

List of Publications

Papers in Journals

1. Pappa M, C Ramesh and Chandra Shekar N, "Performance of fading channels in non-orthogonal multiple access", *Springer Lecture Notes in Electrical Engineering*, 2021, 711, pp. 533-545
2. Pappa M, C Ramesh, "Comparison of Compressed sensing MMSE channel estimation with Conventional LS and MMSE", Thomson Reuters Index Journal, *Indian Journal of Science and Technology (IJST)*, Vol 10(40), October 2017
3. Pappa M, C Ramesh, Dhanushree S, "Comparison of Priority and non-priority based channel estimation", *IAETSD Journal for Advanced Research in Applied Sciences*, Volume 4, Issue 2, July 2017
4. Pappa M, Madhushri N Kumar, "Performance Comparison of Massive MIMO and Conventional MIMO using Blind channel estimation Technique", *International Journal of Innovative Research in Computer and Communication Engineering*, Vol. 4, Issue 4, April 2016, DOI: 10.15680/IJRCCE.2016.0404320
5. Pappa M, Greeshma Sajive, "Implementation of Precoder based Blind channel estimation for Conventional and Massive MIMO systems", *International Journal of Advanced Research in Computer Science and Software Engineering*, Volume 3, Issue 5, May 2015, pp. 1348-1354
6. Pappa M, Lakshmi R, "Frame Acquisition and carrier frequency synchronization for OFDM system", *International Journal of Informative and Futuristic Research*, Volume 2, Issue 8, April 2015, 20th Edition, Page No: 2722-2729

Papers in Conferences

1. Pappa M, Anil S, Ramesh C, "Implementation of MIMO OFDM NOMA System using Iterative algorithm", *International Conference on Materials Science and Manufacturing Technology*, Coimbatore, *IOP Conference Series: Materials Science and Engineering*, Volume 1166 (2021) 012042, IOP publishing doi:10.1088/1757-899X/1166/1/012042
2. Pappa M, C Ramesh and Chandra Shekar N, "Performance of fading channels in non-orthogonal multiple access", *Second International Conference on Advances in Electrical and Computer Technologies (ICAECT 2020)*, Volume 1, SPEC1046
3. Pappa M, C Ramesh, "Comparison of Compressed sensing MMSE channel

estimation with Conventional LS and MMSE” , *3rd International Conference on Recent Trends in Computer Science and Electronics(RTCSE 2018)*, Thailand

4. Pappa M, C Ramesh and Madhushri N Kumar, “Performance Comparison of Massive MIMO and Conventional MIMO using channel parameters”, *IEEE Conference WISPNET 2017*, 978-1-5090-4442

Bibliography

- [1] David Tse and Pramod Viswanath, “Fundamentals of wireless communication”, Cambridge university press, 2005
- [2] Yuehua Yu, He Chen, Yonghui Li, Zhiguo Ding, Ling yang Song, and Branka Vucetic, “Antenna selection for MIMO Non orthogonal multiple access systems”, IEEE Transactions on vehicular technology, 67:3158 - 3171, 2017
- [3] Shahab Sanayei and Aria Nosratinia, “Antenna selection in MIMO systems”, IEEE Communications magazine, 42:68 - 73, 2004
- [4] SM Riazul Islam, Nurilla Avazov, Octavia A Dobre, and Kyung-Sup Kwak, “Power-domain non-orthogonal multiple access (NOMA) in 5G systems: Potentials and challenges”, IEEE Communications Surveys & Tutorials, 19:721- 742, 2016
- [5] Yuya Saito, Anass Benjebbour, Yoshihisa Kishiyama, and Takehiro Nakamura, “System-level performance evaluation of downlink non-orthogonal multiple access (NOMA)”, 2013 IEEE 24th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), pages 611- 615, 2013
- [6] Imran Hussain, Sadia Hussain, Imtiaz Khokhar, and Raja Iqbal, “OFDMA as the technology for the next generation mobile wireless internet”, 2007 Third International Conference on Wireless and Mobile Communications (ICWMC'07), pages 14- 14, 2007
- [7] Gordon L Stuber, John R Barry, Steven W Mclaughlin, Ye Li, Mary Ann Ingram, and Thomas G Pratt, “Broadband MIMO-OFDM wireless communications”, Proceedings of the IEEE, 92:271 - 294, 2004
- [8] Hujun Yin and Siavash Alamouti, “OFDMA: A broadband wireless access technology”, 2006 IEEE Sarnoff symposium, pages 1- 4, 2006
- [9] Yang Xiao and Jon Rosdahl, “Throughput and delay limits of IEEE 802.11”, IEEE Communications letters, 6:355 - 357, 2002
- [10] Sassan Ahmadi, “5G NR: Architecture, Technology, Implementation, and operation of 3GPP new radio standards”, Academic Press, 2019
- [11] Harish Viswanathan and Marcus Weldon, “The past, present, and future of mobile communications”, Bell Labs Technical Journal, 19:8- 21, 2014
- [12] Zhiguo Ding, Zheng Yang, Pingzhi Fan, and H Vincent Poor, “On the performance of Non-orthogonal multiple access in 5G systems with randomly deployed users” ,IEEE signal processing letters, 21(12):1501 - 1505, 2014
- [13] Beomju Kimy, Sungmook Lim, Hyungjong Kim, Sangwook Suh, Jonghyung Kwun, Sooyong Choi, Chungyong Lee, Sanghoon Lee, and Daesik Hong, “Non- orthogonal

