FACULTY PROFILE

Dr.AL.VALLIKANNU, M.E, Ph.D
Associate Professor & HoD - ECE
School of Electrical Sciences
Hindustan Institute of Technology and Science
Mail ID: abiuma2008@gmail.com, vallikannu@hindustanuniv.ac.in

EXPERIENCE: 20 years 6 months

RESEARCH INTERESTS:

Mobile Adhoc Networks, Wireless Sensor Networks, Wireless Embedded Networking, IoT

RECENT PUBLICATIONS:

Publications of articles in National and International Journals

1. Kavitha, BC. and Vallikannu, R. (2020), "Detection and Prediction of Faults in Industry using IoT Based SELF-TEL Architecture", International Journal of Solid State Technology., 63(5): 1052-1065, Nov 2020.
2. K.Sakthidasan, Aby K Thomas, P Thirumarai Selvan, Vallikannu R, " Autonomous prediction of Hazardous Gas Leakage using Machine Learning Technique and Wireless Sensor Networks" *Journal of Green Engineering,* Vol.10, Issue: 7, July 2020.
3. P.Mahalakshmi, Vallikannu R, "Design of Rat-Race based Retro-directive Arrays For sub 6GHzband" *Journal of Critical Reviews*, Vol.7, Issue-5, pp. 1503-1512, 2020
4. Meenakshi B, S Shrividya, Vallikannu R and Anukumari " Design of safety control for Gas turbine using PLC and SCADA" *Journal of Test Engineering and Management,* Vol. 83, pp. 12653 – 12662, April 2020.
5. Vallikannu R, Venkatesh Kanna T, Vimala Rani G, Sakthidasan K, "An optimized assistive Epileptic seizure detection system for human environmental conscientiousness" *Journal of Green Engineering,* Vol.10, Issue: 1, February 2020.
6. BC.Kavitha, Vallikannu R, Sakthidasan K, "Delay-aware concurrent data management method for IoT collaborative Edge Computing Environment "*Journal of Microprocessor and Systems,* Vol.9 , Issue.2, pp. 167-174, January 2020.

7. V.Kanpur Rani, Vallikannu R, K.Sakthidasan, "Effect of Vehicle Pollution on Urban Areas and Various Corrective Measures" *Journal of Green Engineering (JGE),* Vol.9 , Issue.2, pp. 167-174, August 2019.

8. Aby K Thomas, Vallikannu R , Sai Advait Narayanan, "Minimizing the Energy Consumption of WSN by using Modified Hybrid Energy Efficient Distributed (Modified HEED) Clustering Protocol" *International Journal of Engineering & Technology (UAE),* Vol.7, issue 3.24, pp. 758-763, 2018.

9. Kavitha BC, Vallikannu R,"The Internet of Things Model Architectures for Customized Applications: A Review" *International Journal of Simulation, System, Science and Technology,* Vol. 19, issue.6, pp.32.1 -32.6, 2018, DOI: 10.5013/IJSSST.a.19.06.32

10. Punithavathy K, Vallikannu R, Niveditha S, "Computer Vision Based Pothole Detection and Notification" *International Journal of Engineering & Technology (UAE),* Vol.7, issue 2.34, pp.353-355, Dec 2018, DOI:10.14419/ijet.v7i3.24.22684

11. Venkatesh Kanna T, Vallikannu R, "Epileptic Seizure Detection from EEG signals by Adaptive Wavelets and Support Vector Machine"*International Journal of Engineering & Technology (UAE),* Vol.7, issue 4.36, pp. 247-253,Dec 2018.

12. V.kanpur Rani and AL.Vallikannu , "A pollution monitoring system for Vehicles in smart city" *International Journal of Civil Engineering and Technology (IJCIET),* Volume 9, Issue 11, November 2018, pp. 3059–3065, November 2018.

13. Venkatesh Kanna T, Vallikannu R , "Analysis of Translation Invariant Wavelet Transform for Epileptic Seizure Detection Using Support Vector Machine" *Indian Journal of Public Health Research & Development,* Vo.9(8), pp.No.1609 – 1611, August 2018, DOI: 10.5958/0976-5506.2018.00763.5.

