

12, A Block, Vikas Venkatesam Apartment, Near Subash Nagar, Ganapathy, Coimbatore -641 006	Professor and Head/ ECE, Sri Krishna College of Engineering and Technology, Coimbatore - 641008
<b>Dr. S.SOPHIA</b>	<b>Ph.D (Information &amp; Communication)</b>

### Qualification

Level	Institution	Year of Passing	Percentage of Marks
SSLC	Thambithottam Higher Secondary School, Gandhigram	1992	89
XII	Thambithottam Higher Secondary School, Gandhigram	1994	86
BE (ECE)	RVS College of Engineering affiliated to Madurai Kamaraj University, Madurai	1998	65 (I Class)
ME (Comm. Systems)	Mepco Schlenk College of Engineering affiliated to Madurai Kamaraj University, Madurai	2001	79 (I class with distinction, II rank)
Ph.D	Anna University, Chennai	2009	---

### Teaching Experience

Sl. No	Designation	Institution	Period	Years of Experience	Status of the Institution (At the period of working )
1	Professor & Head	Sri Krishna College of Engineering & Technology, Coimbatore	1-4-2016 to till date	3.7	NIRF (2019,21018) Rank – 97,83 Department NBA Accredited (4 <sup>th</sup> cycle) College – NAAC Accredited College _ DSR- SIRO Status Autonomous since 2011
2	Professor		1-06-11 to 30-03-2016	4.9	
3.	Associate Professor		23-09-09 to 31-05-2011	1.8	
4.	Assistant Professor	Sri Ramakrishna Engineering College, Coimbatore	1-12-08 to 19-09-09	0.10	Department NBA Accredited
5.	Senior Lecturer		08-07-2005 to 30-11-08	3.3	
6.	Lecturer	Kumaraguru College of Technology, Coimbatore	17-06-2004 to 31-01-2005	0.8	Department NBA Accredited
7.	Lecturer	PSNA College of Engineering & Technology, Dindigul	02-01-2001 to 16-06-2004	3.5	Department NBA Accredited
<b>Total Years of Experience</b>				<b>18.2</b>	

**Funding Received :**

Sl. No	Agency	Project Title	Amount Sanctioned	Status	Year	Status
1	AICTE/ SPDC	Enhancing the know how and technical competencies for SC/ST students F.NO. 65-33/IDC/SPDC//Policy - 1/2019-20	18,08,950	First installment Rs.9,04,475 sanctioned	2019-20	PI and Coordinator
2	AICTE/ Modrob	Modernisation of Digital Signal Processing Laboratory for real time Image / Video File No: AICTE/ MODROB/ 1-3554328974 / 2017-18	13,72,122	Completed and submitted UC and report (Rs.8,00,000 Received as first installment)	2018-2020	PI
3	DST/ NSTMIS/ CHORD Division	Impact of gender main streaming schemes in Science of government of India File No: DST/NSTMIS/05/211/ 2016-17	21,17,900	Completed and submitted the PCR (Rs.19,83,000 Received as first and second installment)	2018-2020	PI
4	DST- KIRAN/ Cognitive Science Research Initiative	Design of Intelligent Home for Disabled Elderly Using Wireless Sensor Network File No: DST/CSRI/2017/205; Dated 12.04.2018	41,00,000	Recommended for Financial Assistance	2018-2021	PI
5	DST/ SEED/ WS	Developing women entrepreneurs in the field of millet food production to ensure nutritional security File No: DST/SEED/WS/051/ 2015	36,80,000	Completed and submitted the PCR	2018-2021	Co-PI
6	AICTE- Ministry of Steel	MECON Manager	3,00,000	Completed	2017-2018	Faculty Mentor
7	AICTE/ IEDC	Seviillakavi	1,05,000	Completed	2016-2017	Faculty Mentor
8	IEEE	International conference – I <sup>2</sup> CEC - RTI	10,000	Completed	2015	Secretary
9	Anna University	FDP on Electromagtic Fields	90,000	Completed	2014	Co-ordinator
10	DRDO	Seminar on “Research Focus on Next Generation Networks”	25,000	Completed	2012	Co-ordinator

### Citation and Indexing:

Indexing	Citation	H-index	I10 - Index
Google Scholar	934	16	18
Scopus	22	3	NA
Publons			

### Publications:

Number of papers in peer- reviewed Journals- 72

Number of papers in Scopus & Web of Science – 27

Number of papers in Conferences - 48

### In Journals:

1. **S.Sophia** and M.Suganthi (2006-2007), ‘**CFO estimation in OFDM systems**’, I Manager’s Journal on Engineering Technology, vol.2,no.2, pp.11-16.
2. **S.Sophia**, M.Suganthi and K.R.Shankar Kumar (2007), ‘**Automatic Modulation recognizer for SDR**’, Journal of Computer Science, vol.2, no.5, pp.421-426.
3. **S.Sophia** and M.Suganthi (2007), ‘**Survey on design of DDC**’, Journal of Extension and Research, vol.IX, no.1&2, pp. 58-62.
4. **S.Sophia**, M.Suganthi and K.R.Shankar Kumar (2007),‘**Blind Modulation Classification for SDR Application**’, International Journal on Advances in Computer Science and Engineering, vol.1, no.2, pp. 131-142.
5. **S.Sophia**, M.Suganthi and K.R.Shankar Kumar (2007),‘**QPSK variant identification using blind AMR**’,International Engineering Technology Journal on communication techniques, vol.I,no.1,pp. 33-39.
6. **S.Sophia** and M.Suganthi (2008),‘**Digital Down Converters for SDR**’, International Journal of Applied Engineering Research, vol.3, no.1, pp.23-31(ISSN:0973-4562)
7. **S. Sophia**, S.Karthikeyan , S.Sasikumar and M.Madheswaran (2010), “**Comparison of Linear and Non-Linear Multiuser Detectors with Quantum Constraints**” , GESJ: Computer Science and Telecommunications Vol. 26 ,No.3 ,pp.40-47(ISSN:1512-1232)
8. **S.Sophia** and M.Madheswaran (2011), “**Parallel and successive interference cancellation in a digital front end of SDR receiver**”, Journal of Advanced Engineering Informatics, Vol. 32, 2024-2028 (ISSN 2229 -712X)
9. **S. Sophia** and S.R.Boselin Prabhu (November 2011), “**A Survey of Adaptive Distributed Clustering Algorithms for Wireless Sensor Networks**”, International Journal of Computer Science & Engineering Survey (IJCSES) Vol.2, No.4, 165-175 (ISSN : 0976-2760), DOI:10.5121/ijcses.2011.2412