- multiple access in a downlink multiuser beamforming system”, MILCOM 2013-2013 IEEE Military Communications Conference, pages 1278 -1283, 2013
- [14] Hongjiang Lei, Jianming Zhang, Ki-Hong Park, Peng Xu, Imran Shafique Ansari, Gaofeng Pan, Basel Alomair, and Mohamed-Slim Alouini, “On secure NOMA systems with transmit antenna selection schemes”, IEEE Access, 5:17450- 17464, 2017
- [15] Hosein Nikopour and Hadi Baligh, “Sparse code multiple access”, 2013 IEEE 24th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), pages 332- 336, 2013
- [16] Zeyad Elsaraf, Faheem Khan, and Qasim Ahmed, “Performance analysis of code-domain NOMA in 5G communication systems” ,2019 Proceedings of the Emerging Technologies Conference, Huddersfield, UK, 2019
- [17] Alan C Brooks, Stephen J Hoelzer, Thomas L Stewart, and In Soo Ahn, “Design and simulation of orthogonal frequency division multiplexing (ofdm) signaling”, Electronic Publication: Digital Object Identifiers (DOIs), pages 1- 4, 2001
- [18] Richard DJ Van Nee and Ramjee Prasad, “OFDM for wireless multimedia communications
- [19] Angela Doufexi, Simon Armour, Michael Butler, Andrew Nix, David Bull, Joseph McGeehan, and Peter Karlsson, “A comparison of the Hiperlan/2 and IEEE 802.11 a wireless LAN standards” ,IEEE Communications magazine, 40:172- 180, 2002
- [20] David Johnston and Jesse Walker, “Overview of IEEE 802.16 security”, IEEE Security and Privacy, 2:40 - 48, 2004
- [21] Kevin Baum, Brian Classon, and Phillire Sartori, “Principles of broadband OFDM cellular system design”, Wiley, 2008
- [22] Xiaohua Li and Fan Ng, “Using cyclic prefix to mitigate carrier frequency and timing Asynchronism in cooperative OFDM transmissions”,2006 Fortieth Asilo mar Conference on Signals, Systems and Computers, pages 1791- 1795, 2006
- [23] Lajos Hanzo, Byungcho Choi, Thomas Keller, et al, “OFDM and MC-CDMA for broadband multi-user communications, WLANs and broadcasting”, John Wiley and Sons
- [24] Bernard Sklar, “Digital communications”, volume 2, Prentice hall Upper Saddle River, NJ, USA
- [25] Bernard Sklar, “Rayleigh fading channels in mobile digital communication systems. and characterization”, IEEE Communications magazine, 35:90 -100, 1997
- [26] DE Paula and B Abdon, “An introduction to Doppler effect and fading in mobile communications”, Technical report, NAVAL POSTGRADUATE SCHOOL MONTEREY CA, 1992

