

Recent Publications from TelWiSe Group

- ❑ M. Kavi Priya and K. Giridhar, "New Collision-Free Balanced Frequency Hopping Sequences for Frequency Hopping Mobile Ad-Hoc Networks," accepted for presentation at *IEEE Vehicular Technology Conference (VTC 2025-Spring)*, Oslo, June 2025.
- ❑ S. Sruti and K. Giridhar, "Emerging Trends in Radar: Perspective on Future Integrated Multi-static Radar," in Special Issue on Emerging Trends in Radar in *IEEE Aerospace and Electronic Systems Magazine*, 2025.
- ❑ S. Sruti and K. Giridhar, "Non-Parametric Multi-Target Data Association and Tracking for Multi-static Radars", in *IEEE Journal of Selected Areas in Sensors*, vol. 2, pp. 28-39, 2025.
- ❑ A. Harivignesh, A. Anbukani and K. Giridhar, "On Reducing the Search Complexity for PMI Selection in Codebook-based 5G NR Systems", *Proc. of IEEE Vehicular Technology Conference (VTC 2024-Spring)*, Singapore, Jun. 2024.
- ❑ S. Sowmya, M. Gokularam, and K. Giridhar, "Low-Complexity Linear Decoupling of Users for Uplink Massive MU-MIMO Detection", *Proc. of IEEE Vehicular Technology Conference (VTC 2024-Spring)*, Singapore, Jun. 2024. (arXiv: [2403.03271v2](https://arxiv.org/abs/2403.03271v2)).
- ❑ M. Gokularam, S. Sruti and K. Giridhar, "Using DCFT for Multi-Target Detection in Distributed Radar Systems with Several Transmitters", *Proc. of IEEE Radar Conference (RadarConf24)*, Denver, CO, USA, May 2024. (arXiv: [2212.09657](https://arxiv.org/abs/2212.09657)).
- ❑ A. Anbukani, A. Harivignesh, and K. Giridhar, "Exploiting CSI-RS Structure for Efficient Fronthaul Functional Split in 5G O-RAN and Low Complexity Channel Estimation", accepted for presentation in *IEEE Wireless Communications and Networking Conference (WCNC-2024)*, Dubai, UAE, Apr. 2024.
- ❑ S. Sweta and K. Giridhar. "A Novel Local and Hyper-Local Multicast Services Transmission Scheme for Beyond 5G Networks." [arXiv 2402.03963 \(2024\)](https://arxiv.org/abs/2402.03963).
- ❑ S. Banerjee, S. Desai, Y. Krishna Madan, H. A. M. L. Narayana, and K. Giridhar, "On Provisioning Link Margin for High Bit Rate Q/V Band LEO Communication for Autonomous Vehicles," *IEEE Vehicular Technology Conference (VTC2023-Fall)*, Hong Kong, Oct. 2023.
- ❑ R. Vignesh and K. Giridhar, "Novel Preamble for Accurate Synchronization of Frequency Hopped OFDM Links," *IEEE Vehicular Technology Conference (VTC2023-Spring)*, Florence, Italy, Jun. 2023.
- ❑ M V Abhay Mohan and K. Giridhar, "Interference-Managed Local Service Insertion for 5G Broadcast," [TechRxiv. March 17, 2023](https://arxiv.org/abs/2303.08881).
- ❑ C. Ramanathan, S. Y. Desai, S. Banerjee and K. Giridhar, "Frequency Projection: A Review and its application in channel modelling," *National Conference on Communications (NCC-2023)*, Guwahati, India, Feb. 2023.
- ❑ S. Sruti, A. Anil Kumar, and K. Giridhar, "RCS-Based Imaging of Extended Targets for Classification in Multistatic Radar Systems", *IEEE Radar Conference (RadarConf23)*, San Antonio, TX, USA, May 2023.
- ❑ R. Preethi, M. V. Abhay Mohan, and K. Giridhar, "Exploiting Implicit OVSF Structure in DM-RS for Improved Channel Estimation in 5G NR Systems," *IEEE Vehicular Technology Conference (VTC2022-Spring)*, Helsinki, Finland, Jun. 2022.

- ❑ S. Sruti, K. Teja, and K. Giridhar, "Non-Parametric Adaptive Thresholding for Channel Estimation of OTFS-Based 6G Communication Links," *IEEE Global Communications Conference (GLOBECOM-2022)*, Rio de Janeiro, Brazil, Dec.2022.
