Using Channel Coding” *World Journal of Engineering Research and Technology WJERT*, Vol. 4, Issue 1, pp.279-288, December 2017.
32. **Dr.L. Nirmala Devi,B.Lasyasri** “Blind Spectrum Sensing Techniques in cognitive Radio networks”, *International Journal of Applied Science, Engineering and Management*, Vol,06, No.4 July 2017, ISSN 2320-3439.
33. **Dr. L. Nirmala Devi, B. Lasyasri**, “Improve the Data Security based on Cluster Method for the Mobile Sink in WSN” *International Journal of Research*, Volume 04 Issue 14, pp.25-30, November 2017.
34. **Dr.Nirmala Devi, B. Lasyasri, B. Ashok Raj**, “A Novel Approach for Efficient LDPC Coding” *International Journal of Advance Research, Ideas and Innovations in Technology (IJARIIT)*, Vol. 3, Issue 3, May 2017.
35. **Dr.L. Nirmala Devi** “Detection of Block hole attack in MANET under AODV Routing Protocol “*International Journal of Computer Network and Wireless Communication(IJCNWC)*, ISSN:2250-3501 Vol.5 No2, April 2015.
36. **Dr. L. Nirmala Devi** “Implementation of SDR-based high frequency range OFDM transceiver for Dedicated Short Range Communication” *International Journal of Advanced Research in Computer and Communication Engineering*,Vol. 4, Issue 11, November 2015.
37. **Nirmala Devi, Dr. V.M.PandhariPande**, “Reduction of Blocking Probability in Shared protected optical network” *International journal of Computer science and information technology (IJCSIT)*, Vol-3, No.4, page no139-144, August 2011.
38. **L. Nirmala Devi, Dr. V.M.PandhariPande**, “Traffic Grooming in WDM Networks with Path Protection” *International journal of Distributed and Parallel system (IJDPSS)*, Vol-2, No.4,pp.43-52, July 2011.

b) Papers published in National and international Conference Proceedings

28

1. Dr L.Nirmala Devi ,Dr A.Nageswar Rao & Vijayender Reddy “A Novel Reliable Routing protocol for MANETs” *IEEE International Conference on Advanced Networks and Telecommunications Systems (IEEE ANTS)2024*, at IIT Gawathi during December-15th -18th 2024 Accepted
2. Dr L.Nirmala Devi,Dr A .Nageswar Rao “Modulated Convolutional Neural Network for Radio Link Failure Prediction in 5G” *IEEE Future Networks World Forum* during October 2024 at Dubai,UAE.

3. Dr L.Nirmala Devi “A Novel Autonomous Bird Deterrent System for Crop Protection using Drones” 2nd International Conference on Agriculture centric computataion during 21sr -24th May by IIT Roper & IIIT Delhi.
4. **Dr L.Nirmala Devi, and K.V subba Reddy** “View Stabilized Skeleton Joint Descriptor and ResNet for HAR from Skeleton Joints” Feb 2024 National Conference on Communication , DOI: 10.1109/NCC60321.2024.10485715
5. **Dr L.Nirmala Devi,N.Srinivas Naik ,Athota Kavitha, and B, Vijender Reddy** “DAGE: A Deviation Assessment-Based Grey-Hole Detection Method for Ad Hoc Wireless Networks” International Conference on Next Generation Systems and Networks July 2023
6. **Dr L.Nirmala Devi ,P,Srividya,** “Wild Animal Detection using a Machine Learning Approach and Alerting using LoRa Communication , Conference: 2022 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON) DOI: 10.1109/SMARTGENCON56628.2022.10083577
7. **Dr. L.Nirmala Devi** “Fine Grained Survey Over Intrusion Detection In Wireless Sensor Networks “*Accepted for in International Conference on Mobile Networks and Wireless Communications (ICMNBC - 2021)* conference, Tumakuru, India, December 3-4, 2021.
8. **Dr. L. Nirmala Devi, A. Nageswar Rao,** "Trust and Packet Loss Aware Routing (TPLAR) for Intrusion Detection in WSNs," *2020 12th International Conference on Computational Intelligence and Communication Networks (CICN)*, 2020, pp. 386-391.
9. **Dr.L.Nirmala Devi,** “An IoT Based Vehicular pollution monitoring System for Auto mobile a Review”*2nd International Conference on Computational Intelligence and Intelligent Systems*,Bnagkok,Thailand, 23rd -25th November 2019.
10. **Dr. L.Nirmala Devi, Deepak Mishra, Poonam Lohan** “Coverage-ConstrainedUtilityMaximizationofUAV” *IEEE ICC 2019,Shanghai, china*, May 20th-24th, 2019 (**flagship conference**).
11. **Dr. L. Nirmala Devi, K. Venkatasubbareddy**“Secure and composite Routing strategy through clustering in WSN” *IEEE IESC 2019*, NIT Meghalaya, Shillong, March 1st -2nd, 2019.
12. **Dr. L. Nirmala Devi, G.Karthik Reddy, A.Nageswar Rao** “Live Demonstration on Smart Water Quality Monitoring System using Wireless Sensor Networks” *IEEE sensors 2018*, New Delhi on Oct. 28th -31th, 2018(**flagship conference**).
13. **Dr. L.Nirmala Devi, G.Karthik Reddy,** “Optimization of Distributed energy efficient Clustering variants for enhancing lifetime in Wireless sensor Networks” *Proc. of Springer International Conference on Computer networks and Inventive Communication Technologies (ICCNCT 2018)*,Coimbatore, April 26th -27th, 2018.
14. **Dr. L.Nirmala Devi, G.Karthik Reddy,** “A Review on Clustering Protocols with Energy heterogeneity in Wireless Sensor Networks” *Proc. of IEEE International Conference on Communication, Computing and Internet of things*, Chennai, February 15th -17th, 2018.
15. **Dr. L.Nirmala Devi, G.Karthik Reddy,** “A clustering with Energy Heterogeneity in Wireless sensor Networks” *Proc. of 105th Indian Science Congress2018*,Manipur University, Imphal, March 16-20, 2018.
16. **Dr.L.Nirmala Devi,** “Investigations on LEACH, Hetro-LEACH,SEP and NHSEP Routing protocols in WSN”, International conference, Zürich, Switzerland, 1st -3rd Sept 2017.
17. **Dr.L.Nirmala Devi,** “ performance Analysis of communication Link using different channel modeling techniques for train collision Avoidance System” *International*