14. Venkatesh Kanna T, Vallikannu R, "Anlaysis of EEG Signal Classification Using Dual Tree M Band Wavelet Transform"*Journal of Advanced Research in Dynamical and Control Systems,*Vol. 9. Sp– 18 / 2017, pp. 2291 -2301.

15. Nuzhat Fathima , P.Ramesh , A.L.Vallikannu " Energy Aware Dynamic Slack Allocation for Multiprocessor System" *International Journal of Innovative Research in Science, Engineering and Technology,* Vol. 6, Issue 5, pp. 7476 – 7483, May 2017, ISSN(Online) : 2319-8753.

16. P. Mohanappriya, AL. Vallikannu, "Design and Implementation of Energy Efficienct Worn Architecture in BAN Using IoT", *International Journal of Informative and Futuristic Research,* Vol.4(8), April 2017.

17. Vallikannu R, A George , S.K.Srivatsa, "Dynamic and Secure Joint Routing and Charging Scheme with Mobile Power Back Ferry Nodes in Mobile Adhoc Networks" *International Journal of Science and Technology, Vol 9(33), DOI: 10.17485/ijst/2016/v9i33/99592, September 2016.*

18. Bennilo Fernandes, AL Vallikannu,"A PIC Based Energy Balanced Routing For Wireless Sensor Networks"*International Journal of Applied Engineering Research, ISSN 0973-4562 Vol. 10 No.77 (2015),*(Scopus Indexed).

19. Vallikannu R, A George, S.K.Srivatsa, "Performance Analysis of Autonomous Location Based Energy Efficient ACO Routing Protocol with dissimilar MANET Mobility Models" *ARPN Journal of Engineering and Applied Sciences, VOL. 10, NO. 4, MARCH 2015, pp.no.1804-1809*(Scopus Indexed).

20. Vallikannu R, A George, S.K Srivatsa "*Autonomous Localization based Energy Saving Mechanism in Indoor MANETs using ACO" Journal of Discrete Algorithms, (Elsevier), 2015, Vol. 33, pp. 19-30.* (Scopus Indexed). DX.DOI.ORG/10.1016/J.JDA.2014.11.001

Paper Presentation in International and National Conferences:

1. V Kanpur Rani, AL Vallikannu, "An analysis of Air Quality by Vehicular Exhaustness" in the proceedings of 2nd International Conference on Communication, Computing and Electronics Systems, October 2020, Coimbatore (Springer Published Conference)
2. Kavitha, BC. , Vallikannu, R., "IoT Assisted Predictive Maintenance & Worker Safety : An Initiative", 5th International Conference on Information and Communication Technology for Competitive Strategies (ICTCS 2020), Jaipur, India, 2020.
3. Vallikannu R, Venkata Subash "Automated Rocker Rover for Terrain Surface Surveillance" in proceedings of 4th International Conference on Micro-electronicsand Tele communication Engineering, SRM University, Gazhiabad, September 2020. (Springer LNSS book series indexed)
4. Kavitha.B.C and Valikannu R, **"IoT Based Intelligent Industry Monitoring System using Raspberry-Pi",**in proceedings of 6th International Conference on Signal Processing and Integrated Networks SPIN 2019, March 2019, Amity University, Noida.
5. Vallikannu R, Punithavathy Mohan, Kavitha BC, Sai Advait Narayanan, "**Reviewing the performance and quality of service of Satellite Communication and proposing the use of Multi Carrier CDMA and Speed Tracking Feature**" in proceedings of International Conference on Robotics, Automation and Non-destructive evaluation (RANE 2018), July 19 & 20 2018.
6. Kavitha BC, Deepa Jose, Vallikannu R, "IoT Based Pollution Monitoring System Using Raspberry–Pi" in proceedings of International Conference on Innovations and discoveries in Science, Engineering and Technology, April 2018, KCG college of Technology, Chennai.
7. Babu I .DeepaJose ,Vallikannu R, " Novel steganography system using MIMO for remote voice data interchanges" in proceedings of International Conference on Innovations and discoveries in Science, Engineering and Technology, 17th & 18th April 2018.
8. Punithavathy K, Vallikannu R, Mithilesh , "Bone tumor detection using Segmentation technique" in proceedings of International Conference on Robotics, Automation and Non-destructive evaluation (RANE 2018), July 19 & 20 2018.
9. BC Kavitha, Vallikannu R "IoT Assisted worker safety: An Initiative", in proceedings of 12th International Conference on Intelligent Systems and Control (ISCO'18), January 2018, Karpagam College of Engineering, Coimbatore.
10. BC.Kavitha and Vallikannu R "The Internet of Things Model Architectures for Customized Applications: A Review", in proceedings of IETE 60th Annual Convention, 2017, Cochin. (Best paper Award- 3rd Prize).
11. Binu R, Samuel Verghese and Vallikannu R, "Performance Optimization of Erbium Ytterbium Co Doped Fiber for High Power Amplifiers" in proceedings of IETE 60th Annual Convention, 2017, Cochin (Best Paper Award – 2nd Prize) submitted to IETE Journal of Research.
12. Vallikannu R, BC.Kavitha, Punithavathy Mohan, "Mobile Cluster Based Relay Reconfiguration Routing Protocol for Mobile Adhoc Networks" in proceedings of National Conference on Intelligent Information Systems, February 2017.
13. Punithavathy K, Vallikannu AL" Advanced Automobile Security System using IoT " National Conference on Intelligent Information Systems, pp. 3, February 2017.
14. BC Kavitha, Vallikannu R "Enhancement of Industrial Safety Using IoT", in proceedings of 1st International Conference on Advanced Technologies in Engineering, Management and Sciences-(ICATEMS'17), November 2017, Golden Valley Integrated Campus, Madanapalle, AP.
15. . RincyJuliet, R. Vallikannu and B. C. Kavitha, "A novel design of hybrid microwave bandpass filter using lumped element and microstrip line technology," 2017 IEEE