- ❑ S. Sruti, K. Teja, and K. Giridhar, "Performance Comparison of OTFS and MC-CDMA with Channel Estimation and Power Back-Off," *IEEE Military Communications Conference (MILCOM-2022)*, Washington DC (National Capital Region), Nov.2022.
- ❑ M. V. Abhay Mohan and K. Giridhar, "Interference-Aware Accurate Signal Recovery in sub-1 GHz UHF Band Reuse-1 Cellular OFDMA Downlinks," *IEEE Open Journal of the Communications Society*, 10.1109/OJCOMS.2022.3219557, Nov.2022.
- ❑ S. Sruti, C. Deepti, and K. Giridhar, "Non-Parametric and Geometric Multi-Target Data Association for Distributed MIMO Radars," *IEEE Military Communications Conference (MILCOM-2021)*, San Diego, CA, Nov. 2021.
- ❑ C. Ramanathan, C. R. Venkatesh, and K. Giridhar, "Mitigating Blockage of Transmission and Reception due to Rotor Blades in Air-to-Air Data Link using Single-Carrier Block Modulation," *IEEE Military Communications Conference (MILCOM-2021)*, San Diego, CA, Nov. 2021.
- ❑ D. Basak, S. Sruti, and K. Giridhar, "Comparing Precoded MC-CDMA and OTFS for High-Speed V2X Communications," *IEEE Vehicular Technology Conference (VTC2021-Fall)*, online mode, Sep.-Oct., 2021.
- ❑ S. Mishra, L. Salaün, C. S. Chen and K. Giridhar, "Analysis of Downlink Connectivity in NB-IoT Networks employing NOMA with Imperfect SIC," *European Conference on Networks and Communications (EuCNC-2021) and 6G Summit*, Porto, Portugal, June 2021.
- ❑ S. Desai and K. Giridhar, "Low Complexity Quasi-MLM Modulation Classification based Optimal Overloaded MU-MIMO Receiver," *IEEE Vehicular Technology Conference (VTC2020-Spring)*, online mode, June 2020.
- ❑ S. A. Nambi and K. Giridhar, "Index and Constellation Order Lowering for OFDM with Index Modulation," in *IEEE Communications Letters*, Feb. 2020.
- ❑ S. A. Nambi and K. Giridhar, "Modified CI and Modulation Order Replacement for Enhancing OFDM-IM Performance," in *IEEE Journal of Selected Topics in Signal Processing*, vol. 13, no. 6, pp. 1286-1300, Oct. 2019.
- ❑ S. Banerjee and K. Giridhar, "A Novel Method for Non-Stationary CFO Estimation and Tracking in Inter-UAV OFDM Links," *IEEE Vehicular Technology Conference (VTC-Fall)*, Honolulu (Hawaii), pp. 1-5, Sep. 2019.
- ❑ S. A. Nambi and K. Giridhar, "Lower Order Modulation aided BER Reduction in OFDM with Index Modulation," in *IEEE Communications Letters*, vol. 22, no. 8, pp. 1596-1599, Aug. 2018.
- ❑ S. Parthasarathy, S. Kumar, R. K. Ganti, S. Kalyani and K. Giridhar, "Error Vector Magnitude Analysis in Generalized Fading with Co-Channel Interference," in *IEEE Trans. on Communications*, vol. 66, no. 1, pp. 345-354, Jan. 2018.
- ❑ S. Banerjee, K. Madan, C. R. Venkatesh and K. Giridhar "Downlink Preamble Design for Accurate Timing Synchronisation in Ultra-Dense Cellular Networks," *Wireless World Research Forum (WWRF-39)*, Barcelona, Spain, Oct. 2017.
- ❑ V. Gupta, A. Pradeep, M. Krishna, C. Muthulakshmi, C. A. Kaushik, C. R. Venkatesh and K. Giridhar, "Ultra-Reliable PPDR Broadcast using Licensed Simultaneously Shared Access networks," *IEEE International Conference on Communications (ICC Workshops)*, Paris, pp. 534-539, May 2017.

- ❑ P. Sriram, V. V. Kumar, A. B. Ayyar and K. Giridhar, "On Improving the BLER for ML Receivers in Block Faded Channels through Random Phase Rotation," *IEEE Wireless Communications and Networking Conference (WCNC)*, San Francisco, pp. 1-6, Apr. 2017.