- [27] John G Proakis and Masoud Salehi, "Digital communications", volume 4. McGraw-Hill New York, 2001
- [28] Claude Oestges and Bruno Clerckx, "MIMO wireless communications: from real-world propagation to space-time code design", Academic Press, 2010
- [29] Marvin K Simon and Mohamed-Slim Alouini, "Digital communications over fading channels (mk simon and ms alouini; 2005) [book review]", IEEE Transactions on Information Theory, 54:3369 - 3370, 2008
- [30] Jack H Winters, "Optimum combining in digital mobile radio with co-channel interference", IEEE transactions on vehicular technology, 33:144- 155, 1984
- [31] Ana Katalinic, Robert Nagy, and Radovan Zentner, "Benefits of MIMO systems in practice: increased capacity, reliability and spectrum efficiency", Proceedings ELMAR 2006, pages 263- 266, 2006
- [32] Lizhong Zheng and David N. C. Tse, "Diversity and multiplexing: A fundamental trade off in multiple-antenna channels", IEEE Transactions on information theory, 49:1073 - 1096, 2003
- [33] Dakshi Agrawal, Vahid Tarokh, Ayman Naguib, and Nambi Seshadri, "Space- time coded OFDM for high data-rate wireless communication over wideband channels", VTC'98, 48th IEEE Vehicular Technology Conference. Pathway to Global Wireless Revolution (Cat. No. 98CH36151), volume 3, pages 2232- 2236, 1998
- [34] Yong Soo Cho, Jaekwon Kim, Won Y Yang, and Chung G Kang, "MIMO-OFDM wireless communications with MATLAB", John Wiley and Sons, 2010
- [35] Ye Li, "Simplified channel estimation for OFDM systems with multiple transmit antennas", IEEE Transactions on wireless communications, 1:67-75, 2002
- [36] E B Joranson, E Larsson, and T Marzetta, "Massive MIMO: Ten myths and one critical question", IEEE Communications Magazine, 54, 2016
- [37] Xiang Gao, Ove Edfors, Fredrik Rusek, and Fredrik Tufvesson, "Massive mimo performance evaluation based on measured propagation data", IEEE Transactions on Wireless Communications, 14:3899 - 3911, 2015
- [38] Saif Khan Mohammed and Erik G Larsson, "Per-antenna constant envelope precoding for large multi-user MIMO systems", IEEE Transactions on Communications, 61:1059 - 1071, 2013
- [39] Christoph Studer and Erik G Larsson, "Par-aware large-scale multi-user MIMO-OFDM downlink", IEEE Journal on Selected Areas in Communications, 31:303-313, 2013
- [40] Florian Kaltenberger, Haiyong Jiang, Maxime Guillaud, and Raymond Knopp, "Relative channel reciprocity calibration in MIMO/TDD systems", 2010 Future Network and Mobile Summit, pages 1-10, 2010

- [41] Hoon Huh, Antonia M Tulino, and Giuseppe Caire, "Network MIMO with linear zero-forcing beamforming: Large system analysis, impact of channel estimation, and reduced-complexity scheduling", *IEEE Transactions on Information Theory*, 58:2911- 2934, 2011
- [42] Jun young Nam, Jae-Young Ahn, Ansuman Adhikary, and Giuseppe Caire, "Joint spatial division and multiplexing: Realizing massive MIMO gains with limited channel state information", 2012 46th annual conference on information sciences and systems (CISS), pages 1- 6, 2012
- [43] Balasubramanian Gopalakrishnan and Nihar Jindal, "An analysis of pilot contamination on multi-user MIMO cellular systems with many antennas", 2011 IEEE 12th international workshop on signal processing advances in wireless communications, pages 381- 385, 2011
- [44] Helmut Bolcskei, David Gesbert, Constantinos B Papadias, and A-J Van der Veen, "Space-time wireless systems: from array processing to MIMO communications", Cambridge University Press
- [45] Jerry M Mendel, "Lessons in estimation theory for signal processing, communications, and control", Pearson Education
- [46] Frank Dietrich, "Robust signal processing for wireless communications", volume 2, Springer Science and Business Media, 2007
- [47] James K Cavers., "An analysis of pilot symbol assisted modulation for Rayleigh fading channels (mobile radio)", *IEEE transactions on vehicular technology*, 40:686-693, 1991
- [48] Alan J Coulson, "Maximum likelihood synchronization for OFDM using a pilot symbol: algorithms", *IEEE Journal on Selected Areas in Communications*, 19:2486 - 2494, 2001
- [49] Michele Morelli and Umberto Mengali, "A comparison of pilot-aided channel estimation methods for OFDM systems", *IEEE Transactions on signal processing*, 49:3065 - 3073, 2001
- [50] Sumit Roy and Chengyang Li, "A subspace blind channel estimation method for OFDM systems without cyclic prefix", *IEEE Transactions on Wireless Communications*, 1:572- 579, 2002
- [51] Lang Tong and Sylvie Perreau, "Multichannel blind identification: From sub- space to maximum likelihood methods", *Proceedings of the IEEE*, 86:1951- 1968, 1998
- [52] Lang Tong, Guanghan Xu, and Thomas Kailath, "Blind identification and equalization based on second-order statistics: A time domain approach", *IEEE Transactions on information Theory*, 40:340- 349, 1994