10. V.P.Ajay, P.D.Rathika, Dr.S.Sophia(2012), “**Comparative Analysis and Inferences for Enhancement of Cognitive Radio Networks**”, Journal of Computer Applications (JCA), Volume V, Issue 1, pp.10-15 (ISSN: 0974-1925)
11. V. Nandalal, S.Sophia, (2012), “ **An iterative Statistical Dispersion Based Clipping and conic Optimized Filtering for a swift lowering of PAPR in OFDM Systems**”, European Journal of Scientific Research, ISSN 1450- 216x, vol. 92, N0.1, pp. 56-63.
12. S. **Sophia** and S.R.Boselin Prabhu (November 2012), “**A Research on Decentralized Clustering Algorithms for Dense Wireless Sensor Networks**”, International Journal of Computer Applications , Vol.57– No.20, pp.35-40 (ISSN:0975 – 8887)
13. **S. Sophia** and S.R.Boselin Prabhu (February 2013), “**Mobility Assisted Dynamic Routing for Mobile Wireless Sensor Networks**”, International Journal of Advanced Information Technology, Vol.3, No.1 pp. 9-19 (ISSN 2231-1548) DOI:10.512/ijait.2013.3102
14. Nandalal, V. and **S. Sophia** (August 2013), “**An Efficient power reduction technique in orthogonal frequency division multiplexing system using tone reservation**”, Journal of Computer Science, Volume 9, Issue 9, PP. 1156-1163. (ISSN 1549-3636), DOI:10.3844/jcssp.20131156.1163
15. **S. Sophia** and S.R.Boselin Prabhu, (April – 2013), “**A Review Of Energy Efficient Clustering Algorithm For Connecting Wireless Sensor Network Fields**”, International Journal of Engineering Research & Technology , Vol. 2, Issue 4, pp.477-481 (ISSN 2278-0181)
16. **S. Sophia** and S.R.Boselin Prabhu, “**Variable Power Energy Efficient Clustering for Wireless Sensor Networks**”, Australian Journal of Basic and Applied Sciences, Vol. 7, No. 7, pp. 423-434, 2013 (ISSN 1991-8178)
17. **S. Sophia** and S.R.Boselin Prabhu, “**Real-World Applications of Distributed Clustering Mechanism in Dense Wireless Sensor Networks**”, International Journal of Computing, Communications and Networking, Volume 2, No.4, (October – Dec 2013), pp.99-105 (ISSN 2319-2720)
18. **S. Sophia** and S.R.Boselin Prabhu, “**Capacity based Clustering Model for Dense Wireless Sensor Networks**”, International Journal of Computer Science and Business Informatics , Volume 5, No.1, September 2013, pp.1-9(ISSN 1694-2108)
19. **S. Sophia** and S.R. Boselin Prabhu, “**An Integrated Distributed Clustering Algorithm for Large Scale WSN** ”, International Journal of Computer Science and

Business Informatics , Volume 8, No.1, December 2013,pp.1-12 (ISSN 1694-2108)

20. **S. Sophia** and S.R. Boselin Prabhu,( December 2013) ,**“Hierarchical Distributed Clustering Algorithm for Energy Efficient Dense Wireless Sensor Networks”**, International Journal of Research in Information Technology, Volume 1, No.12, pp. 45-55 (ISSN 2001-5569)
21. V.Saveetha, **S.Sophia**, V. Anusha Sowbarnika, (June 2013), **“CLUSTERING ON GPU – A BRIEF SURVEY”**, Research Journal of Computer Systems Engineering, Vol 04, pp.595-599(ISSN:2230-8571)
22. Nandalal V, **S. Sophia** and Shailini Haldorai,(October 2013),**“SCF reduction of OFDM signal via custom conic optimized iterative adaptive clipping and filtering”**, Pensee Journal ”, Volume 75, No.10 pp.43-48.
23. Nandalal V. and **S. Sophia**, (May 2014),**“PAPR reduction of OFDM signal via custom conic optimized iterative adaptive clipping and filtering”**, International Journal of Wireless and personal communications”, Volume 76, No.2 (ISSN:0929-6212)(AnnexureI).DOI:10.1007/s11277-014-1788-X (Impact Factor 0.979)
24. Nandalal V. **S. Sophia** and B.Gayathri (2014),**“Peak Power Reduction through conic optimized sigma clipping and filtering”**, Applied Mechanics and Materials”, Volume 550, pp.220-227. DOI:10.4028
25. Pratul P Nambiar, V.Saveetha, **S.Sophia**, V.Anusha Sowbarnika (July 2014), **“GPU Acceleration Using CUDA Framework”**, International Journal of Innovative Research in Computer and Communication Engineering, Vol. 2, Special Issue 3, pp: 200-205 (ISSN:2320-9798)
26. Boselin Prabhu S.R. and **S.Sophia**( 2014) , **“Environmental monitoring and greenhouse control by distributed sensor Network”**, International Journal of Advanced Networking and Applications, Vol. 5, No. 5, pp.2060-2065 (Scientific Journal Impact Factor : 3.462) (ISSN:0975-0290)
27. Boselin Prabhu S.R. and **Sophia S** (2014) ,**‘A review of efficient information delivery and clustering for drip irrigation management using WSN’**, International Journal of Computer Science and Business Informatics, Vol. 14, No. 3, pp.1-13 (Impact Factor: Nil)(ISSN:1694-2108)
28. Boselin Prabhu S.R. and **Sophia S.**, (2014), **‘Modern cluster integration of advanced weapon system and wireless sensor based combat system’**, Scholars Journal of Engineering and Technology, Vol. 2, No. 6A,PP.786-794, Index Copernicus (IC Value 4.21)(ISSN:2347-9523)

