Department of Biomedical Engineering

Name	*Dr.A.Narendrakumar*	
Date of Birth	03.06.1978	
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Educational Qualifications	*B.E.,M.E.,Ph.D*	
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Experience	Industry	Teaching	Others	Total
		19Yrs	-	19 yrs

Date of Joining the Institution	06.12.2024
Area of Specialization	*Wireless Sensor Systems*
Courses taught	Semi conductor devices and circuits, Biomedical Instrumentation, Embedded Systems and IoMT, Artificial Intelligence, Machine Learning Techniques, Wearable Devices
Research Focus	Cognitive Science and Technology, Machine Vision and Energy Harvesting Techniques
Research guidance (Number of Scholars)	*Nil*
Subject Competency	Biomedical Image Analysis,Wireless Networks,Medical Sensors and Transducers

No. of papers published	National Journals	International Journals	Conferences
		13	*19*

PG Specialization	Digital Communication and Network Engineering
Ph.D. Specialization	*Wireless Sensor Systems*
Projects Carried out	*Nil*
Patents (Filed & Granted)	***Published***
Technology Transfer	
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	Published

Academic Credentials

Level	Degree	Specialization	University	Year of Completion
UG	B.E	Instrumentation & Control Engineering	Madurai Kamaraj University, Madurai.	April 1999
PG	M.E	Digital Communication and Network Engineering	Anna University, Chennai	May 2004
Ph.D	Ph.D	Information Communication & Engineering	Anna University, Chennai	2015

Details of Journal Publication:

1. A. Narendrakumar, David Neels Ponkumar," A WSN-Based Correlation Assessment for A Multitarget Recognition Protection System's Sleep Scheduling Mechanism",
   Eur. Chem. Bull. 2023,12(8), 2672-2684 [**SCOPUS**]

2. Narendra Kumar A, Dhineshbabu N R, Vettumperumal Rajapandi, Sundaramoorthy Arunmetha, Satturappa Ravisekaran Srither, "Naturally Derived FeTiO3 Nanoparticles: Analysis of Optical Properties" Journal of Materials Science: Materials in Electronics **(2020), Springer Publications. [IF:2.478] (SCOPUS &Science Citation Index)**

3. A. Narendrakumar, Karthipan R "Improved Cyclostationary Detection based Spectrum Sensing Technique in Cognitive Radio Networks" **International Journal of Recent Trends in Engineering&** Research, Special Issue; March - 2019 pp 514- 525, ISSN: 2455-1457

4. A. Narendrakumar, Karthikeyan A "Self-Adaptive Energy Efficient Data Collection in Wireless Sensor Networks" **International Journal of Recent Trends in Engineering & Research,** Special Issue; March - 2019 pp 505-513, ISSN: 2455- 1457.

5. A. Narendrakumar, S. Beulah Evangeline," Implementation of Space-Time Block Codes for Minimizing the Error Rate in Cognitive Radio Networks", **International Journal of Scientific & Engineering Research,** Volume 8, Issue 2, 2017, ISSN 2229- 5518. [**IF 4.2]**

6. A. Narendrakumar, S. Beulah Evangeline," Energy Efficient Techniques in Cognitive Radio Networks", **Journal of Network Communications and Emerging Technologies**, Vol. 7, ISSN:2395- 5317 Issue 7, July 2017**(UGC Approved Journal).**

7. N. R. Dhineshbabu, R. Vettumperumal, A. Narendrakumar, M. Manimala, and R. Rajesh Kanna "Optical Properties of Lanthanum-Doped Copper Spinel Ferrites Nanoparticles for Optoelectronic Applications" **Advanced Science, Engineering and Medicine**, Vol. 9, 377-383 (7), 2017

8. A. Narendrakumar, M. Augusta Angel", Improving System Performance By Using Prefix Adders In RNS", **ICTACT Journal On Microelectronics**, ISSN: 2395- 1680, vol 2, no.3,2016, pp. 261-264.

