

Publications of Slawomir Stanczak

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Books

- [1] S. Stanczak, M. Wiczanowski, and H. Boche. *Fundamentals of Resource Allocation in Wireless Networks*, volume 3 of *Foundations in Signal Processing, Communications and Networking*. Springer, Berlin, 2009.
- [2] S. Stanczak, M. Wiczanowski, and H. Boche. *Resource Allocation in Wireless Networks - Theory and Algorithms*. Lecture Notes in Computer Science (LNCS 4000). Springer, Berlin, 2006.

Book Chapters

- [1] D. A. Awan, R. L.G. Cavalcante, M. Yukawa, and S. Stanczak. *Machine Learning for Future Wireless Communications*, chapter Adaptive Learning for Symbol Detection: A Reproducing Kernel Hilbert Space Approach, page 15. Wiley & IEEE Press, New York, United States, 2020.
- [2] S. Maghsudi and S. Stanczak. *Communications in Interference-Limited Networks*, chapter Distributed Channel Selection for Underlay Device-to-Device Communications: A Game-Theoretical Learning Framework. Springer International Publishing, 2015.
- [3] M. Goldenbaum, S. Stanczak, and H. Boche. *Communications in Interference-Limited Networks*, chapter Interference-Aware Analog Computation over the Wireless Channel: Fundamentals and Strategies. Springer International Publishing, 2015.
- [4] R. L. G. Cavalcante, S. Stanczak, and I. Yamada. *Cooperative Cognitive Radios with Diffusion Networks*, chapter Cognitive Radio and Sharing Unlicensed Spectrum in the book Mechanisms and Games for Dynamic Spectrum Allocation, pages 262–303. Cambridge University Press, UK, 2014.
- [5] S. Stanczak and H. Boche. *Towards a better understanding of the QoS tradeoff in multiuser multiple antenna systems*, pages 521–543. EURASIP Book Series on Signal Processing and Communications. Hindawi Publishing Corporation, 2005.

Journal Papers

- [1] R. Hernangómez, A. Santra, and S. Stanczak. A study on feature processing schemes for deep-learning-based human activity classification using frequency-modulated continuous-wave radar. *IET Radar, Sonar & Navigation, Volume 14, Issue 7, July 2020*, Jul. 2020.
- [2] C.-X. Wang, M. Di Renzo, S. Stanczak, S. Wang, and E. G. Larsson. Artificial intelligence enabled wireless networking for 5g and beyond: Recent advances and future challenges. *IEEE Wireless Communications Magazine, Intelligent Radio: When Artificial Intelligence Meets Radio Network*, Feb. 2020.
- [3] D. A. Awan, R. L.G. Cavalcante, and S. Stanczak. Robust Cell-Load Learning with a Small Sample Set. *IEEE Trans. on Signal Processing, accepted*, 24. Nov. 2019.