29. S.R.Boselin Prabhu, S. Sophia, P. Balamurugan3,(2014) , **“Environmental Monitoring And Greenhouse Control By Distributed Wireless Sensor Network”** ,Scholars Journal Of Engineering And Technology, Vol. 2 Issue 4a, pp. 511-516 ( ISSN 2347-9523)
30. **S. Sophia**, Nandalal,V. and, Akhaliya (2015), **“Performance analysis of microstrip antennas for on-body application”**, International Journal of Applied Engineering research ”, Volume 10, No.6 pp.12541-12547 (ISSN: 0973-4562) (**Annexure II**). (Scopus H Index: 05)
31. **S. Sophia** and S.R.Boselin Prabhu, (2015),**“Distributed Clustering using Enhanced Hierarchical Methodology for dense WSN field”**, International Journal of Applied Engineering research ”, Volume 10, No.6 pp.15581-15590 (ISSN 0973-4562) (**Annexure II**). (Scopus H Index: 05)
32. Boselin Prabhu, SR & **Sophia S**, (2015), **‘Issues in environmental pollution monitoring using distributed wireless sensor network’**, Pollution Research, vol. 34, no. 1, pp. 39-45, ISSN : 0257–8050 (**Annexure II**). (Scopus H Index: 19)
33. Boselin Prabhu, SR & **Sophia S**, (2015), **‘Evaluation of clustering parameters in WSN fields using distributed zone-based approach’**, ASTM Journal of Testing and Evaluation, vol. 43, no. 06, pp. 01-13, ISSN : 0090-3973 (**Annexure I**). (**Scopus Indexed**) DOI:10.15.20/JTE 2014 0523
34. **S. Sophia** , P.D Rathika and P.Arun prasath , (2015) ,**“Spectrum Sensing and noise classification in cognitive radio network using FLOS”**, International Journal of Applied Engineering research ”, Volume 10, No.70 pp.355-362 (ISSN 0973-4562) (**Annexure II**). (Scopus H Index: 05)
35. **S. Sophia** , P.D Rathika and V.P.Ajay , (2015) ,**“ Cooperative Spectrum Sensing for cognitive radio network –A Study ”**, International Journal of Applied Engineering research ”, Volume 10, No.67 pp.72-77 (ISSN : 0973-4562) (**Annexure II**). (Scopus H Index: 05)
36. S. Sophia , V.Saveetha and Pratul P Nambiar, (2015F), **“ A Parallel Sentinal k-means Clustering on GPU ”**, International Journal of Applied Engineering research, Volume 10, No.7 pp.16553-16562 (ISSN :0973-4562) (**Annexure II**).(Scopus H Index: 05)
37. Inigo Mathew, Rajkumar, Boselin Prabhu S R , Rajkumar and **S.Sophia** (2015), **“Proposed Method to Save the Soldiers inside the Main Battle Tank via High Bandwidth Links-Remote Controlled Tank”**, American Journal of Computer Science and Engineering Survey, Volume 3, No.6 pp. 158-178 (ISSN 2349 – 7238)
38. Rajkumar R, Boselin Prabhu SR, S. **Sophia**(December 2015), **“Traffic Decongestion in Toll Plaza using Electronic Toll Collection ”**, Australian Journal

of Basic and Applied Sciences, Volume 9, No. 36, pp. 171-176 (ISSN 1991-8178)

39. Kalaivani P, Sathya G, Nikitha S Paulin, Boselin Prabhu SR, **S. Sophia** (December 2015), **“Performance Improvement of Distributed Island Multicasting with Overlay Data Distribution ”**, Australian Journal of Basic and Applied Sciences, Volume 9, No. 36, pp. 221-228 (ISSN 1991-8178)
40. Boselin Prabhu S.R. and **S.Sophia**, (May 2015),**“Cluster integrated self forming wireless sensor based system for intrusion detection and perimeter defence applications”**, International Journal of Computer Science and Business Informatics, Vol.15, No.3, pp.70-83 (ISSN: 1694 – 2108)
41. Dhakshina Moorthi P , Boselin Prabhu S R, Rajkumar R , **S. Sophia** (January 2016), **“Nodes Routing Mechanism For Manet In Adversarial Environment”** International Journal of Emerging Technology and Innovative Engineering , Volume 2, Issue 1, pp. 12-17 (ISSN: 2394 – 6598)
42. Boselin Prabhu S.R. and **S.Sophia** , (January 2016), **“The Impact of Clustering Mechanism in Dense Wireless Sensor Network”**, Scholars Journal of Engineering and Technology, Volume 4, No. 1, pp 58-62 -(ISSN: 2347 – 9523) (Index Copernicus IC Value 4.21)
43. Boselin Prabhu S.R. and **S.Sophia** ( January 2016), **“A methodology for reducing energy utilization in dense wireless sensor networks”**, International Journal of Research –Granthaalayah, Volume 4, No. 1, pp.125-130 (ISSN:2350-0530) (JCR Impact Factor : 2.035)
44. Boselin Prabhu S.R. and **S.Sophia** (January 2016), **“Literature and comparative survey of future wireless communication”**, Galaxy: International Multidisciplinary Research Journal, Volume 4, No. 6, pp. 421-428 (Impact Factor: Nil)
45. Boselin Prabhu S.R. and **Sophia.S**(March 2016) ,**“Effective clustering mechanism when both the sensor nodes and base station are mobile”**, ARPJ Journal of Engineering and Applied Sciences, Volume 11, No. 5, pp. 3095-3101 (ISSN :1819-6608) (**Scopus Indexed** )
46. Sasikumar.J.T , Rathika.P.D , Sophia.S,( March 2016) ,**“ Efficient Method of Secondary Users Selection Using Dynamic Priority Scheduling”** International Journal of Advanced Research in Biology Engineering Science and Technology, Vol. 2, Special Issue 10, pp. 421-428 (ISSN: 2395-695X)
47. Jason K, Rajiv Suresh Kumar G, Boselin Prabhu S R, **Sophia S**(May-June 2016), **“Cluster Initialization in Dense Distributed Wireless Sensor Networks using Jumping Ants ”**,The Research Journal ,Vol. 2, Issue 3,pp.5-10 (ISSN: 2454-7301)
48. Jason K, Manikandan K, Boselin Prabhu S R, **S. Sophia**,( May-June 2016), **“ The**