- Conference on Imaging ,Signal Processing and Communication(ICISPC 2017)*, Penang, Malaysia during July 26-28,2017
18. **Dr.L.Nirmala Devi**, “Optimization of Energy in Wireless Sensor Networks using clustering Techniques” *IEEE International Conference on ‘Communication and Electronics Systems (ICCES 2016)’* October 21 – 22nd ,2016 Coimbatore, India
 19. **Dr.L.Nirmala Devi**, “Enhancement of Clustering protocol for wireless sensor networks”, *International Conference on ‘Wireless Communications, Signal Processing & Networking (WiSPNET 2016)’* March 23rd -25th 2016, Chennai, Tamil Nadu, India
 20. **Dr.L.Nirmala Devi**, “Detection and Prevention of Block hole attack in Mobile Ad hoc Networks” *3rd International Conference on ‘Computing, Communication and Sensor Network’*, Puri, Odisha, India, December, 12-14th, 2014.
 21. **Dr.L.Nirmala Devi** “Effect of Wormhole Attack on DSR Routing Protocol in Mobile Ad Hoc Networks" *3rd International Conference on Computer Applications and Advanced Communications (ICCAAC 2014)*, Hyderabad, India on December 08, 2014.
 22. **Dr.L.Nirmala Devi**, “investigations on routing protocols in mobile grid environment”*International conference in advances in computing ,communications and information technology(CCIT 2014)*, west minister university London, UK during June 1 – 2, 2014
 23. **Dr. L.Nirmala Devi**, “Bi-directional pumping scheme on distributed Raman amplifier over 4*4 GB/S WDM transmission system with optical phase conjunction” *3rd international conference on wireless and optical communications (ICWOC-2014)*, May 24-26, 2014, Singapore.
 24. **L.Nirmala Devi**, “performance analysis of reactive proactive routing protocols in MANETS”,*National conference on wireless communication systems (NCWCS'14)*”, Madurai, during 18-19th April, 2014
 25. **L.Nirmala Devi**, “A new and efficient algorithms for the removal of high density salt and pepper noise in images and videos” 4th-5th October 2013 at Munnar, Kerala, India
 26. **L. Nirmala Devi, Dr. V.M.PandhariPande**, “Protecting Multicast session in optical networks” *World conference on advances in communications & Control systems*, 6th - 8th April 2013 at DIT University Dehradun.
 27. **L. Nirmala Devi, Dr. V.M.PandhariPande**, “The Protection Technology and its Applications in survivable WDM Networks”*IEEE -INDICOM-2011*,BITS Hyderabad, December 2011
 28. **L. Nirmala Devi, Dr. V.M.PandhariPande**”,An efficient voice over internet telephone call network model for analyzing a dynamic behavior of the telephone calls *Proc. of the International Conference on Aerospace electronics, Communications and Instrumentation (ASECI-2010)*, January 6-7, 2010, Vijayawada.
 29. **L. Nirmala Devi , Dr. V.M.PandhariPande**, “Survivable and protection of multihop WDM networks against single link failure ” *Proc. of WOCN'09 Proceedings of the Sixth IEEE international conference on Wireless and Optical Communications Networks*, April 28-30, 2009, Cairo, Egypt.
 30. **L. Nirmala Devi T. Sudarshanam, B. P. Singh**, “Wavelet analysis of ultra-high frequency signal generated due to partial discharge in transformer” *Proc. of RACE*, December 2008, OUCE Hyderabad.
 31. **L. Nirmala Devi, A Nageshwar Rao**, “Transmission Characteristics of Linear and Nonlinear Fiber Optics Communication” *Proc. of XXXIII Optical Society of India (OSI) Symposium 2007*, Tezpur, Assam during December 18-20, 2007.