9. A.Narendrakumar,K.Thyagarajah," An Enhanced Energy Efficient Trust Management FHQLSR Algorithm in Wireless Sensor Network", **Pen see Journal**, Issn:0031- 773, Vol. 76, issue no 1, Jan 2014 .

10. A.Narendrakumar, K.Thyagarajah," Enhancing Wireless Sensor Network Routing by High-Quality Link Set Cooperative Routing Algorithm", **International Journal on Engineering and Technology**, ISSN 0975-4024, Vol 5, no.5, Nov 2013,pp 4085- 4092 .,[**IF: 0.178].Scopus**.

11. A. Narendrakumar, K.Thyagarajah," Cooperative Fuzzy based High Quality Link Routing in Wireless Sensor Networks", **International Review on Computers and Software**, ISSN 1828- 6003, vol 7,no.6,Nov 2012, pp 2987-2992 . **[IC value: 6.45]. Scopus**

12. A. Narendrakumar, K.Thyagarajah," Report Reduction Cluster communication Approach in Multi hop Sensor Network", **European Journal of Scientific Research**, ISSN 1450- 216x, vol.79, no 4, July 2012,pp607-615.

13. A.Narendrakumar, K.Thyagarajah, K.Thigarajan",A Fuzzy based Approach in Multi- hop Network", **International Journal of Smart Sensors and Adhoc Networks**, ISSN 2248- 9738,vol2,no2,2012,pp. 33-36.

Details of Conference attended:

1. A.Narendrakumar," Implementation Of Embedded Web Server- Wireless Sensor Network Node In Agriculture Weather monitoring System" in International Conference on Transforming Engineering Systems for Sustainability **(TESS-2023) at Taylor's University, KL, Malaysia** – Online Mode dated on 29.11.2023 & 30.11.2023

2. A.Narendrakumar," Automated Arrhythmia Classification using Harris Hawks Optimization with Deep Learning Model on IoT Environment" Proceedings of the 3rd International Conference on Artificial Intelligence and Smart Energy (ICAIS 2023), JCT College of Engineering and Technology, Coimbatore, India. IEEE DVD ISBN: 978-1-6654-6215- 0.**(Scopus Indexed)**

3. A.Narendrakumar," Performance Analysis and Comparison of Improved MFCC with HMM/VQ modelling for Speech Recognition" Proceedings of the International Conference on Computer Communication and Informatics held from 23-25 Jan2023,Sri Shakthi Institute of Engineering and Technology, Coimbatore,India. **(Scopus Indexed)**

4. A.Narendrakumar,R. Karuppusamy", Analysis And Detection Of Autism Machine Learning"7th International Conference on Engineering, Technology and Science held on 31st March 2023 at Muthayammal College of Engineering,Namakkal.

5. A.Narendrakumar, Karthipan R", Energy Efficient Techniques In Cognitive Radio Networks

" International Conference on Signals Systems and Communication"(ISSC) 2019, College of Engineering Guindy, Anna University, Chennai, India.

6. A.Narendrakumar, Joy Elaizha", Ferreting out Damages in Structures", 5th International Conference on Emerging Trends in Engineering & Technology'18[ICETET'18] held at Pandian Saraswathi Yadav EngineeringCollege. Sivaganai on 9th & 10th March 2018.

7. A.Narendrakumar ", Reliable Energy Efficient Trust based Data Transmission for Dynamic Wireless Sensor Networks", IEEE International Conference on " Intelligent Computing, Instrumentation and Control Technologies (ICICICT'2017) held at Vimal Jyothi Engineering college, Kerala **INSPEC Accession Number: 17720906 DOI: 10.1109(Best Paper Award)**

8. A.Narendrakumar, S. Beulah Evangeline," Low Error rate data transmission in Cognitive Radio Network", International Conference on Computing Technologies (ICONCT'17) held at Mepco Schlenk Engineering College (Autonomous), Sivakasi.