- [53] Sinem Coleri, Mustafa Ergen, Anuj Puri, and Ahmad Bahai, "Channel Estimation techniques based on pilot arrangement in OFDM systems", *IEEE Transactions on broadcasting*, 48:223 - 229, 2002
- [54] Petre Stoica and Olivier Besson, "Training sequences design for frequency offset and frequency-selective channel estimation", *IEEE Transactions on Communications*, 51:1910 - 1917, 2003
- [55] Akash Kumar Shrivastava et al, "A comparative analysis of LS and MMSE channel estimation techniques for MIMO OFDM system", *International Journal for Scientific Research and Development*, 1:44 - 48, 2015
- [56] Gabor Fodor, Piergiuseppe Di Marco, and Miklos Telek, "Performance analysis of block and comb type channel estimation for massive MIMO systems", *1st International Conference on 5G for Ubiquitous Connectivity*, pages 62- 69, 2014
- [57] David Neumann, Michael Joham, Lorenz Weiland, and Wolfgang Utschick, "Low-complexity computation of LMMSE channel estimates in Massive MIMO", *WSA 2015; 19th International ITG Workshop on Smart Antennas*, pages 1- 6, 2015
- [58] Siavash M Alamouti, "A simple transmit diversity technique for wireless communications", *IEEE Journal on selected areas in communications*, 16:1451- 1458, 1998
- [59] Kimmo Kalliola et al, "Experimental analysis of multidimensional radio channels", *Helsinki University of Technology*, 2002
- [60] Y Geoffrey Li, Jack H Winters, and Nelson R Sollenberger, "MIMO-OFDM for wireless communications: Signal detection with enhanced channel estimation", *IEEE Transactions on communications*, 50:1471- 1477, 2002
- [61] Hans-Peter Kuchenbecker Van Duc Nguyen, "Intercarrier and intersymbol interference analysis of OFDM systems on time-invariant channels", *Personal, Indoor and Mobile Radio Communications*, pages 1482 - 1487, 2002
- [62] David Gesbert, Mansoor Shafi, Da-shan Shiu, Peter J Smith, and Ayman Naguib, "From theory to practice: An overview of MIMO space-time coded wireless systems", *IEEE Journal on selected areas in Communications*, 21:281- 302, 2003
- [63] AH Al-Hassan, "Design and Implementation of Software Radio Receiver over Mobile Channel", *M. Sc. Thesis, Al-Nahrain University*, 2004
- [64] Sandeep H Krishnamurthy, "Fundamental limits and joint design of wireless systems with vector antennas", *North Carolina State University*, 2005
- [65] Matthew R Mckay, "Random matrix theory analysis of multiple antenna communication systems", *PhD thesis, Citeseer*, 2006
- [66] Ming Jiang and Lajos Hanzo, "Multiuser MIMO-OFDM for next-generation wireless systems", *Proceedings of the IEEE*, 95:1430 - 1469, 2007

