

## LIST OF PUBLICATIONS AND PATENTS

Dr. **Antti Tölli**  
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### ARTICLES IN PEER-REVIEWED INTERNATIONAL JOURNALS AND MAGAZINES

1. **A. Tölli**, H. Ghauch, J. Kaleva, P. Komulainen, M. Bengtsson, M. Skoglund, M. Honig, E. Lähtekangas, E. Tirola and K. Pajukoski, “Distributed Coordinated Transmission with Forward-Backward Training for 5G Radio Access”, *IEEE Communications Magazine*, vol. 57, no. 1, pp. 58-64, January 2019.
2. H. Asgharimoghaddam, **A. Tölli**, L. Sanguinetti & M. Debbah, “Decentralizing Multicell Beamforming via Deterministic Equivalents”, *Transactions on Communications*, vol. 67, no. 3, pp. 1894-1909, Nov 2018.
3. D. Kumar, J. Saloranta, J. Kaleva, G. Destino, **A. Tölli**, ”Reliable Positioning and mmWave Communication via Multi-Point Connectivity.” *Sensors* 18, no. 11: 4001, 2018.
4. P. Jayasinghe, **A. Tölli**, J. Kaleva & M. Latva-aho, “Bi-directional Beamformer Training for Dynamic TDD Networks”, *Transactions on Signal Processing*, vol. 66, no. 23, pp. 6252-6267, 1 Dec.1, 2018.
5. E. S. Lohan, M. Koivisto, O. Galinina, S. Andreev, **A. Tölli**, G. Destino, M. Costa, K. Leppänen, Y. Koucheryavy, and M. Valkama, ”Benefits of Positioning-Aided Communication Technology in High-Frequency Industrial IoT”, *IEEE Communications Magazine*, vol. 56, no. 12, pp. 142-148, December 2018.
6. J. Kaleva, **A. Tölli**, M. Juntti, R. Berry, and M. Honig, “Decentralized Joint Precoding with Pilot Aided Beamformer Estimation,” *IEEE Transactions on Signal Processing*, vol. 66, no. 9, pp. 2330-2341, May 2018.
7. G. Venkatraman, **A. Tölli**, M. Juntti & L-N. Tran, “Multigroup Multicast Beamformer Design for MISO-OFDM With Antenna Selection”, *IEEE Transactions on Signal Processing*, vol. 65, no. 22, pp. 5832-5847, November 2017
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9. G. Fodor, N. Rajatheva, W. Zirwas, L. Thiele, M. Kurras, K. Guo, **A. Tölli**, J. H. Sorensen, E. de Carvalho, “An Overview of Massive MIMO Technology Components in METIS”, *IEEE Communications Magazine*, vol. 55, no. 6, June, 2017
10. G. Venkatraman, **A. Tölli**, M. Juntti & L-N. Tran, “Traffic Aware Resource Allocation Schemes for Multi-Cell MIMO-OFDM Systems”, *IEEE Transactions on Signal Processing*, vol. 64, no. 11, pp. 2730–2745, June 2016.
11. J. Kaleva, **A. Tölli** & M. Juntti, “Decentralized Sum Rate Maximization with QoS Constraints for Interfering Broadcast Channel via Successive Convex Approximation”, *IEEE Transactions on Signal Processing*, vol. 64, no. 11, pp. 2788–2802, June 2016.
12. H. Pennanen, **A. Tölli**, J. Kaleva, P. Komulainen & M. Latva-aho, “Decentralized Linear Transceiver Design and Signaling Strategies for Sum Power Minimization in Multi-Cell MIMO Systems” *IEEE Transactions on Signal Processing*, vol. 64, no. 7, pp. 1729–1743, April 2016.
13. V. Tervo, **A. Tölli** & T. Matsumoto, “PAPR Constrained Power Allocation for Multicarrier Transmission in Multiuser SIMO Communications”, *IEEE Transactions on Wireless Communications*, vol. 15, no. 4, pp. 2458–2473, April 2016.

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28. K. Fukawa, S. Ormsub, **A. Tölli**, K. Anwar & T. Matsumoto, "EXIT-constrained BICM-ID Design Using Extended Mapping", EURASIP Journal on Wireless Communications and Networking, Vol. 2012, No. 40, 17 pages, February 2012

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39. N. J. Myers, J. Kaleva, **A. Tölli** and Robert W. Heath Jr., “Message passing-based link configuration in short range millimeter wave systems”, *IEEE Trans. Comm* (major revision), Nov 2019, Available at: <https://arxiv.org/pdf/1907.05009>
40. **A. Tölli**, S. P. Shariatpanahi, J. Kaleva, and B. H. Khalaj, “Multi-antenna interference management for coded caching,” *IEEE Trans. Wireless Comm.* (major revision), July 2019, Available at: <http://arxiv.org/abs/1711.03364>
41. D. Kumar, J. Kaleva, and **A. Tölli**, “Reliable mmWave Communication via Coordinated Multi-Point Connectivity”, submitted to *IEEE Transactions on Signal Processing*, Oct 2019
42. H. Asgharimoghaddam J. Kaleva and **A. Tölli**, “Capacity Approaching Low Density Spreading in Uplink NOMA via Asymptotic Analysis”, submitted to *IEEE Transactions on Information Theory*, Oct 2019

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43. T. Takahashi, **A. Tölli**, S. Ibi and S. Sampei, “Low-complexity Beam-domain Channel Estimation with Long-term Statistics for Large MIMO Detection”, in Proc. IEEE Global Commun. Conf., Hawaii, USA, Dec. 2019, pp. 1–6.
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51. H. B. Mahmoodi, J. Kaleva, and **A. Tölli**, “Complexity Reduction in Multicast Beamforming for D2D Assisted Coded Caching”, in Proc. International Symposium on Wireless Communication Systems (ISWCS), Oulu, Finland, Aug. 2019
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55. M Abdelghany, U. Madhow & **A. Tölli**, ”Beamspace Local LMMSE: An Efficient Digital Backend for mmWave Massive MIMO”, in Proc. IEEE SPAWC 2019, Cannes, France, Jul 2019
56. T. Takahashi, **A. Tölli**, S. Ibi and S. Sampei, “Layered Belief Propagation for Low-complexity Large MIMO Detection Based on Statistical Beams”, in Proc. IEEE International Conference on Communications (ICC) 2019, Shanghai, China, May 2019
57. Padmanabhan & **A. Tölli**, “An Iterative Approach for Inter-Group Interference Management in Two-Stage Precoder Design” in Proc. IEEE Globecom 2018, Abu Dhabi, UAE, December, 2018

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67. J. Kaleva, **A. Tölli**, M. Juntti, R. Berry, & M. Honig, "Gradient Based Decentralized Joint Beamforming", in Proc. IEEE PIMRC, Montreal, Canada, October 2017
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86. O. Raaesi, Y. Zou, **A. Tölli**, M. Valkama, "On the Effects of UE Transceiver Non-Reciprocity in Coordinated TDD Multi-Cell MIMO Network", in Proc. IEEE Global Telecommun. Conf., San Diego, USA, December 2015
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