**Study Of Low Energy Adaptive Clustering Hierarchy And Further Developments”, The Research Journal , Vol. 2 Issue 3 Pp. 1-4 ( ISSN: 2454-7301)**

49. Dr. Boselin Prabhu S. R., Balakumar N. & **Dr. Sophia S** (July 2016), “**Biologically Inspired Clustering Mechanism in Dense Distributed Wireless Sensor Networks”** , International Journal of Engineering Studies and Technical Approach, vol. 2, Issue 7, pp.1-11 (ISSN: 2395-0900)
50. Dr. Boselin Prabhu S. R., Balakumar N. & **Dr. Sophia S.** (July 2016), “**Bio-Medical Application of Wireless Power Transmission System”**, International Journal of Research and Engineering vol. 3, Issue 7, pp.51-53 (ISSN:2348-7852)
51. K. Abinaya, R. S. Beril Binny, V. Gayathri, S. R. Boselin Prabhu & **Dr. S. Sophia**(2016), “**Performance Assessment Of Various Generations In Wireless Narrowband Networking”**, International Journal of Multidisciplinary Research and Modern Education, Vol 2, Issue I, pp.540-552, (ISSN : 2454 – 6119)
52. Senthil Kumar T, Boselin Prabhu S R, **Sophia S**, (2016), “ **The Impact Of Clustering Mechanism In Dense Wireless Sensor Network”**, Scholars Journal Of Engineering And Technology, Vol. 4 Issue 1, pp. 58-62 ( ISSN 2347-9523)
53. V.Saveetha , **Dr. S.Sophia**, Dr. Vijayakumar. P.D.R (OCT 2016) ,“**GPU Accelerated K – Means Clustering Refined using ANT Colony Optimization”**, Asian Journal of Research in Social Sciences and Humanities ,Vol 6,Issue 10 , pp.1736-1747, (ISSN: 2249-7315), DOI NO:10.5958/2249-7315.2016.01126.6
54. V.Saveetha , **Dr. S.Sophia** (2016), “**Optimization of K-Means Clustering on Graphics Processing Unit using Compute Unified Device Architecture”**, Journal of Computational and Theoretical Nanoscience , (ISSN: 1546-1955) (**Annexure-I**)
55. R.Jennie Bharathi, **Dr.S.Sophia**, (Dec2016), “**Enhancing Anonymity in MIPv6 Networks based on Bilinear Pairings”**, International Journal of Printing, Packaging and Allied Sciences, vol-4,No-4,pp.2819-2825 (ISSN:2320 4387) (**Annexure-I**)
56. **Saveetha.V**, Sophia.S, Vijayakumar. P.D.R, (2017), “**Increasing the efficiency of K – Means Clustering Refined using Careful Seeding on Hadoop Environment”**, SSRG International Journal of Computer Science and Engineering- (ICET’17), ISSN: 2348-8387, pp: 68 - 71.
57. Mishmala Sushith, Dr. S. Sophia, (2017), ” **Improved Multistage Road Detection Algorithm with Robust Ground Point and Building Point Extraction”**, Journal of Computational and Theoretical Nanoscience, vol-14,No-11, pp.5469-5477 (**Annexure I**) (**Scopus Indexed** )
58. Saveetha, V., Sophia, S. (2017) “**Optimization of K-means clustering on graphics processing unit using compute unified device architecture**“, Journal of



Computational and Theoretical Nanoscience (**Scopus Indexed**)

59. Nagarajan, K Vinod Kumar V, Sophia S, (2017) “**Analysis of OFDM systems for high bandwidth**” International Conference On Nextgen Electronic Technologies: Silicon to Software, ICNETS2 2017 (**Scopus Indexed**)
60. PD Rathika, S Sophia, (2017) ”**A distributed scheduling approach for QoS improvement in cognitive radio networks**”, Computers & Electrical Engineering, Vol:57, pp:186-198, ISSN:0045-7906 (<http://dx.doi.org/10.1016/j.compeleceng.2016.08.013>) (Annexure-I) (**Scopus Indexed**)
61. KS Bhuvaneshwari, D Bhanu, S Sophia, (2017) ,” **Dynamic Two-Stage Rough Set Synthetic Evaluation Mechanism for Elucidating Effective Learning Styles in E-Learning Environments**”, Asian Journal of Research in Social Sciences and Humanities, 7 (1), 324-345
62. PD Rathika, S Sophia , (2017) , “**Efficient Scheduling and Collision Reduction in Hybrid Cognitive Radio Network using SBP**” Journal of Advances in Chemistry Vol: 13, ,No-4, pp. 6101-6107 (ISSN: 2321-807X)
63. R. Jennie Bharathi and S. Sophia, (2017), “**P2P- Based Anonymous Communication System for Mobile IPv6 Network**”, World Applied Sciences Journal , Vol: 35 No: 4 pp: 563-567 (ISSN 1818-4952,DOI: 10.5829/idosi.wasj.2017.563.567)
64. Saveetha V, Sophia.S, (2018) “ **Optimal Tabu K-Means Clustering Using Massively Parallel Architecture**” Journal of Circuits, Systems and Computers, vol-27,No-13, pp.1850199 (13pages) (**Scopus Indexed**)
65. Saveetha V., Sophia, S., Vijayakumar, P.D.R. (2018) “**Appliance of effective clustering technique for gene expression datasets using GPU**”, Cluster Computing ( in press ) (**Scopus Indexed**)
66. Siddharthraju, K., Dhivya Devi, R., Shanmugaraja, T., Mithunraj, S., Sophia, S. , (2018), “ **Smart infotainment system for vehicular network** “, International Journal of Engineering and Technology (UAE), (**Scopus Indexed**)
67. Bhuvaneshwari, K.S., Bhanu, D., Sophia, S., Kannimuthu, S. (2019), “**Probabilistic variable precision fuzzy rough set technique for discovering optimal learning patterns in e-learning** “, International Journal of Business Intelligence and Data Mining, Volume 14, Issue 1-2, Pages 121-137. (**Scopus Indexed**)