- [4] R. L.G. Cavalcante, Q. Liao, and S. Stanczak. Connections between spectral properties of asymptotic mappings and solutions to wireless network problems. *IEEE Trans. on Signal Processing*, 2019. (accepted).
- [5] S. Limmer and S. Stanczak. A neural architecture for Bayesian compressive sensing over the simplex via Laplace techniques. *IEEE Trans. on Signal Processing*, 66(22):6002–6015, Nov. 2018.
- [6] C. Bockelmann et al. Towards massive connectivity support for scalable mmTc communications in 5g networks. *IEEE Access 6: 28969-28992*, May 2018.
- [7] J. Schreck, P. Jung, and S. Stanczak. Compressive rate estimation with applications to device-to-device communications. *IEEE Trans. on Wireless Communications*, 17(10):7001–7012, Oct. 2018.
- [8] R. L.G. Cavalcante, M. Kasparick, and S. Stanczak. Max-min utility optimization in load coupled interference networks. *IEEE Trans. on Wireless Communications*, 16(2):705–716, Feb. 2017.
- [9] W. Samek, S. Stanczak, and T. Wiegand. The convergence of machine learning and communications. *ITU Journal: ICT Discoveries, Special Issue No. 1*, Oct. 13 2017.
- [10] R. L.G. Cavalcante, S. Stanczak, J. Zhang, and H. Zhuang. Low complexity iterative algorithms for power estimation in ultra-dense load coupled networks. *IEEE Trans. on Signal Processing*, 64(22):6058–6070, May 2016.
- [11] G. Cao, P. Jung, S. Stanczak, and F. Yu. Data Aggregation and Recovery in Wireless Sensor Networks Using Compressed Sensing. *International Journal of Sensor Networks (IJSNet)*, 22(4):209–219, 2016.
- [12] J. Mohammadi, S. Limmer, and S. Stanczak. A decentralized eigenvalue computation method for spectrum sensing based on average consensus. *Frequenz*, July 2016.
- [13] R.L.G. Cavalcante, Y. Shen, and S. Stanczak. Elementary properties of positive concave mappings with applications to network planning and optimization. *IEEE Trans. on Signal Processing*, 64(7):1774–1783, April 2016.
- [14] E. Pollakis, R.L.G. Cavalcante, and S. Stanczak. Traffic demand-aware topology control for enhanced energy-efficiency of cellular networks. *EURASIP Journal on Wireless Communications and Networking*, 2016(61):1–17, Feb. 2016.
- [15] M. Kasparick, R. L. G. Cavalcante, S. Valentin, S. Stanczak, and M. Yukawa. Kernel-based adaptive online reconstruction of coverage maps with side information. *IEEE Trans. on Vehicular Technology*, 65(7):5461–5473, July 2015.
- [16] F. Penna and S. Stanczak. Decentralized eigenvalue algorithms for distributed signal detection in cognitive networks. *IEEE Trans. on Signal Processing*, 63(2):427–440, Jan. 2015.
- [17] S. Maghsudi and S. Stanczak. Hybrid centralized-distributed resource allocation for device-to-device communication underlying cellular networks. *IEEE Trans. on Vehicular Technology*, 65(4):2481–2495, April 2015.
- [18] S. Maghsudi and S. Stanczak. Joint channel selection and power control in infrastructureless wireless networks: A multiplayer multiarmed bandit framework. *IEEE Trans. on Vehicular Technology*, 64(10):4565–4578, Oct. 2015.
- [19] M. Goldenbaum, H. Boche, and S. Stanczak. Nomographic functions: Efficient computation in clustered gaussian sensor networks. *IEEE Trans. on Wireless Commun.*, 14(4):2093–2105, April 2015.

- [20] S. Maghsudi and S. Stanczak. Channel selection for network-assisted D2D communication via no-regret bandit learning with calibrated forecasting. *IEEE Trans. on Wireless Communications*, 14(3):1309–1322, March 2015.
- [21] R. Cavalcante, S. Stanczak, M. Schubert, A. Eisenblätter, and U. Türke. Toward Energy-Efficient 5G Wireless Communications Technologies. *IEEE Signal Processing Magazine*, 31(6):24–34, Nov. 2014.
- [22] M. Goldenbaum and S. Stanczak. On the Channel Estimation Effort for Analog Computation Over Wireless Multiple-Access Channels. *IEEE Wireless Communications Letters*, 3(3):261–264, June 2014.
- [23] G. Cao, P. Jung, and S. Stanczak. Low cost error correction for multi-hop data aggregation using compressed sensing. *IEICE Trans. on Information and System*, E97(2), Feb. 2014.
- [24] A. Giovanidis, Q. Liao, and S. Stanczak. Measurement-Adaptive Cellular Random Access Protocols. *Wireless Networks*, 20(6):1495–1514, 2014.
- [25] M. Goldenbaum, H. Boche, and S. Stanczak. Harnessing Interference for Analog Function Computation in Wireless Sensor Networks. *IEEE Trans. on Signal Processing*, 61(20):4893–4906, Oct. 2013.
- [26] M. Zheng, P. Pawelczak, S. Stanczak, and H. Yu. Planning of Cellular Networks Enhanced by Energy Harvesting. *IEEE Communications Letters*, 17(6):1092–1095, June 2013.
- [27] M. Goldenbaum and S. Stanczak. Robust analog function computation via wireless sensor multiple-access channels. *IEEE Trans. on Communications*, 61(9):3863–3877, Sept. 2013. **(alphabetical order of the authors)**.
- [28] R.L.G. Cavalcante and S. Stanczak. A Distributed Subgradient Method for Dynamic Convex Optimization Problems under Noisy Information Exchange. *IEEE Journal of Selected Topics in Signal Processing*, 7(2):243–256, April 2013.
- [29] I. Koutsopoulos and S. Stanczak. The Impact of Transmit Rate Control on Energy-efficient Estimation in Wireless Sensor Networks. *IEEE Trans. on Wireless Commun.*, 11(9):3261–3271, Sept. 2012.
- [30] A. Giovanidis and S. Stanczak. Stability and distributed power control in MANETs with per hop retransmissions. *IEEE Trans. on Communications*, 59(6):1632–1643, June 2011.
- [31] S. Stanczak, M. Kaliszan, and N. Bambos. Decentralized admission control for power-controlled wireless links. *CoRR*, abs/0907.2896, Jan. 2010.
- [32] S. Stanczak, M. Kaliszan, and N. Bambos. A characterization of max-min SIR-balanced power allocation with applications. *Wireless Networks (Springer)*, 16(8):2335–2347, Nov. 2010.
- [33] S. Stanczak, A. Feistel, M. Wiczanski, and H. Boche. Utility-based power control with QoS support. *Wireless Networks (Springer)*, 16(6):1691–1705, Aug. 2010.
- [34] A. Feistel, S. Stanczak, and D. Tomecki. Joint utility-based power control and receive beamforming in decentralized wireless networks. *EURASIP Journal on Wireless Communications and Networking.*, July 2010. Special Issue on "Interference Management in Wireless Communication Systems: Theory and Applications".
- [35] M. Wiczanski, H. Boche, and S. Stanczak. An algorithm for optimal resource allocation in cellular networks with elastic traffic. *IEEE Trans. on Communications*, 57(1):41–44, Jan. 2009.
- [36] M. Wiczanski, S. Stanczak, and H. Boche. Performance and interference control in wireless ad-hoc and mesh networks— A generalized Lagrangian approach. *IEEE Trans. on Signal Processing*, 56(8):4039–4052, Aug. 2008.