- ❑ O.C. Vishnu, V. V. Kumar, M. Midhun and K. Giridhar. "Joint Uplink LLR Computation, Quantization, and Combining for Load-Balanced Small Cells" *IEEE Global Communications Conference (GLOBECOM-2016)*, Washington DC, pp. 1-6, Dec. 2016.
- ❑ S. Gupta, S. Kumar, R. Zhang, S. Kalyani, K. Giridhar and L. Hanzo, "Resource Allocation for D2D Links in the FFR and SFR Aided Cellular Downlink," in *IEEE Transactions on Communications*, vol. 64, no. 10, pp. 4434-4448, Oct. 2016.
- ❑ C. R. Venkatesh, S. Kumar, and K. Giridhar, "Multi Operator Simultaneously Shared Synchronised Air Interface for Communications (MOSSSAIC)," *Wireless World Research Forum (WWRF-37)*, Kassel, Germany, Oct. 2016.
- ❑ S. Kumar, S. Kalyani and K. Giridhar, "Impact of Sub-Band Correlation on SFR and Comparison of FFR and SFR," in *IEEE Trans. on Wireless Communications*, vol. 15, no. 8, pp. 5156-5166, Aug. 2016.
- ❑ S. V. Ramanan and K. Giridhar, "On the Dependence Between User Detection and Timing Advancement in LTE Ranging Channels," in *IEEE Communications Letters*, vol. 20, no. 7, pp. 1481-1484, July 2016.
- ❑ S. K. Pulliyakode, S. Kalyani, L. Hanzo and K. Giridhar, "Predicting the Affordable Rate in Interference-Limited Cellular Systems Using Higher-Order Markov Models," in *IEEE Access*, vol. 4, pp. 4730-4748, 2016.
- ❑ G. Raina, S. Manjunath, S. Prasad and K. Giridhar, "Stability and Performance Analysis of Compound TCP With REM and Drop-Tail Queue Management," in *IEEE/ACM Transactions on Networking*, vol. 24, no. 4, pp. 1961-1974, Aug. 2016.
- ❑ O. C. Vishnu, V. V. Kumar, and K. Giridhar, "Robust Multiuser Detection for Co-ordinated Communications in UHF Band," in *Wireless World Research Forum (WWRF-36)*, Beijing, May 2016.
- ❑ V. V. Kumar and K. Giridhar, "Power Efficient Communications for Joint Detection Receivers in Rician Channels," in *Wireless Telecommunications Symposium (WTS-2016)*, London, Apr. 2016.
- ❑ V. A. Thomas, S. Kumar, S. Kalyani, M. El-Hajjar, K. Giridhar and L. Hanzo, "Error Vector Magnitude Analysis of Fading SIMO Channels Relying on MRC Reception," in *IEEE Transactions on Communications*, vol. 64, no. 4, pp. 1786-1797, April 2016.
- ❑ S. V. Ramanan, C. R. Venkatesh and K. Giridhar, "Effective ranging techniques in LTE," *Twenty Second National Conference on Communication (NCC)*, Guwahati, pp. 1-6, Mar. 2016.
- ❑ I. Singh, S. Kalyani and K. Giridhar, "A Practical Compressed Sensing Approach for Channel Estimation in OFDM Systems," in *IEEE Communications Letters*, vol. 19, no. 12, pp. 2146-2149, Dec. 2015.
- ❑ S. Kumar, S. Kalyani, L. Hanzo and K. Giridhar, "Coverage Probability and Achievable Rate Analysis of FFR-Aided Multi-User OFDM-Based MIMO and SIMO Systems," in *IEEE Transactions on Communications*, vol. 63, no. 10, pp. 3869-3881, Oct. 2015.
- ❑ S. Kumar, S. Kalyani and K. Giridhar, "Optimal design parameters for coverage probability in fractional frequency reuse and soft frequency reuse," in *IET Communications*, vol. 9, no. 10, pp. 1324-1331, Oct. 2015.
- ❑ S. Kumar, S. Kalyani and K. Giridhar, "Spectrum Allocation for ICIC-Based Picocell," in *IEEE Transactions on Vehicular Technology*, vol. 64, no. 8, pp. 3494-3504, Aug. 2015.
- ❑ I. Singh, and K. Giridhar, "New results on perfect channel shortening schemes for MIMO OFDM systems", in *Transactions on Emerging Telecommunications Technologies*, vol. 26, no. 7, pp. 1031-1038, Jul. 2015.