68. Sushith, M., Sophia, S. (2019), “**extraction of road using soft computing techniques**” , Soft Computing Volume 23, Issue 18, pp 8487–8494 (**Scopus Indexed** )
69. U. K. Sridevi, S. Sophia, P. Shanthi (Mar 2019 ) “**Deep Learning Model to Predict the Behavior of an Elder in a Smart Home**” Indian Journal of Science and Technology , Volume 12, Issue 12, March 2019 (**DOI: [10.17485/ijst/2019/v12i12/143202](https://doi.org/10.17485/ijst/2019/v12i12/143202)**)
70. V. V. Vineeth, S. Sophia, S. Jayanthi, “**Survey on Security Aspects in Smart Grid: Performance and Parametric Analysis**” Innovations in Electrical and Electronics Engineering , Lecture Notes in Electrical Engineering book series, volume 626, pp 609-616, 2020 (**Scopus Indexed** )
71. M.Navin Kumar, Dr.S.Sophia, Dr.S.Karthikeyan, (January -February 2020) “Design and Analysis of BIST Approach for 3D-Mesh NOCs Router Testing”, TEST Engineering and Management, Vol 82, pp: 7807-7812 (**Scopus Indexed**)
72. Suriya, K., Sophia, S 2020 “ **A compact hexa-linear polarization reconfigurable patch antenna**” TEST Engineering and Management, Vol, pp: (**Scopus Indexed**)
73. Suriya, K., Sophia ,”**A New Diminutive Octa Polarization Reconfigurable Circular Patch Antenna**”, International Journal of Innovative Technology and Exploring Engineering” (IJITEE) ISSN: 2278-3075, Volume-9 Issue-6, April 2020
74. S. Sophia, K.Sowmiya, P. Vinesha, S. Rajarajeshwari, A. Athithya Janani, (April 2020),” **Gait Abnormality Classification in Clinical Field**”, International Journal of Engineering and Advanced Technology, Volume-9 Issue-4, 128. ISSN: 2249 – 8958
75. Mr.K.Siddharthraju, Dr.S.Sophia , Dr.B.Jaishankar, Dr.K.Murugan, Ms.M.Supriya, Mr.T.Venkatesh, (June 2020),” **An Improved load-balancing task allocation scheme for MCS systems**”, WAFFEN-UND KOSTUMKUNDE JOURNAL, Volume XI, Issue VI, ISSN NO: 0042-9945Page No: 252, ISSN NO: 0042-9945 (**Web of Science** )
76. Devi, D., Anand, A.,Sophia, S.,Karpagam, M.,Maheswari, S. (2020), ” **IoT-Deep Learning based Prediction of Amount of Pesticides and Diseases in Fruits**” Proceedings - International Conference on Smart Electronics and Communication,

ICOSEC 2020, 2020, pp. 848-853, 9215373 (**scopus indexed**)

77. S.Sophia, Sowmiya, Vineesha, Thamaraiselvi, Boselin Prabhu ( 2020) , “**Gait based prediction diagnosis of abnormal walk pattern and rendering effective treatment for patients with musculoskeleton problems**” European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 7, Issue 10, pp. 1943- 1957
78. **Dr.P.Thamaraiselvi, Dr.S.Sophia, Mr.J.Prabhakaran, “Impact of Motivational Styles over Academic Procrastination Among Millennials” SYLWAN journal,**
79. Dr.P.Thamaraiselvi1, Dr.S.Sophia & Mr.J.Prabhakaran (2020), “**Academic Procrastination – An Antecedent To Millennials In Managing Lifestyles During Disaster Management**”, International Journal of Future Generation Communication and Networking, Vol. 13, No. 3, pp. 3063–3067
80. Kalaivani, N., Manimaran, N., Sophia, S., & Devi, D. D. (2020, December). “**Deep Learning Based Lung Cancer Detection and Classification**”, IOP Conference Series: Materials Science and Engineering (Vol. 994, No. 1, p. 012026). IOP Publishing. ( **Scopus Indexed** )
81. Kalaivani, N., Devi, D., Sophia, S., Manimaran, N., & Kowsalya, P. (2020, December),” **Medical Image Retrieval Using Convolution Neural Networks**”, IOP Conference Series: Materials Science and Engineering (Vol. 994, No. 1, p. 012038). IOP Publishing. ( Scopus Indexed )
82. M. Navin Kumar , S. Sophia , S. Karthikeyan (2021), “**Analysis of advanced BIST methods for three dimensional mesh NOCs router assessment**”, Materials Today: Proceedings <https://doi.org/10.1016/j.matpr.2020.11.879>
83. Sophia, S., Devi, D., & Maheswari, S. (2021, February), “**Real Time Cognitive State Prediction Analysis using Brain Wave Signal**”, IOP Conference Series: Materials Science and Engineering (Vol. 1055, No. 1, p. 012125). IOP Publishing.
84. Prasanna, S., Chinnapparaj, S., Devi, D., Janani, A. A., & Sophia, S. (2021), ”**Self-destruction of data in cloud using asymmetric key with key generator**”, Materials Today: Proceedings, 37, 2818-2821.
85. Dominic Mathew. A, Sophia. S (2021), **Utilization Receptive Technology Mapping in Submicron Designs for Better Predictability in Power, Performance**

**and Area**, *Solid State Technology*, Vol. 64 No. 2 pp.

86. Nagarajan, K., & Sophia, S. (2021), “**Multilevel Redundant Discrete Wavelet Transform (ML-RDWT) and optimal Red Deer algorithm (ORDA) centred approach to mitigate the effect of ICI, BER and CIR in a MIMO-OFDM System**”, *Wireless Personal Communications*. (under review )