- [37] M. Wiczanowski, S. Stanczak, and H. Boche. Providing quadratic convergence of decentralized power control in wireless networks—the method of min-max functions. *IEEE Trans. on Signal Processing*, 56(8):4053–4068, Aug. 2008.
- [38] H. Boche and S. Stanczak. Strict convexity of the log-SIR region. *IEEE Trans. on Communications*, 56(9):1511–1518, Sept. 2008.
- [39] H. Boche, M. Wiczanowski, and S. Stanczak. On optimal resource allocation in cellular networks with best-effort traffic. *IEEE Trans. on Wireless Communications*, 7(4):1163–1167, April 2008.
- [40] S. Stanczak, M. Wiczanowski, and H. Boche. Distributed utility-based power control: Objectives and algorithms. *IEEE Trans. on Signal Processing*, 55(10):5058–5068, Oct. 2007.
- [41] H. Boche and S. Stanczak. A note on some properties of the Perron root of nonnegative irreducible matrices. *Appl. Alg. Eng. Comm. Comp.*, 18(4):369–378, Aug. 2007.
- [42] S. Stanczak and H. Boche. On the convexity of feasible QoS regions. *IEEE Trans. on Information Theory*, 53(2):779–783, Feb. 2007.
- [43] H. Boche, M. Wiczanowski, and S. Stanczak. Unifying view on min-max fairness, max-min fairness, and utility optimization in cellular networks. *EURASIP J. Wireless Commun. and Net.*, 2007. ID 34869.
- [44] H. Boche and S. Stanczak. The Kullback–Leibler divergence and nonnegative matrices. *IEEE Trans. on Information Theory*, 52(12):5539–5545, Dec. 2006.
- [45] S. Stanczak and H. Boche. The infeasible SIR region is not a convex set. *IEEE Trans. on Communications*, 54(11):1905–1907, November 2006.
- [46] S. Stanczak, G. Wunder, and H. Boche. On pilot-based multipath channel estimation for uplink CDMA systems: An overloaded case. *IEEE Trans. on Signal Processing*, 54(2):512–519, Feb. 2006.
- [47] H. Boche and S. Stanczak. Log-convexity of the minimum total power in CDMA systems with certain quality-of-service guaranteed. *IEEE Trans. on Information Theory*, 51(1):374–381, Jan. 2005.
- [48] H. Boche and S. Stanczak. Convexity of some feasible QoS regions and asymptotic behavior of the minimum total power in CDMA systems. *IEEE Trans. on Communications*, 52(12):2190–2197, Dec. 2004.
- [49] H. Boche and S. Stanczak. On systems of linear equations with nonnegative coefficients. *Appl. Alg. Eng. Comm. Comp.*, 14(6):397–414, March 2004.
- [50] H. Boche and S. Stanczak. Optimal allocation of resources in an asynchronous CDMA channel with identical SINR requirements for all users. *IEICE Trans. on Communications*, E86-B(1):397–405, Jan. 2003.