Courses organized and coordinated:

07

- 1) Intensive course on Advances in signal processing during 5-6 December, 2008 by Dr.K.Subba Rao and L.Nirmala Devi
- 2) Intensive course on Advances in Wireless Communication during 29th December 2007 by Dr.K.subbarao ,L.Nirmala Devi
- 3) A Work shop on “Automatic speech reorganization and synthesis” from June 10th -22nd 2014 at Department of Electronics and Communication Engineering,Osmania University, by Dr.Nirmala Devi and Dr.P.Laxminarayana
- 4) A GIAN Course “Theory and Application of correlation filters for computer vision” during 13th November to 17th November 2017 by **Prof .Vijay Kumar Bhagavathula Carnegie Mellon University, Pittsburg, Pennsylvania USA.**
- 5) A GIAN Course “Oppurtunities,Challenges and Research Trends in Wireless Sensor Networks 11th December to 15th December 2017 by **Prof. Mahbub Hassan ,University of New South Wales, Sydney, Australia.**
- 6) OU centenary conference on “Learning from past and Marching towards future” during 29th to 30th December,2017 in dept. of ECE, Osmania University, Hyderabad
- 7) A workshop on “Recent Innovations in Cognitive Radio and software Defined Radio” on 29th December, 2018 in dept. of ECE, Osmania University, Hyderabad

International Courses organized and coordinated

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- 1) A GIAN Course “Theory and Application of correlation filters for computer vision” during 13th November to 17th November 2017 by **Prof .Vijay Kumar Bhagavathula Carnegie Mellon University, Pittsburg, Pennsylvania USA.**
- 2) A GIAN Course “Oppurtunities,Challenges and Research Trends in Wireless Sensor Networks 11th December to 15th December 2017 by **Prof. Mahbub Hassan,University of New South Wales, Sydney, Australia.**

Workshops attended

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1. Powerful tools and techniques for ECE Teachers employing micro teaching at Srinidhi institute of science and Technology Hyderabad during 31-05-04 to 11-06-04
2. Instructional design and delivery at CMR College of Engineering Hyderabad CMR College of Engineering Hyderabad during 15-07-05 to 20-07-05
3. Orientation program at OUCIP(O.U) during 02-07-07 to 12-07-07
4. UGC Sponsored orientation Course during 25-06-08 to 23-07-08 Academic Staff College Osmania University
5. TENCON 2008-Microwave Workshop at IEEE Hyderabad section during 18th Nov 2008
6. Latest trends in video Processing a new direction for research at New Horizon college of Engineering Bangalore during 07-03-08 to 8-03-08
7. Mission10X at M/s Wipro Technologies Hyderabad during 28-04-08 to 02-05-08
8. Short term course on Fiber optics Systems and applications from 16th March 2009 to 20th march 2009 at NITTTR Chandigarh
9. Short term Course on “Telecommunication networks with state-of-the Art Hands-on Experiments” at IIT Kharagpur during 20-06-11 to 27-06-11
10. Short term Course on “Speech Signal Processing” at NEERTU O.U.Hydearabd 18th -24th November 2012.
11. Short term course on “Pedagogical training at NITTR Chandigarh 19th December to 24th December 2013.
12. Workshop on “Software Defined Radio” during 27th to 29th August 2014 at NIT Surat Gujarat.