### **Books and Chapter**

1. Co-authored a book “ **Electronic Circuits –II** “ published by Sai book distributors and publishers, Chennai
2. Sudhir Sophia, M. Madheswaran, S. Sasikumar “ Modulation Recognition For Software Defined Radio” in *Handbook of Research on Mobile Software Engineering: Design, Implementation and Emergent Applications*, EISBN13: 9781615206568 DOI: 10.4018/978-1-61520-655-1 (pages 398-412)
3. Saveetha.V, Sophia.S, Anusha Sowbarnika.V, 2017 “K-Means Clustering Using Parallel Programming on Massively Parallel Processors”, in **Advanced Engineering Research and Applications** (Book Code: AERA) ISBN No. 978-93-84443-48-1, pp. 400 – 414
4. Sridevi U. K., Sophia Sudhir, Shanthi Palaniappan, 2020 ” Elderly Behavior Prediction Using a Deep Learning Model in Smart Homes” in **Applications of Deep Learning and Big IoT on Personalized Healthcare Services**, EISBN13: 9781799821021 DOI: 10.4018/978-1-7998-2101-4
5. S.Sophia, Devi D, Athithiya Janani , Boselin Prabhu ,” Brain wave Based Cognitive State prediction in Stress Monitoring”, Elsevier book **"Healthcare's Digital future"** (series :Advances in Ubiquitous Sensing Applications for Healthcare)
6. Ms. R. Dhivyadevi, Mr. K.Siddharthraju, Dr. V.Seethalakshmi, Dr. S.Sophia “AI-Powered precision medicine in tele-healthcare systems” ( Accepted for publication )
7. **Sridevi U.K., Sophia S., Boselin Prabhu S.R., Zubair Baig, P.Thamaraiselvi**, A Novel Data Analytics and Machine Learning Model towards Prediction and Classification of Chronic Obstructive Pulmonary Disease, **Data Science and Data Analytics Opportunities and Challenges**, **CRC Press , ISBN 9780367628826**
8. Sophia S, Sridevi U.K., Boselin Prabhu S.R. and P. Thamaraiselvi, Ambient-Assisted Living of Disabled Elderly in an Intelligent Home Using Behavior Prediction—A Reliable

Deep Learning Prediction System, **Computational Analysis and Deep Learning for Medical Care: Principles, Methods, and Application**, / Chapter No. 13

**Research Guidance**

**Recognized Supervisor to guide Ph.D under Anna University, Chennai (Recognition Number : 2640042)**

Number of Scholars Awarded Degree - 6

Number of Scholar Submitted thesis - 1

Number of Scholars perusing research – 8

<b>Researcher name</b>	<b>Area of Research</b>	<b>Theses awarded institute</b>	<b>Theses awarded year</b>
V. Nandalal	OFDM	Anna University	2016
Boselin Prabhu	Wireless Sensor Network	Anna University	2017
PD Rathika	Cognitive Radio Network	Anna University	2019
Bhuvanewari	E- Learning tools	Anna University	2019
Saveetha	Parrallel Processing	Anna University	2020
Jennie Bharathi	IP Security	Anna University	2020

**Patent filed:**

<b>S.No</b>	<b>Patent no</b>	<b>Filed Date</b>	<b>Name of the applicant</b>	<b>Title of Patent</b>	<b>Status</b>	<b>Publication date</b>
1	201741022937	30.06.17	Dr.S.Sasipriya Dr.S.Sophia	A Novel Approach of Attendance Monitoring System Using Power Line Communication	Published	07.07.17
2	202041005187	06.02.20	Dr.S.Sophia Mrs.K.Suriya Dr.J.Janet Mr.K.Sowmiya Ms.P.Vinesha Dr.P.Thamaraiselvi	Biometric Wellness Monitor	Published	28.02.20
3.	202041010011	09.03.20	Dr.A.Albert Raj Mr. S.Satheesh Kumar Dr.S.Sophia Dr.B.Maruthi Shankar	Effective and efficient honey harvest alert systems for bee farmers	Published	13.03.20

			Mr.Beno Mr.T.Vignesh MR. Jeeva			
4	20204104714A	28.10.20	R. Rajmohan T. Ananth Kumar Thangaraja Arumugam Hamid Alasadi M. Vargheese Prashanth P A S. R. Boselin Prabhu Prashanth G K S. Sophia Puneet Joshi	Brain Tumor Detection in PET Scan Images Using Extended U-Net Framework with VGG-16 Encoder	Published	20.11.20
5	202041047038 A	28.10.20	R.Rajmohan T.Ananth Kumar K. Veerakumar Puneet Joshi Ahila A Prashanth G K S. Sophia Balaji J S. R. Boselin Prabhu Thangaraja Arumugam	Management of Dense Cloud Removal from Landsat Images Using Deep Neighbour-Pixel Embedding Technique	Published	20.11.20
6	2021102236 (Australian)	28.04.21	DR Amarnath Mishra DR S. Sophia DR Prashanth G. K. DR S.R. Boselin Prabhu DR Prasad Janga DR Sreeja Mole S. S. DR Ishan Y Pandya DR Ugendhar Addagatla N. Srinivas	A Novel Method For Prevention Of Security Attack On Cloud Medical Data Using Artificial Intelligence And IOT	Filed	
7	2021102801 (Australian)	24.05.21	Patel, R P; Chakrabarti, Tulika; Hati, Ananda Shankar; Mahalingam, M.;	Velocity estimation from cycle pedaling by using extended kalman	Filed	

			Saravanan, K G; Patel, Ibrahim; Krishna, Patteti; Kumar, Yogendra; Gowrishankar, K.; Kumara, Varuna; Chakrabarti, Prasun; Sophia, S.	filter algorithm		
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### On line Courses

Completed Online Coursera Course on “Wireless Communications for Everybody”

Completed Online Coursera Course on “AI For Everyone”