Conference/Symposium/Workshop Papers

- [1] O. Taghizadeh, S. Stanczak, H. Iimori, and G. Thadeu Freitas de Abreu. Full-Duplex AF MIMO Relaying: Impairments Aware Design and Performance Analysis. In *2020 IEEE Global Communications Conference: Signal Processing for Communications (Globecom2020 SPC)*, December 7 - 11, in Taipei, Taiwan, 2020.
- [2] A. Pfadler, P. Jung, and S. Stanczak. Mobility Modes for Pulse-Shaped OTFS with Linear Equalizer. In *IEEE Globecom 2020, December 7-11, in Taipei, Taiwan*, 2020.
- [3] D.F. Külzer, S. Stanczak, R. L.G. Cavalcante, and M. Botsov. Predictive Resource Allocation for Automotive Applications using Interference Calculus. In *IEEE Globecom 2020, December 7-11, in Taipei, Taiwan*, 2020.

- [4] R. L.G. Cavalcante and S. Stanczak. Hybrid data and model driven algorithms for angular power spectrum estimation. In *IEEE Globecom 2020, December 7-11, in Taipei, Taiwan*, 2020.
- [5] J. Dommel, Z. Utkovski, O. Simeone, and S. Stanczak. Joint Source-Channel Coding for Grant-Free Radio Access in IoT Fog Networks: Edge vs Cloud Processing. In *IEEE Statistical Signal Processing Workshop 2020*, Rio de Janeiro, Brazil, July 12-15, 2020.
- [6] R. L. G. Cavalcante and S. Stanczak. A hybrid model-data driven approach for the estimation of the angular power spectrum in massive MIMO systems. In *IEEE Statistical Signal Processing Workshop 2020*, Rio de Janeiro, Brazil, July 12-15, 2020.
- [7] M. Mehlhose, D. A. Awan, R. L.G. Cavalcante, M. Kurras, and S. Stanczak. Machine Learning-Based Adaptive Receive Filtering: Proof-of-Concept on an SDR Platform. In *IEEE International Conference on Communications*, Dublin, Ireland, June 7-11, 2020.
- [8] D.F. Külzer, S. Stanczak, and M. Botsov. Novel QoS Control Framework for Automotive Safety-Related and Infotainment Services. In *IEEE Wireless Communications and Networking Conference 2020, May 25-28, Virtual Conference*, 2020.
- [9] P. Agostini, Z. Utkovski, and S. Stanczak. Channel Charting: an Euclidean Distance Matrix Completion Perspective. In *ICASSP 2020 - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), May 4-8, 2020 in Barcelona, Spain*, 2020.
- [10] M. Mehlhose, D. A. Awan, R. L.G. Cavalcante, M. Kurras, and S. Stanczak. Machine Learning-Based Adaptive Receive Filtering: Proof-of-Concept on an SDR Platform. In *IEEE ICASSP 2020, May 4 - 8, 2020 in Barcelona, Spain*, 2020.
- [11] J. Dommel, Z. Utkovski, S. Stanczak, and O. Simone. Joint source-channel coding and bayesian message passing detection for grant-free radio access in IOT. In *45th International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 4-8, 2020.
- [12] R. L. G. Cavalcante and S. Stanczak. Channel covariance estimation in multiuser massive MIMO systems with an approach based on infinite dimensional hilbert spaces. In *45th International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 4-8, 2020.
- [13] R. L. G. Cavalcante, Q. Liao, and S. Stanczak. Connections between spectral properties of asymptotic mappings and solutions to wireless network problems. In *45th International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 4-8, 2020.
- [14] M. A. Gutierrez-Estevez, Z. Utkovski, P. Agostini, D. Schäufole, M. Frey, I. Bjelakovic, and S. Stanczak. Quality-of-Service prediction for physical-layer security via secrecy maps. In *45th International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 4-8, 2020.
- [15] J. Fink, R. L.G. Cavalcante, and S. Stanczak. Online Channel Estimation for Hybrid Beamforming Architectures. In *45th International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 4-8, 2020.
- [16] A. Pfadler, P. Jung, and S. Stanczak. Pulse-Shaped OTFS for V2X Short-Frame Communication with Tuned One-Tap Equalization. In *24th International ITG Workshop on Smart Antennas, Poster presentation (WSA 2020)*, Hamburg, Germany, Feb. 18-20, 2020.
- [17] J. Fink, M. Kasparick, and S. Stanczak. Robust Submodular RRH Selection for Joint Multicast Downlink Transmission. In *24th International ITG Workshop on Smart Antennas (WSA 2020)*, Hamburg, Germany, Feb. 18-20, 2020.
- [18] R. Panthangi Manjunath, M. Boban, C. Zhou, and S. Stanczak. Online Learning Framework for V2V Link Quality Prediction. In *IEEE Global Communications Conference*, Waikoloa, HI, USA, Dec. 9-13, 2019.