13. Work shop on “Design innovation and Creative Problem solving” at IIT Hyderabad during 15th to 17th January 2015
14. Work shop on “21st Century Engineer” during 27th-28th May 2015 at IIT Hyderabad
15. Work shop on ‘Large-scale wireless sensor networks’ at AmrithaVishwaVidhyaPeetham University, Kerala during 29thJun to 1st July, 2015.
16. Awareness workshop on outcome-based education and accreditation at JNTU, Kukatpally 11th Sept, 2015.
17. Short term course on ‘Emerging Trends in Mobile Communication’ during 2nd-7th May, 2016 at NIT, Goa.
18. Short term Course on “Wireless Networks” at NITTTR Chandigarh during 22-05-2017 to 26-05-2017
19. TEQIP Workshop on “Nanomaterials Based Low Cost Sensor Design for applications in IoT (Internet of Things)” at IIT Hyderabad during 02-04-2018 to 06-04-2018.
20. Faculty Development Program on “Artificial Intelligence” Under AICTE Training and Learning (ATAL) Academy during 8th to 12th Feb 2020 at IIIT Naya Raipur.
21. TEQIP Workshop on “Essential Mathematics for Machine Learning with hands on training” at IIT Roorkee, during 23rd -27th November 2020.
22. TEQIP-III attended a professional development training program for faculty by IIM Vishakhapatnam on “building institutions for future” during 9th -11th February 2021
23. Introductory Course on Internet of Things (IoT) 6th -10th August 2022, TIH-IoT, IIT Bombay
24. Attended 38th National Convention of Electronics and Telecommunication Engineers ,IEI India Kochi Local Center ,India October 27th- 28th October 2023.

Workshops Conducted

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1. Conducted a one week FDP on “Artificial Intelligence and Machine Learning using Python” by Dept of ECE OUCE & Sponsored by E&ICT Academy(MeiTY) –NIT Warangal during 13th -18th December 2021
2. Skill development progrme “ Drones in Agriculture” ECE department in association with TiHAN IIT-Hyderabad 1st -2nd September 2023.
3. Drone Technology Workshop as a part of skill development progreme by ECE Departmet in association with TiHAN –IIT Hyderabad during 3rd May 2024

Invited talks

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1. All Optical networks faculty development programs at NITTTR Hyderabad on 29th October 2009
2. Digital Communication Hands on Training at Astra Microwave Hyderabad on 15th June 2009
3. Delivered a Lecture on “Challenges in Mobile Adhoc Network at Greenwich University London on June 3rd 2014
4. Delivered a lecture on “Women Empowerment at National Conference on Prospective of Women in multi-disciplinary areas” at JNTUH, Jagityal on March 10th 2015
5. Delivered a Lecture in National Workshop on Wireless sensor Networks and its application” on 4th to 9th May 2015 at Dept of ECE, JNTUH College of Engineering.
6. Delivered a Lecture in National Workshop in Advanced Digital Communications on “opportunistic Communication” on July 30th 2015 at Dept of ECE, JNTUH College of Engineering.
7. Delivered a Lecture on “Overview of Wireless Sensor Networks” at Aurora’s Technological Research institute on 6th October 2015.