### Workshop/ Course Organized

1. One day Workshop on “Embedded systems design” at Sri Krishna College of Engineering and Technology on 24<sup>th</sup> Nov 2009
2. FDP on “VLSI Design and Embedded Technology” on 13<sup>th</sup> March 2010 at Sri Krishna College of Engineering and Technology
3. FDP on “DSP and Embedded Technology” on 2<sup>nd</sup> June 2011 at Sri Krishna College of Engineering and Technology
4. DRDO sponsored one day seminar on “Research Focus on Next Generation Networks” on 13<sup>th</sup> December 2012 at Sri Krishna College of Engineering and Technology (**Amount of Rs. 25,000 got as sponsorship**)
5. ISTE Sponsored one day Seminar on “ Learning Aspects of C” at Sri Krishna College of Engineering and Technology , Coimbatore (July 2<sup>nd</sup> , 2013)
6. Centre for Faculty Development , Anna University , Chennai sponsored One Week FDP on “Electromagnetic Fields” from 7<sup>th</sup> December 2014 to 15<sup>th</sup> December 2014 at Sri Krishna College of Engineering and Technology (**Amount of Rs. 90,000 got as sponsorship**)
7. Secretary for the International conference – I<sup>2</sup>CEC - RTI conducted by electrical sciences department of SKCET and SKCT on Jan 2<sup>nd</sup> and 3<sup>rd</sup> 2015 (**Amount of Rs. 10,000 got as sponsorship from IEEE**)
8. One day Workshop on “Software Defined Radio for Engineering Education- A Hands- on Experience” on 09-01-2015 at Sri Krishna College of Engineering and Technology
9. Workshop on ”Using NS -2 as tools in communication ”sponsored by ISTE Student chapter on 23-07-2015 at Sri Krishna College of Engineering and Technology
10. Workshop on ”Generation of wireless networks ”sponsored by ISTE Student chapter on 01-03-2016 at Sri Krishna College of Engineering and Technology.

11. Convener International Conference International Conference on Recent Advances in Engineering and Technologies ICRAET 2017 conducted during 28/12/17& 29/12/2017
12. Convener International Conference International Conference on Recent Advances in Engineering and Technologies ICRAET 2019 8/2/19 & 9/2/ 2019
13. Convener ATAL FDP on “Artificial Intelligence, Machine Learning And Genomics” 31.08.2020 to 04.09.2020.
14. Convener AICTE- STTP on “Zero-shot learning by convex combination of semantic Embeddings” 12.10.2020 to 25.10.2020
15. Convener AICTE-ISTE Induction/ Refresher course on “Feature analysis using AI/ ML “ 07.12.2020 to 12.12.2020

### **Invited Talks**

1. *Non-Linear optic devices* - ISTE Sponsored STTP on Opto Electronic Integrated Circuits, Photo receiver and systems, PSNA college of Engineering and Technology, Dindigul ( 2002)
2. *Digital signal processors* - ISTE STTP on Digital Signal Processing and its applications, PSNA college of Engineering and Technology, Dindigul (2003)
3. *Signal Processing- SDP* on DSP architecture and Algorithms, PSNA college of Engineering and Technology, Dindigul ( 2003)
4. *Digital Modulation Techniques* – FDP on Satellite Communication, Sri Ramakrishna College of Engineering, Coimbatore (2006)
5. *E-Waste management-* IETE inaugural guest speech at Hindustan College of Engineering & Tech, Coimbatore(30 Jan 2010)
6. *Digital Communication Techniques* – Seminar, SVS College of Engineering& Technology , Coimbatore ( 6 , Feb 2012 )
7. *Reconfigurable Radios-* IETE,ISTE Sponsored Seminar, Muthaiammal College of Eng. Rasipuram( mar 12, 2012 )
8. *Cognitive Radio Network Research Issues-* DRDO sponsored Two day seminar, Sri Ramakrishna Engineering College, Coimbatore (mar 27 , 2013)
9. *Next generation Networks* – IEEE sponsored One day seminar on Security issues in Next generation Networks, Sri Krishna College of Engineering and Technology, Coimbatore (Aug 27 , 2013)
10. *Electric and Magnetic Field Materials* - Centre for Faculty Development, Anna University, Chennai sponsored One Week FDP on Electromagnetic Fields, Sri Krishna College of Engineering and Technology, Coimbatore (Dec 14 , 2013)
11. *Stub Matching Techniques & Smith Chart* - Centre for Faculty Development, Anna University ,



- Chennai sponsored One Week FDP on Transmission Lines and Waveguides, Sri Ramakrishna Engineering College, Coimbatore (June 20 , 2014)
12. *Optical Networks* – Guest Lecture on Optical Communication and Networking at SNS college of Technology, Coimbatore (June 20 , 2014)
  13. *Wireless Networks* – Guest Lecture on wireless Networking and Networking at Karpagam University, Coimbatore (December 3, 2014)
  14. *Mobile Communication*- Guest Lecture on Mobile Communication at SNS college of Technology, Coimbatore (September 20 , 2015)
  15. *Cognitive Radio Network* - Guest Lecture on IETE student forum sponsored Seminar, Kumaraguru College of Technology, Coimbatore (February 19 , 2016)
  16. *Wireless Network & Sensor Networks* - "FDP on Wireless Networks" at Dhanalakshmi Srinivasan College of Engineering and Technology, Coimbatore ( August 17, 2017)
  17. *Wireless Sensor Networks* - ISOI Sponsored national level workshop on hand's on training in wireless Sensors and IoT at Sri Ramakrishna Engineering College ( September 9, 2017)
  18. *Spectrum Sharing For Cognitive Radio Networks* - Guest Lecture at Karunya University( October ,2017 )
  19. *Memory Mapping* – Anna University sponsored Two Weeks FDTP on Digital Electronics, Dr NGP Institute of Technology, Coimbatore (December 30, 2018)
  20. *Latest trends in Wireless sensor networks* – Keynote – IEEE sponsored “International conference on Emerging technique in Engineering Technology and Management” (ICEETM) ( march 2019)
  21. *Recent trends in Wireless Networks* – FDP on Recent trends in wireless communication and signal Processing by Saranathan College of Engineering (June 2020)
  22. SRIT – 2 sessions