- [19] J. Dommel, Z. Utkovski, L. Thiele, and S. Stanczak. Sparse Code-Domain Non-Orthogonal Random Access with Turbo-Peeling Decoder. In *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 3-6, 2019.
- [20] R. Hernangómez, A. Santra, and S. Stanczak. Human Activity Classification with Frequency Modulated Continuous Wave Radar Using Deep Convolutional Neural Networks. In *RADAR 2019 International Conference*, Toulon, France, Sept. 23-27, 2019.
- [21] D. Schäufele, R. L.G. Cavalcante, and S. Stanczak. Tensor completion for radio map reconstruction using low rank and smoothness. In *IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Cannes, France, July 2-5 2019.
- [22] N. Agrawal, M. Frey, and S. Stanczak. A scalable max-consensus protocol for noisy ultra-dense networks. In *IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Cannes, France, July 2-5 2019.
- [23] Z. Utkovski, P. Agostini, M. Frey, I. Bjelakovic, and S. Stanczak. Learning radio maps for physical-layer security in the radio access. In *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Cannes, France, July 2-5 2019. (invited).
- [24] J. Fink, D. Schäufele, M. Kasparick, R. L.G. Cavalcante, and S. Stanczak. Cooperative localization by set-theoretic estimation. In *Workshop on Smart Antennas (WSA)*, Vienna, Austria, April 24-26 2019.
- [25] J. Fink, R. L.G. Cavalcante, and S. Stanczak. Multicast beamforming using semidefinite relaxation and bounded perturbation resilience. In *44th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brighton, UK, May 2019.
- [26] R. L.G. Cavalcante and S. Stanczak. Weakly standard interference mappings: existence of fixed points and applications to power control in wireless networks. In *44th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brighton, UK, May 2019.
- [27] R. Panthangi Manjunath, M. Boban, C. Zhou, and S. Stanczak. Using learning methods for V2V path loss prediction. In *IEEE Wireless Communications and Networking Conference (WCNC)*, April 15-19 2019.
- [28] M. Raceala-Motoc, P. Jung, Z. Utkovski, and S. Stanczak. C-RAN-assisted non-coherent grant-free random access based on compute-and-forward. In *Workshop on 5G Advanced: The next evolution step of 5G NR. In conjunction with IEEE Global Communications Conference*, Abu Dhabi, UAE, Dec. 2018.
- [29] D. A. Awan, R. L.G. Cavalcante, Z. Utkovski, and S. Stanczak. Set-theoretic learning for detection in cell-less C-RAN systems. In *6th IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Anaheim, California, USA, Nov. 26-29, 2018.
- [30] M.A. Gutierrez-Estevez, R.L.G. Cavalcante, and S. Stanczak. Nonparametric radio maps reconstruction via elastic net regularization with multi-kernels. In *IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, 2018.
- [31] P. Agostini, Z. Utkovski, S. Stanczak, and J. Pilz. Scalable massive random access in C-RAN with fronthaul limitations. In *15th International Symposium on Wireless Communication Systems (ISWCS)*, 2018.
- [32] R. L. G. Cavalcante, S. Stanczak, D. Schupke, and J. Klaue. Low-complexity distributed set-theoretic decoders for analog fountain codes. In *52nd Asilomar Conference on Signals, Systems and Computers*, 2018.
- [33] M. Raceala-Motoc, S. Limmer, I. Bjelakovic, and S. Stanczak. Distributed machine learning in the context of function computation over wireless networks. In *52nd Asilomar Conference on Signals, Systems and Computers*, 2018.