International Conference on Intelligent Computing and Control (I2C2), Coimbatore, India, 2017, pp. 1-4. doi: 10.1109/I2C2.2017.8321876. (Scopus Indexed)

16. Krishna Chaitanya, Lohith, Sheetal, AL. vallikannu ' IoT based wireless display using Wi-Fi IEEE 802.11" in proceedings of National Conference on Intelligent Information Systems, pp. 23, February 2017.

17. Vallikannu R, A. George and S.K.Srivatsa, "Routing and Charging Scheme with Ferry Nodes in Mobile Adhoc Networks", in proceedings of 3rd IEEE sponsored International conference on Innovations in Information, Embedded and Communication Systems, Coimbatore, March 2016, Vol.5, pp.127-129. (Scopus Indexed)

18. Bennilo Fernandes and AL.Vallikannu "Advanced Energy Balanced Routing Method with Energy Optimization for Wireless Sensor Networks", in proceedings of IEEE Sponsored 2nd International conference on Innovations in Information, Embedded and Communication Systems (ICIIECS'15), Coimbatore, March, 2015.

19. Kolusu Nagesh and AL.Vallikannu, "Observation Robot with Automatic Docking System in Industrial Security" in proceedings of International Conference on Computing, Renewable Energy & Communication (CESCON), Chennai, April 2015.

20. Vallikannu R, A. George and S.K.Srivatsa, "A Novel Energy Consumption Model using Residual Energy Based Mobile Agent Selection Scheme (REMA) in MANETs", in proceedings of 2nd IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Noida, New Delhi, pp. 334-339, February 2015, DOI: 10.1109/ SPIN.2015.7095410. (Scopus Indexed).

21. Vallikannu R, A. George and S.K.Srivatsa, "Performance Analysis of Energy Efficient Location Based ACO Routing Algorithm for Mobile Ad Hoc Networks using BonnMotion Mobility Models", in proceedings of IEEE Sponsored 9th International Conference on Intelligent Systems and Control (ISCO), Coimbatore, Vol.3, pp. 816-821, 2015.

PUBLICATIONS OF BOOKS

"Measurements and Instrumentation "-Charulatha Publications, December2003.

"Transmission Lines and Networks "- CharulathaPublications, July2004.

PATENTS

1. TITLE: WIFI INFO DISSEMINATOR, Application Number: 201941027805, Status: Published
2. TITLE: Secured Intelligent Vehicular Systems using Wireless Sensor Networks Application Number: 202041034715A, 4/9/2020 Status: Published

HONORS AND AWARDS

➢ **Encouragement Award** – Hindustan University.
➢ **Dr.APJ Abdul Kalam Award for Innovative Research**- by SEEE society.