8. Delivered a Lecture on “Communication Receivers” at University College of Engineering, Mahatma Gandhi University, Nalagonda, on 11th November 2015.
9. Delivered a Lecture on “Wavelength Routing in Optical Networks” at NITTTR Hyderabad on 2nd February 2016.
10. Delivered a Lecture in Faculty Development Programme (FDP) on “Advanced Communication Systems” on 28th June 2016 at NITTTR, Hyderabad.
11. Delivered a Lecture in Faculty Development Program on Signal Processing in RADAR Applications at NITTTR Masab Tank, Hyderabad on 29th august 2016
12. Delivered a Lecture in Analog Receivers at SVIT, Secunderabad on April, 2017
13. Delivered a Lecture on “Architecture and Standards of Cognitive Radio” in one day workshop on Recent Innovations in Cognitive Radio and Software Defined Radio at Dept. of ECE ,Osmania University, Hyderabad during 29th December 2018.
14. Delivered a Lecture in Faculty Development Program(FDP) on “ **All Optical Networks and its applications**” at NITTTR Masab Tank, Hyderabad on 9th august 2019
15. Delivered a Lecture on “**Architecture of WSN**” in one week STTP on “Ubiquitous computing and Wireless Sensor Network” at Jaipur during 17th September 2019.
16. Delivered a Lecture on “**Wireless Sensor Networks and IoT**” in FDP on Wireless Sensor Networks and internet of things under Equity Action Plan, TEQIP-III, during 12th -14th December 2019 organized by CVR College of Engineering.
17. Delivered a Lecture on “**Research Challenges in Wireless Networks**” in the one Week AICTE sponsored STTP on Advance Analysis of Wireless Communication and Soft Computing during January 27, 2020 at CMR College of Engineering, Hyderabad.
18. Delivered a webinar on “**Wireless Sensor Networks and its Applications**” conducted by IEEE Signal processing Society, during 29th April 2020, Hyderabad.
19. Delivered a webinar on “**A Networking prospective towards Wireless Sensor Networks**” conducted by IEEE Communication Society, during 20th June 2020, Hyderabad.
20. Delivered a Lecture on “Security in IoT” at AICTE sponsored one week STTP during 14th -19th December 2020 at ACE College of Engineering, Hyderabad.
21. Delivered a lecture on “Security issues in Artificial Intelligence” AICTE Sponsored Two Week Online Faculty Development Programme (FDP) on “Implementation of Artificial Intelligence for Solving Digital Signal and Image Processing Problems” on November – December 2020
22. Delivered a lecture at AISCTE-ISTE Sponsored refreshes program on “Opportunity Challenges and research trends in Wireless Communications during 12th -18th March 2021 by Gurunanak institutions
23. Delivered a lecture at AISCTE-ISTE Sponsored refreshes program on “Opportunity Challenges and research trends in Wireless Communications during 20th -22th April 2021 by Gurunanak institutions
24. Delivered a lecture at Nawab Sha Alam Engineering College on “Overview of Wireless Sensor Network and security issues in WSN” during 10th June 2021.
25. Session Speaker for FDP under AICTE ATAL Scheme on “Advances in Electronics and Communication Engineering for Industries” during 26th July 2021 to 30th July 2021.at Gurunanak Institution Technical Campus ,Hyderabad,Telanagana.
26. Delivered a lecture at Lords Institute of Technology on “Signals and Systems an overview during 18th September 2021.
27. Delivered a Guest lecturer at Kommuri Pratap Reddy Institute of Technology, Ghatkesar.Hyderabad, Telangana. On “Designing of Finite Impulse Response Filter using Windows Techniques” on 4th July 2022.
28. Delivered a lecture at Regional Center for Urban &Environmental Studies Osmania University, Hyderabad on “Water Quality Monitoring System Using IoT” two day

- training program on 24X7 Water Supply issues and challenges in Telangana during 24th-26th Feb 2023
29. Delivered a lecture at Gurunank Institution Technical Campus ,Hyderabad,Telanagana on “Recent Trends in the Industrial Internet of Things(IIoT) in 5G Environment” supported by SERB –DST during August 21st -23rd 2023.
 30. Delivered a Expert Talk on “UAV in Disaster Management” at JNTU College of Engineering,JNTUH ,Hyderabad during IEEE GRSS Summer School dated 7th August 2024
 31. Delivered a lecture at Gurunank Institution Technical Campus ,Hyderabad,Telanagana,AICTE Sponsored ATAL FDP on “Design Thinking and Innovation on Embedded Systems with Industrial IoT using Block chain” during 9th-14th September 2024.

Teaching Strengths and Lab Development (Academic and Planning)

Subjects Taught / Developed

Subject	Level
• Electronics Devises and Circuits	UG
• <i>Basic Circuit Analysis</i>	UG
• <i>Signals and systems</i>	UG
• <i>Probability Theory and stochastic process</i>	UG
• <i>Digital signal processing</i>	UG
• Analog communications	UG
• <i>Data and Computer Communication</i>	UG
• Voice over Internet protocol(VoIP)	PG
• Software Defined Radio	PG
• <i>optical communication</i>	PG
• <i>wireless Communication</i>	PG
• <i>Computer networks</i>	PG
• <i>Wireless Sensor Networks</i>	PG
• Adaptive signal processing	PG
• Engineering Research Methodology	PG
• Mobile Adhoc Sensor Networks	PG
• Artificial Intelligence and Machine Learning	PG
• Internet of Things (IoT)	PG

Laboratory Development:

- *Networks Laboratory*
- *Basic Circuit Lab*
- *Analog and Digital Communication lab*
- *DSP Lab, SSP Lab*
- *Advanced Communication lab*

Membership in Professional Organisations:

- Member :IEEE
- Fellow : IEI Fellow Member

- Corporate Member :Fellow IETE
- Member :*Optical society of India(OSI)*
- Member : IEEE women in Engineering (WIE)

(Prof.L. Nirmala Devi)