- [34] J. Fink, R. L.G. Cavalcante, P. Jung, and S. Stanczak. Extrapolated projection methods for PAPR reduction. In *26th European Signal Processing Conference (EUSIPCO 2018)*, May 2018.
- [35] R. L. G. Cavalcante, L. Miretti, and S. Stanczak. Error bounds for FDD massive MIMO channel covariance conversion with set-theoretic methods. In *IEEE Global Communications Conference (Globecom)*, Abu Dhabi, UAE, Dec. 9-13 2018.
- [36] F. Molinari, S. Stanczak, and J. Raisch. Exploiting the superposition property of wireless communication for max-consensus problems in multi-agent systems. In *7th IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys 2018)*, Groningen, the Netherlands, 27-28 Aug. 2018.
- [37] M. Frey, I. Bjelakovic, and S. Stanczak. Resolvability on continuous alphabets. In *IEEE International Symposium on Information Theory (ISIT)*, Vail, CO, USA, June 17-22 2018.
- [38] D. A. Awan, R. L.G. Cavalcante, M. Yukawa, and S. Stanczak. Detection for 5G-NOMA: An online adaptive machine learning approach. In *IEEE International Conference on Communications*, Kansas City, MO, USA, May 20-24 2018.
- [39] D. A. Awan, R. L.G. Cavalcante, and S. Stanczak. A robust machine learning method for cell-load approximation in wireless networks. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Alberta, Canada, April 15-20 2018.
- [40] L. Miretti, R. L.G. Cavalcante, and S. Stanczak. FDD massive MIMO channel spatial covariance conversion using projection methods. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Alberta, Canada, April 15-20 2018.
- [41] R. L.G. Cavalcante and S. Stanczak. Spectral radii of asymptotic mappings and the convergence speed of the standard fixed point algorithm. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Alberta, Canada, April 15-20 2018.
- [42] R. L.G. Cavalcante L. Miretti and S. Stanczak. Downlink channel spatial covariance estimation in realistic FDD massive MIMO systems. In *6th IEEE Global Conference on Signal and Information Processing*, Anaheim, California, USA, Nov. 26-29, 2018.
- [43] D. A. Awan, R. L.G. Cavalcante, Z. Utkovski, and S. Stanczak. Set-theoretic learning for detection in cell-less C-RAN systems. In *IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Anaheim, California, USA, Nov. 26-29, 2018.
- [44] R. L. G. Cavalcante and S. Stanczak. Peak load minimization in load coupled interference networks. In *The 42nd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, New Orleans, USA, March, 5-9 2017.
- [45] M. Vural, P. Jung, and S. Stanczak. Effect of anti-sparse prior on papr performance analysis. In *2017 25th Signal Processing and Communications Applications Conference (SIU)*, pages 1–4, Antalya, Turkey, May 2017.
- [46] M. Vural, P. Jung, and S. Stanczak. A new outlier detection method based on anti-sparse representations. In *2017 25th Signal Processing and Communications Applications Conference (SIU)*, pages 1–4, Antalya, Turkey, May 2017.
- [47] M. A. Gutierrez-Estevez and S. Stanczak. Distributed multi-object auctions for energy transfer between harvesting nodes. In *WSA 2017; 21th International ITG Workshop on Smart Antennas*, pages 1–7, Berlin, Germany, March 2017.
- [48] M. Frey, I. Bjelakovic, and S. Stanczak. Mac resolvability: First and second order results. In *2017 IEEE Conference on Communications and Network Security (CNS)*, pages 560–564, Las Vegas, NV, USA, Oct. 2017.