9. A.Narendrakumar, V.Lakshmanan, R.Dhananjeyan," Efficient Majority Logic Fault Detection and Correction using EG-LDPC Codes for Memory Applications", IEEE Sponsored 9th International Conference on Intelligent Systems and Control (ISCO) 2015 Held at Karpagam college of Engineering (Autonomous),coimbatore**. INSPEC Accession Number: 15490800 DOI: 10.1109**

10. Narendrakumar, K.Thyagarajah, K.Thigarajan"A Fuzzy based approach in Multihop network",IEEE Third International Conference on Computing Communication & Networking Technologies (ICCCNT'12) Held at SNS College of Engineering, Coimabatore and also published in IEEExplore.(2012) **INSPEC Accession Number: 13252105 DOI: 10.1109**

11. A.Narendrakumar, K.Thyagarajah,J.Irai Anbu" Fault tolerance & Energy Efficient protocol for Cluster Communication in Sensor Networks", IEEE International Advance Computing conference IACC'10 Held at Thapar University,Patiala and also Published in IEEExplore. (2010) **Digital Object Identifier : 10.1109 / IADCC.2010.5423032**

12. "Fuzzy Implementation of Hierarchical Power aware Routing in WSN ", National Conference on Networks, Intelligence and Computing Conducted at SNSCET, Coimbatore.(2009)

13. "Energy Efficient protocol for Wireless Sensor Networks-Report Reduction cluster Communication Approach ", National Conference on Networks, Intelligence and Computing Conducted at SNSCET, Coimbatore.(2009).

14. "Hybrid approaches for Device placement in Wireless Sensor Networks", National Conference on Networks, Intelligence and Computing Conducted at SNSCET, Coimbatore.(2008)

15. "Performance analysis of CDMA systems", National Conference on Advanced Information Engineering and computing Technology conducted at PSNACET, Dindigul. (2006)

16. "Multi-user,Multipath joint channel estimation and detection CDMA Systems", IEEE sponsored National Conference on Bio-Signal, communication and Networking conducted at SSNCE, Chennai.(2005)

17. "Wireless Data Broadcasting Scheme: Group Based Information Dissemination with loan based Scheme", National Conference on Network Engineering conducted at AKCE Krishnan koil.(2005)

18. "Channel Estimation in CDMA Systems", National Conference on Recent trends in Communication Techniques conducted by NICE, Kumarakoil.(2004)

19. "Joint Channel Estimation and detection in CDMA Systems", UGC sponsored National Conference on Database computing conducted at Gobi Arts and Science, Gopichttipalayam.(2004)

Patent Granted

1. " IoT-based Smart Robot for HVAC Duct Cleaning" Application filed on 26.05.2022 by Dr.A. Narendrakumar et.al. at Indian Patent Office, Application number 364914- 001 **dated 20.01.2023**

2. " A Multi Array Solar Panel Structure for on Grid" Application filed on 09.08.2021 by Dr.A.Narendrakumar et.al. at Indian Patent Office, Application number 349186- 001 **dated 02.01.2023.**

3. "AI based Network Intrusion Detection device" Application filed on 11.03.23 by Dr.A.Narendrakumar et.al. at Indian Patent Office, Application Number 381303-001, Dated on **18.05.2023.**

<u>Patent Journal</u>

1. " Intelligent Bath water Temperature Controller using Multi-Output Regression Neural Network "Application filed on 18.12.2020 by Dr.A.Narendrakumar et.al. at Indian Patent Office, Application number 202041056533 and **Published on 01.07.2022**.

2. "Automated Ration Vending Machine Based Aadhaar verification" Application filed on 28.02.23, by Dr.A. Narendrakumar et.al. at Indian Patent Office, Application number:202341013425 A and **Published on 24.03.2023.**

Expert Lecture Delivered :

1. "Wireless Sensor Networks", Dept. of ECE, V V College Of Engineering, Aug 2017.
2. "Fundamentals of Machine Learning", Dept.of CS, Vivekananda college, Madurai, March 2022.