**Professional Membership**

IETE

ISTE

## Academic Responsibilities

1. **Chairman BOS since 2016 & Member BOS** department of ECE, SKCET since 2009 (Regulation drafting , Curriculum and syllabus preparation for UG and PG courses)
2. **Member Academic Council** , SKCET since 2011
3. **Member Governing Body** of SKCET since 2018
4. **Academic Auditor** Department of ECE, SKCT for the year 2014-15
5. **Subject Reviewer**, Department of EIE , Sri Ramakrishna College of Engineering, Coimbatore
6. **Oral Examiner** for the Phd. Public Viva- Voce – Anna University , Chennai
7. **Doctoral Committee Member** under Anna University , Chennai, Karunya University, Coimbatore
8. **NBA Co-ordinator** of the department (PSNA college 2002-04, Sri Ramakrishna College 2006-08 , Sri Krishna College of Engineering 20011, 2016)
9. **NBA Overall Co-ordinator** 2020.
10. **NAAC co-ordinator** of the ECE department, SKCET 2017, 2021
11. **UGC Autonomous Visit Cycle1-** 2011
12. **NIRF Nodal Officer SKCET :**  
2020 ranking ( Eng- 83<sup>rd</sup> rank, MBA- Band of 100, Overall 150-200 band)  
2021 Ranking
13. Coordinated the **Department of Scientific and Industrial Research- SIRO** Recognition for the second cycle during year 2020
14. **Overall Incharge :**
  - Time table Co-ordinator for the college since 2009
  - Overall College Budget preparation on Income and Expenditure since 2015
  - Overall incharge for the R & D Funding activities since 2019
  - Overall program Co-ordinator for the college since 2009
15. **Member/ Convener of Internal Committees of the Institution :**
  - Convener of Women Reddressal and Grievances Committee
  - Member Women Empowerment Cell
  - Member IQAC

- Convener of Music and Fine Arts Club since 2015 till 2019
- Member MIS team
- IIC Ambassador from SKCET

16. Nodal Officer of AICTE and MHRD Initiatives :

- **Swachhatha Action Plan and Award – 2018** (College Secured 2<sup>nd</sup> rank in national level)
- **Swachhatha Action Plan and Award – 2019** (College Secured 2<sup>nd</sup> rank in national level)
- **Swachhatha Action Plan and Award - 2020**
- **Swachhatha Pakwada – 2020**
- **Clean and Smart Visit 2019** ( College Secured 2<sup>nd</sup> rank in national level)
- **Clean and Smart Visit 2020**
- **Jal Shakti Abhiyan 2019** ( College Secured 3<sup>rd</sup> rank in national level” for the One Student-One Tree Initiative in for the exemplary green cover ventures initiated with Mega Plantation of 10,050 trees at SKCET campus)

17. CSR Activities:

As an incharge initiated and conducted the following activities with student and faculty team

- Adopted two near by villages Perur Chettipalayam and Arumugagaundanoor and achieved 100% ODF
- Adopted schools in the nearby villages Perur Chettipalayam and Arumugagaundanoor and completely renovated the toilets, water facilities , napkin vending machine
- Conducted nearly 100 awareness programs, workshops and student activity programs for the year 2019-20 in health, hygiene, environment, digital initiatives etc.
- Conducted nearly 115 online and offline awareness programs, workshops and student activity programs for the year 2020-21 in. This includes raising funds for covid relief, distribution of covid products like sanitizers, masks, empowering various communities like teachers on digital learning , frontline workers on mental and physical well being etc
- Conducted 45 programs for the rural women in promoting awareness and production of millet food products.
- Collaborating with two NGOs for the CSR activities
  - ✓ Helping Hearts – established and run by the Alumni of Sri Krishna College of Engineering and Technology with the motive to take care of the needy aged people under one roof and provide a shelter.
  - ✓ AIM Trust – Social welfare activities such as Tree plantation, Free Medical camp at Low income group areas, Water testing, Pledging Environmental awareness on every Environmental, Donating books and school / college fee to the deserved students from school and colleges..

18. SPOCs – **NITTTRC – SKCET** events and activities – Conducted 14 FDP at SKCET through both Online and offline mode with a funding to a tune of 10Lahks for the period 2018 – 2020.

19. SPOCs –National Rural Entrepreneurship Mission by the **Mahatma Gandhi National Council of Rural Education**, Department of Higher Education, Ministry of Education, Government of India during September 2020. Established SKCET Rural Entrepreneurship Development and Social Entrepreneurship Cell for Conducting workshops, social activities and Entrepreneurship programs for implementing rural development and swatchhtha in the society.
20. SPOCs – EBSB by MHRD – SKCET events and activities – Conducted various extension activities as per the AICTE, MHRD calendar and submission of reports.
21. **CoE and Facilities Created :**
  - Established **AI Nvidia LiDAR RoboEX** lab under the funding from Modrobs – AICTE worth Rs. 10,70,000.
  - Established a **Skill and Personality Development Centre** for SC/ ST students with PCB Prototype Machine under the funding from Modrobs – AICTE worth Rs. 9,00,000
  - Established a **Bakery Unit** under funding from DST – SEED worth Rs.35,00,000. This centre trains the rural women with millet and Herbal products, assisted to get NSDC certification and empowered them as rural entrepreneurs.
  - Established the **Centre of Excellence in Chip development** using Cadence worth
  - Established the **Centre of Excellence in Antenna Designing** using HFSS worth
22. Awards:

**Recipient of “ AICTE’s Lilavati Award 2020”** as ‘2 Runner-up’ under sub theme ‘Sanitation & Hygiene’ by presenting a unique intervention carried out under the overall theme “Women Empowerment” award presented on 11 April 2021.
22. External reviewer for proposals submitted to **National Fund for Scientific and Technological Development (FONDECYT), CHILE** of the Agencia Nacional de Investigaci3n y Desarrollo (ANID), Initiation into Research.