- [49] R. L. G. Cavalcante and S. Stanczak. The role of asymptotic functions in network optimization and feasibility studies. In *2017 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 563–567, Montreal, QC, Canada, Nov. 2017.
- [50] M. Botsov, S. Stanczak, and P. Fertl. On the overhead of radio resource management schemes for mobile underlay D2D communication. In *IEEE Vehicular Networking Conference (VNC)*, Columbus, Ohio, USA, Dec. 8-10 2016.
- [51] M. Vural, P. Jung, and S. Stanczak. On some physical layer design aspects for machine type communication. In *WSA 2016; 20th International ITG Workshop on Smart Antennas*, pages 1–8, Munich, Germany, March 2016.
- [52] M. A. Gutierrez-Estevez, R. L. G. Cavalcante, S. Stanczak, J. Zhang, and H. Zhuang. A distributed solution for proportional fairness optimization in load coupled ofdma networks. Washington , D.C., USA, Dec. 2016.
- [53] D. A. Awan, R. L.G. Cavalcante, and S. Stanczak. Distributed RAN and backhaul optimization for energy efficient wireless networks. In *IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Washington , D.C., USA, Dec. 2016.
- [54] M. Raceala-Motoc, J. Schreck, P. Jung, and S. Stanczak. Robust message recovery for non-cooperative compute-and-forward relaying. In *50th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 2016.
- [55] S. Limmer and S. Stanczak. Towards optimal nonlinearities for sparse recovery using higher-order statistics. In *IEEE International Workshop on Machine Learning For Signal Processing (MLSP)*, Salerno, Italy, Sept. 2016.
- [56] M. Goldenbaum, P. Jung, M. Raceala-Motoc, S. Stanczak, and C. Zhou. Harnessing channel collisions to efficiently deal with the massive access in 5g networks. In *9th International Symposium on Turbo Codes & Iterative Information Processing 2016 - Workshop 5G: 5G for Internet of Things*, Brest, France, Sept. 2016.
- [57] M. Kaliszan, G. Caire, and S. Stanczak. On the throughput rate of wireless multipoint multicasting. In *IEEE International Symposium on Information Theory (ISIT 2016)*, Barcelona, Spain, May 2016.
- [58] I. Bjelakovic, J. Mohammadi, and S. Stanczak. Strong secrecy and stealth for broadcast channels with confidential messages. In *IEEE International Symposium on Information Theory (ISIT 2016)*, Barcelona, Spain, July 2016.
- [59] M. Botsov S. Stanczak P. Fertl. Optimized zone design for location-based resource allocation in mobile D2D underlay networks. In *13th International Symposium on Wireless Communication Systems (ISWCS)*, Poznan, Poland, Sept. 2016.
- [60] K. Ralinovski, M. Goldenbaum, and S. Stanczak. Energy-efficient classification for anomaly detection: The wireless channel as a helper. In *IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, May 2016.
- [61] Y. Chang, P. Jung, C. Zhou, and S. Stanczak. Block compressed sensing based distributed resource allocation for m2m communications. In *Proc. 2016 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, pages 3791–3795, Shanghai, China, March 2016.
- [62] E. Pollakis and S. Stanczak. Anticipatory networking for energy savings in 5g systems. In *Proc. 20th International ITG Workshop on Smart Antennas (WSA 2016)*, pages 1–7, Munich, Germany, March 2016.
- [63] M. A. Gutierrez-Estevez, D. Gozalvez-Serrano, M. Botsov, and S. Stanczak. Stfdma: A novel technique for ad-hoc v2v networks exploiting radio channels frequency diversity. In *13th International Symposium on Wireless Communication Systems (ISWCS)*, Poznan, Poland, Sept. 2016.