- [67] Angel Lozano and Nihar Jindal, "Transmit diversity vs. spatial multiplexing in modern MIMO systems", *IEEE Transactions on wireless communications*, 9:186 - 197, 2010
- [68] Jiang Xuehua and Chen Peijiang, "Research and simulation of MIMO-OFDM wireless communication system", 2009 International Forum on Information Technology and Applications, volume 1, pages 83 - 86, 2009
- [69] Nirmalendu Bikas Sinha, Makar Chand Snai, and M Mitra, "Performance enhancement of MIMO-OFDM technology for high data rate wireless networks", *International Journal of Computer Science and Application*, 2010:122 - 128, 2010
- [70] J Jayakumari, "MIMO-OFDM for 4G wireless systems", *Int. J.Engineereing Science and Technology*, 2:2886 - 2889, 2010
- [71] Yan Zhou, Ying Wang, Tan Wang, Ke Zhang, and Weidong Zhang, "Iterative inter-cell interference coordination in MU-MIMO systems", 2011 IEEE 73rd Vehicular Technology Conference (VTC Spring), pages 1- 5, 2011
- [72] Kuixi Chen, Jihua Lu, Bo Yang, Zhilun Li, and Zibin Zhang, "Performance analysis of an OFDM transmission system based on IEEE802.11a", 2011 Global Mobile Congress, pages 1- 6, 2011
- [73] Mitalee Agrawal and Yudhishtir Raut, "BER analysis of MIMO OFDM system for AWGN & Rayleigh fading channel", *International Journal of Computer Applications*, 34:33-37, 2011
- [74] Ruchin Mangla and Maninder Singh, "Performance comparison of MIMO-OFDM transceiver wireless communication system using QAM and QPSK modulation schemes", *International Journal of Advances in Engineering Science and Technology*, 1:2319 - 1120, 2012
- [75] Shreedhar A Joshi, TS Rukmini, and HM Mahesh, "Space time block coding for MIMO systems using Alamouti method with digital modulation techniques", *World Journal of Science and Technology*, 1:125 - 131, 2011
- [76] Abbas Mohammadi and Fadhel M Ghannouchi, "Digital modulation techniques in MIMO systems", *RF Transceiver Design for MIMO Wireless Communications*, pages 27- 54. Springer
- [77] Ramya Ranjan Choudhury, "A network overview of Massive MIMO for 5G wireless cellular: System Model and Potentials", *International Journal of engineering research and general science*, 2:338 - 347, 2014
- [78] Osama M Haraz, Mohammad Ashraf, and Saleh Alshebeili, "Single-band pifa MIMO antenna system design for future 5G wireless communication applications", 2015 IEEE 11th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), pages 608 - 612, 2015

- [79] Zeineb Hraiech, Fatma Abdelke, and Mohamed Siala, "Pops-OFDM: Ping-pong optimized pulse shaping-OFDM for 5G systems", 2015 IEEE International Conference on Communications (ICC), pages 4781- 4786, 2015
- [80] Zhi-guo Ding, Mai Xu, Yan Chen, Mu-gen Peng, and H Vincent Poor, "Embracing non-orthogonal multiple access in future wireless networks", *Frontiers of Information Technology and Electronic Engineering*, 19:322 - 339, 2018
- [81] Yongming Huang, Cheng Zhang, Jiaheng Wang, Yindi Jing, Luxi Yang, and Xiaohu You, "Signal processing for MIMO NOMA: Present and future challenges", *IEEE Wireless Communications*, 25:32 - 38, 2018
- [82] S Syed Ameer Abbas and S Priyadarsisni, "Realization of NOMA scheme using Interleaved Division Multiple access for 5G", *Int. J. Appl. Eng. Res*, 2018
- [83] Mahmoud Aldababsa, Mesut Toka, Selahattin Gokceli, Giines Karabulut Kurt, and Oguz Kucur, "A tutorial on nonorthogonal multiple access for 5g and beyond", *wireless communications and mobile computing*, 2018
- [84] Bichai Wang, Linglong Dai, Xiqi Gao, and Lajos Hanzo, "Beamspace MIMO-NOMA for millimetre-wave communications using lens antenna arrays", 2017 IEEE 86th Vehicular Technology Conference (VTC-Fall), pages 1- 5, 2017
- [85] Rima Raissawinda, I Gede Puja Astawa, Yoedy Moegiharto, Ahmad Zainudin, and Imam Dui Agusalm, "Channel estimation design of MIMO OFDM systems using MMSE for IEEE 802.11n WLAN standard", *European Scientific Journal*, 10, 2014
- [86] Pappa M, Ramesh C, and Madhushri N Kumar, "Performance comparison of massive MIMO and conventional MIMO using channel parameters", *International Conference on wireless communications signal processing and Networking*, pages 1808- 1812, March 2017
- [87] Saleem Saqib and Qamar ul Islam, "Channel estimation using adaptive filtering for LTE-Advanced", *International Journal of Computer Science Issues*, 2011
- [88] Zhi-guo Ding, Mai Xu, Yan Chen, Mu-gen Peng, and H Vincent Poor, "Embracing non-orthogonal multiple access in future wireless networks", *Frontiers of Information Technology and Electronic Engineering*, 19:322 - 339, 2018
- [89] Yongming Huang, Cheng Zhang, Jiaheng Wang, Yindi Jing, Luxi Yang, and Xiaohu You, "Signal processing for MIMO NOMA: Present and future challenges", *IEEE Wireless Communications*, 25:32 - 38, 2018
- [90] N Lohith Kumar and J Jenitta, "Amended Fast Fourier transform algorithm implementation for error correction codes in OFDM", 2017 International Conference on Intelligent Computing and Control (I2C2), pages 1- 5, 2017
- [91] Muhammad Adeel Pasha, Momin Uppal, Muhammad Hassan Ahmed, Muhammad Aimal Rehman, and Muhammad Awais Bin Altaf, "Towards design and automation

