List of Publications

Personal Webpage Link:

https://sites.google.com/iitism.ac.in/himanshu-mishra/home

Book Chapter:

K. Vasudevan, S. Kota, L. Kumar, and H. Bhusan Mishra, 'New Results on Single User Massive MIMO', MIMO Communications - Fundamental Theory, Propagation Channels, and Antenna Systems. IntechOpen, Dec. 20, 2023. doi: 10.5772/intechopen.112469.

List of Publications in Journals

1. Ranjan, Rakesh, Anibrata Bhattacharya, Samrat Mukhopadhyay, and **Himanshu B. Mishra**. *"Achievable rate maximization for intelligent reflecting surface-aided MIMO systems." AEU-International Journal of Electronics and Communications (2025): 155698.*
2. Kumar, Chandan, Debjani Mitra, and **Himanshu B. Mishra**. *"Low complexity stationary iteration based approximate inversion for signal detection in OTFS system." Physical Communication 66 (2024): 102469.*

3. S. Soujanya, P. Singh and **H. B. Mishra**, *"OFDM/OQAM-IRS System With Imperfect CSI," in IEEE Communications Letters, vol. 28, no. 10, pp. 2382-2386, Oct. 2024.*

4. R. K. Yadav, **H. B. Mishra**, S. Mukhopadhyay and R. Mishra, "IRS-OTFS Systems: Design of Reflection Coefficients for Low-Complexity ZF Equalizer," in *IEEE Transactions on Vehicular Technology*, vol. 73, no. 10, pp. 15721-15726, Oct. 2024. *(With my PhD Scholar Rakesh Yadav)*

5. Mukhopadhyay, Samrat, and **Himanshu B. Mishra**. "Multiple Choice Hard Thresholding Pursuit (MCHTP) for simultaneous sparse recovery and sparsity order estimation." *Signal Processing (2024)*

6. R. Ranjan, A. Bhattacharya, S. Mukhopadhyay and **H. B. Mishra**, "A Gradient Ascent Based Low Complexity Rate Maximization Algorithm for Intelligent Reflecting Surface-Aided OFDM Systems," in ***IEEE Communications Letters***, vol. 27, no. 8, pp. 2083-2087, Aug. 2023. *(With my PhD Scholar Rakesh Ranjan)*

7. S. Kumari, M. K. Dikkala, S. Mukhopadhyay and **H. B. Mishra**, "Two Choice Hard Thresholding Pursuit (TCHTP) for Delay-Doppler Channel Estimation in OTFS," in ***IEEE Wireless Communications Letters***, vol. 12, no. 6, pp. 1032-1036, June 2023. *(With my PhD Scholar Sweta Kumari)*

8. Dora, S.K., **Mishra, H.B.** & **Sahoo, M.** Low Complexity Implementation of OTFS Transmitter using Fully Parallel and Pipelined Hardware Architecture. *Journal of Signal Processing*

Systems (2023). https://doi.org/10.1007/s11265-023-01847-x *(With my PhD Scholar Sai Kumar Dora)*

9. P. Singh, K. Yadav, **H. B. Mishra** and R. Budhiraja, " BER Analysis For OTFS Zero Forcing Receivers," ***IEEE Transactions on Communications***, vol. 70, no. 4, pp. 2281-2297, 2022.

10. P. Singh, A. Gupta, **H. B. Mishra** and R. Budhiraja, "Low-Complexity ZF/MMSE MIMO-OTFS Receivers For High-Speed Vehicular Communication," ***IEEE Open Journal of the Communications Society***, vol. 3, pp. 209-227, 2022. (*picked by the IEEE Communication Society for the **best reading article in OTFS** and delay-Doppler signal processing under the multiple antenna and multiple access category*)

11. **Himanshu B. Mishra,** Singh, P., Prasad, A.K. and Budhiraja, R. "OTFS Channel Estimation And Data Detection Designs With Superimposed Pilots", ***IEEE Transactions on Wireless Communications***, vol. 21, no. 4, pp. 2258-2274, April 2022. (*picked by the IEEE Communication Society for the **best reading article in OTFS** and delay-Doppler signal processing under the channel estimation category*)

12. P. Singh, **H. B. Mishra**, A. K. Jagannatham, K. Vasudevan, and L. Hanzo, "Uplink sum-rate and power scaling laws for multi-user massive MIMO-FBMC systems," ***IEEE Transactions on Communications*** vol. 68, no. 1, pp. 161-176, 2020

13. Singh, Prem, **Himanshu B. Mishra**, Aditya K. Jagannatham, and K. Vasudevan. "Semi-Blind, Training, and Data-Aided Channel Estimation Schemes for MIMO-FBMC-OQAM Systems." ***IEEE Transactions on Signal Processing***, vol. 67, no. 18, pp. 4668-4682, 2019

14. E. Sharma, **Himanshu B. Mishra**, K. Vasudevan, R. Budhiraja " PAPR analysis of superimposed training based SISO/MIMO-OFDM systems with orthogonal affine precoder" ***Physical Communication***, *25*, pp.239-248, 2017

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Publications in Conferences

1. S. K. Dora, **H. B. Mishra**, M. Sahoo and K. Yadav, "Hardware Implementation of OTFS Modulation Using CORDIC Algorithm," *2024 International Conference on Signal Processing and Communications (SPCOM)*, Bangalore, India, 2024. (***Nominated for best paper award***)
2. S. Kumari, **H. B. Mishra** and S. Mukhopadhyay, "Greedy Sparse Channel Estimation Framework for Multi-User OTFS Systems," *2024 National Conference on Communications (NCC)*, Chennai, India, 2024, pp. 1-6, doi: 10.1109/NCC60321.2024.10485909. (with PhD Student S. Kumari)

3. R. Ranjan, A. Bhattacharya, **H. B. Mishra** and S. Mukhopadhyay, "A Low-Complexity Phase Shift Optimization to Achieve Security in IRS-Assisted MISO Systems," 2024 National

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5. S. Kumari, **H. B. Mishra** and S. Mukhopadhyay, "Peak-To-Average Power Ratio Analysis For Embedded Pilot And Superimposed Pilot Aided OTFS Waveform," *2023 IEEE Guwahati Subsection Conference (GCON)*, Guwahati, India, 2023, pp. 1-6, doi: 10.1109/GCON58516.2023.10183560. (With PhD Student S. Kumari)

6. S. K. Dora, R. K. Yadav, **M. Sahoo** and **H. B. Mishra**, "VLSI Architecture for Low Complexity Zero Forcing Equalizer in OTFS Modulation," *2023 International Conference on Electrical, Electronics, Communication and Computers (ELEXCOM)*, Roorkee, India, 2023, pp. 1-6, doi: 10.1109/ELEXCOM58812.2023.10370165. (With PhD Student S. K. Dora)

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11. Naveen K D Venkategowda, **Himanshu B Mishra** "Optimal Energy Transmission for Decentralized Detection in Wireless Powered Sensor Networks", IEEE Vehicular Technology Conference, Fall, 2018 , Chicago, IL, USA

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14. E Sharma, **Himanshu B Mishra**, K Vasudevan"PAPR Analysis of Superimposed Training Based MIMO-OFDM Systems using an Orthogonal Affine Precoder " *India Conference (**INDICON**), 2016 IEEE Annual*. IEEE, 2016.

15. **Mishra, HimanshuBhusan;** Mishra, Madhusmita; Patra, Sarat Kumar. "Selected mapping based PAPR reduction in WiMAX without sending the side information," ***IEEE. Conf. RAIT*. 2012**. , pp. 182-184