

# Dr. Suma Sekhar

Associate Professor



Phone: 8921244089

Email: [sumasekhar@lbsitw.ac.in](mailto:sumasekhar@lbsitw.ac.in)

[Scholar Link](#)

## Qualifications:

- B. Tech – Electronics and Communication Engineering. (College of Engineering Trivandrum, Kerala University)
- M. Tech – Electronics and Communication Engineering. with elective Microwave & TV Engineering (College of Engineering Trivandrum, Kerala University)
- Ph.D- Electronics and Communication Engineering. (College of Engineering Trivandrum, Kerala University)

Title of thesis – Techniques to improve time and frequency synchronization in MIMO-OFDM systems.

## Professional Experience: 21 years of teaching experience

- Associate Professor, LBS Institute of Technology for Women, Trivandrum (01/11/2007 - Till date)
- Assistant Professor, LBS Institute of Technology for Women, Trivandrum (01/01/2006-31/10/2007)
- Lecturer, LBS Institute of Technology for Women, Trivandrum (29/07/2002 – 31/12/2005)
- Lecturer, LBS College of Engineering, Kasaragod (31/10/2001-27/7/2002)
- Lecturer, College of Engineering, Adoor, (12/9/2001-29/10/2001)
- Lecturer, College of Engineering, Trivandrum (01/06/1999 - 24/09/1999 and 18/06/2001 - 07/09/2001 )

## Recently Taught Courses:

- [Signals and Systems \(B.Tech\)](#)
- [Advanced Digital Communication \(M.Tech\)](#)
- [Advanced Communication Systems \(B.Tech\)](#)
- [Project Phase II \(M.Tech\)](#)
- Electronic Circuits (B.Tech)

## Other Responsibilities:

- HOD ECE - 8 years (April 2022-Till date, May2019-July 2021, May2010 – August2013, July2006- June 2007)
- R&D Nodal Officer ,TEQIP (2014-2021)
- Dean Research & Consultancy (August 2016 – Sept2018)
- Chairperson for End Semester External Lab Exams 2021-2022 (S5 ECE)
- PG Dean (2012-2014)
- Member of Question Paper Setting and Scrutiny committee of B.Tech courses of the University of Kerala and APJ Abdul Kalam Technological university

## Important Publications:

1. Suma Sekhar, Sakuntala S. Pillai & Santhoshkumar S., “New Preamble Sequence for WiMAX System with Improved Synchronization Accuracy”, *Intelligent Automation and Soft Computing*, Tech Science Press, Volume 35, Number 3, 2023. pp 3187-3197, ISSN:2326-005X DOI: 10.32604/iasc.2023.028702.
2. Suma Sekhar, Sakuntala S. Pillai & Santhoshkumar S., “A High Merit Factor Preamble Sequence for Better Synchronization in WiMAX”, *Advances in Electrical and Computer Technologies*, pp. 683-693. Springer, Singapore, 2022 Lecture Notes in Electrical Engineering book series (LNEE, volume 881).
3. Suma Sekhar, Sakuntala S. Pillai & Santhoshkumar S., “A new preamble structure based on Golay Complement Pair for time synchronization in OFDM”, *International Journal of Electrical Engineering and Technology (IJEET)*, Vol 12, Issue 8, August 2021, pp. 133-140, ISSN Print: 0976-6545 and ISSN Online: 0976-6553 DOI: <https://doi.org/10.34218/IJEET.12.8.2021.011>.
4. Suparna Sreedhar, Suma Sekhar, Sakuntala S. Pillai, “Improved Preamble Structure for Timing Synchronization in MIMO-OFDM systems”, *International Journal of Engineering and Advanced Technology (IJEAT)* 2015, ISSN: 2249 – 8958, Volume-4, Issue-6.
5. Sruthi S., Suma Sekhar, Sakuntala S. Pillai, “Robust Optimal PSO based Wavelet Feature Selection in MIMO OFDM Systems”, *International Journal of Engineering and Advanced Technology (IJEAT)*, 2015 ISSN: 2249 – 8958, Volume-4, Issue-6.
6. Suma Sekhar, Sakuntala S. Pillai, “Comparative Analysis of Offset Estimation Capabilities in Mathematical Sequences for WLAN”, *IEEE International conference on communication system and networks, ComNet 2016*, July 2016, Electronic ISBN:978-1-5090-3349-2, Print ISBN:978-1-5090-3350-8, (IEEE Xplore).
7. Suma Sekhar, Sakuntala S. Pillai, “Test bed for Selecting Optimum Sequences for Preamble Structures in MIMO OFDM”, *International Conference on Future Technology in Engineering, October 2016 (ICFTE 2016)*.
8. Revathy K. P., Suma Sekhar and Sakuntala S. Pillai, “Carrier Frequency Offset estimation in OFDM system using ML criterion Precoded by Turbo codes”, in *IEEE International Conference on Intelligent Computing, Instrumentation & Control Technologies, 2017* Electronic ISBN:978-1-5090-6106-8, Print ISBN:978-1-5090-6107-5 (IEEE Xplore).
9. Maneesha M. S., Suma Sekhar and Dr. Sakuntala S. Pillai, “Complementary Sequence based CFO Estimation for OFDM Systems using Simulink” *IEEE International Conference on Intelligent Computing, Instrumentation & Control Technologies, 2017* Electronic ISBN:978-1-5090-6106-8, ISBN:978-1-5090-6107-5, (IEEE Xplore).
10. Haripriya V. S., Suma Sekhar, Sakuntala S. Pillai, “Analysis for WFRFT-OFDM Systems to Carrier Frequency Offset using MLE” *IEEE Int. conference on communication system and networks , CoMnet 2016*, Electronic ISBN:978-1-5090-3349-2, Print ISBN:978-1-5090-3350-8 (IEEE Xplore).
11. Mithra Elsa Thomas, Suma Sekhar, Sakuntala S. Pillai, “Frequency offset estimation of Wimax using repeated preamble” *IEEE International Conference on Communication System and Networks, ComNet, July 2016*, Electronic ISBN:978-1-5090-3349-2, Print ISBN:978-1-5090-3350-8 (IEEE Xplore)

12. Suparna Sreedhar, Suma Sekhar, Sakuntala S. Pillai, “An efficient preamble design for timing synchronization in MIMO-OFDM systems”, ICCICCT- December 2015, Electronic ISBN: 978-1-4673-9825-1, (IEEE Xplore)
13. Aswini S. H., ArdraLekshmi B.N, Suma Sekhar, Sakuntala S. Pillai, “MIMO-OFDM frequency offset estimation for Rayleigh fading channels”, First international Conference on Computation systems and Communications (ICCSC), December 2014, Electronic ISBN:978-1-4799-6013-2, (IEEE Xplore).
14. ArdraLekshmi B. N., Aswini S. H., Suma Sekhar, Sakuntala S. Pillai, “Timing Synchronization for MIMO OFDM using orthogonal sequences in Rayleigh fading channel”, First international Conference on Computation systems and Communications (ICCSC) December2014, Electronic ISBN:978-1-4799 60132, (IEEE Xplore).

### **Membership in Professional Organizations**

- Life member ISTE

### **Conference/Paper Presentation:**

- Reviewer - Technical Papers - ICCSC-23 [International Conference on Computational Systems and Communication- 2023]
- Reviewer - Technical Papers – International Conference on Control, Communication and Computing (ICCC 2023), 2023
- Session Chair - ICCSC-23 [International Conference on Computational Systems and Communication- 2023]