- of hardware-friendly Noma receiver with iterative multi-user detection”, 2017 54th ACM/EDAC/IEEE Design Automation Conference (DAC), pages 1- 6, 2017
- [92] Yizhi Tan, Jingrong Zhou, and Jiayin Qin, “Novel channel estimation for Non-orthogonal multiple access systems”, *IEEE Signal Processing Letters*, 23:1781- 1785, 2016
- [93] M Pappa, C Ramesh, and N Chandra Shekar, “Performance of fading channels in non-orthogonal multiple access”, *Advances in Electrical and Computer Technologies*, pages 533- 545, 2021
- [94] Kevin Baum, Brian Classon, and Phillire Sartori, “Principles of broadband OFDM cellular system design”, Wiley, 2008
- [95] AS Namitha and SM Sameer, “A bandwidth efficient selective mapping technique for the PAPR reduction in spatial multiplexing MIMO-OFDM wireless communication system”, *Physical Communication*, 25:128- 138, 2017
- [96] Ra k Zayani, Hmaied Shaiek, and Daniel Roviras, “PAPR-aware massive MIMO-OFDM downlink”, *IEEE Access*, 7:25474 - 25484, 2019
- [97] Shane F Cotter and Bhaskar D Rao, “Sparse channel estimation via matching pursuit with application to equalization”, *IEEE Transactions on Communications*, 50:374 - 377, 2002
- [98] Zhiguo Ding, Linglong Dai, and H Vincent Poor, “MIMO NOMA design for small packet transmission in the Internet of things”, *IEEE Access*, 4:1393- 1405, 2016
- [99] Robert W Heath and Arogyaswami J Paulraj, “Switching between diversity and multiplexing in MIMO systems”, *IEEE Transactions on Communications*, 53:962- 968, 2005
- [100] Patrick Maechler, Pierre Greisen, Norbert Felber, and Andreas Burg, “Matching pursuit: Evaluation and implementation for LTE channel estimation”, *Proceedings of 2010 IEEE International Symposium on Circuits and Systems*, pages 589 - 592, 2010
- [101] Thomas L Marzetta, “Non cooperative cellular wireless with unlimited numbers of base station antennas”, *IEEE transactions on wireless communications*, 9:3590-3600, 2010
- [102] Muhammad Basit Shahab, Md Fazlul Kader, and Soo Young Shin, “Simulink implementation of non-orthogonal multiple access over AWGN and Rayleigh fading channels”, 2016 International conference on smart green technology in electrical and information systems (ICSGTEIS), pages 107- 110, 2016
- [103] Shruti Trivedi, Mohd Sarwar Raean, and Shalendra Singh Pawar, “BER analysis of MIMO-OFDM system using BPSK modulation scheme”, *International journal of advanced computer research*, 2:208, 2012