- [64] Q. Liao and S. Stanczak. Network state awareness and proactive anomaly detection in self-organizing networks. In *Proc. International Workshop on Emerging Technologies for 5G Wireless Cellular Networks (In conjunction with IEEE GLOBECOM 2015)*, San Diego, CA, USA, Dec. 2015.
- [65] S. Limmer, J. Mohammadi, and S. Stanczak. A simple algorithm for approximation by nomographic functions. In *Proc. 53rd Annual Allerton Conference on Communication, Control, and Computing*, University of Illinois at Urbana-Champaign, IL, USA, Sept. 29th - Oct. 2nd 2015.
- [66] M. Botsov, S. Stanczak, and P. Fertl. On the transport capacity of next-generation cellular networks with vehicular D2D underlay. In *Proc. 12th International Symposium on Wireless Communication Systems (ISWCS)*, pages 176–180, Brussels, Belgium, Aug. 2015.
- [67] Q. Liao, S. Valentin, and S. Stanczak. Channel gain prediction in wireless networks based on spatial-temporal correlation. In *IEEE 16th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, June 28 – July 1 2015.
- [68] S. Maghsudi and S. Stanczak. On channel selection for energy-constrained rateless-coded D2D communications. In *Proc. 2015 European Signal Processing Conference (EUSIPCO)*, Nice, France, Aug. 31–Sept. 4 2015.
- [69] J. Mohammadi and S. Stanczak. Joint spectrum sensing and jamming detection with correlated channels in cognitive radio networks. In *Proc. IEEE International Conference on Communications (ICC) - Seventh Workshop on Cooperative and Cognitive Networks (Co-CoNet7)*, London, UK, June 2015.
- [70] S. Maghsudi and S. Stanczak. Joint channel allocation and power control for underlay D2D transmission. In *Proc. IEEE International Conference on Communications (ICC)*, London, UK, June 2015.
- [71] M. Botsov, S. Stanczak, and P. Fertl. Comparison of location-based and csi-based resource allocation in D2D-enabled cellular networks. In *2015 IEEE International Conference on Communications (ICC)*, number 2529-2534, London, UK, June 2015.
- [72] Z. Ren, , M. Jäger, S. Stanczak, and P. Fertl. Distributed power control with active cell protection in future cellular systems. In *Proc. IEEE International Conference on Communications (ICC)*, London, UK, June 2015.
- [73] M. Goldenbaum, S. Stanczak, and H. Boche. On achievable rates for analog computing real-valued functions over the wireless channel. In *Proc. IEEE International Conference on Communications (ICC)*, London, UK, June 2015.
- [74] O. Bulakci, Z. Ren, C. Zhou, J. Eichinger, P. Fertl, D. Gozalvez-Serrano, and S. Stanczak. Towards flexible network deployment in 5g:nomadic node enhancement to heterogeneous networks. In *2015 IEEE International Conference on Communication Workshop (ICCW)*, pages 2572–2577, London, UK, June 2015.
- [75] Y. Chang, S. Stanczak, and C. Zhou. Throughput scaling for random hybrid wireless networks with physical-layer network coding. In *Proc. IEEE Information Theory Workshop (ITW)*, Jerusalem, Israel, April 26– May 1 2015.
- [76] R.L.G. Cavalcante, E. Pollakis, and S. Stanczak. Load estimation in lte systems with the general framework of standard interference mappings. In *Proc. 2nd IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Atlanta, Georgia, USA, Dec. 2014.
- [77] Z. Ren, S. Stanczak, and P. Fertl. Activation of nomadic relay nodes in dynamic interference environment for energy saving. In *Proc. IEEE Global Telecommunication Conference (GLOBECOM)*, Austin, Texas, USA, Dec. 2014.

- [78] Z. Ren, M. Shabeb, S. Stanczak, P. Fertl, and L. Thiele. A distributed algorithm for energy saving in nomadic relaying networks. In *Proc. 48th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 2014.
- [79] S. Limmer and S. Stanczak. On l_p -norm computation over multiple-access channels. In *Information Theory Workshop (ITW), 2014 IEEE*, Hobart, Tasmania, Australia, Nov. 2014.
- [80] A. Kortke, M. Goldenbaum, and S. Stanczak. Analog computation over the wireless channel: A proof of concept. In *Proc. IEEE Sensors*, Valencia, Spain, Nov. 2014.
- [81] F. Penna, S. Stanczak, Z. Ren, and P. Fertl. MMSE interference estimation in LTE networks. In *Proc. 2014 IEEE International Conference on Communications (ICC)*, Sydney, Australia, June 2014.
- [82] Z. Ren, S. Stanczak, P. Fertl, and F. Penna. Energy-aware activation of nomadic relays for performance enhancement in cellular networks. In *Proc. 2014 IEEE International Conference on Communications (ICC)*, Sydney, Australia, June 2014.
- [83] S. Maghsudi and S. Stanczak. Transmission mode selection for network-assisted device to device communication: A levy-bandit approach. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Florence, Italy, May 2014.
- [84] O. Bulakci, Z. Ren, C. Zhou, J. Eichinger, P. Fertl, and S. Stanczak. Dynamic nomadic node selection for performance enhancement in composite fading/shadowing environments. In *Proc. IEEE 79th Vehicular Technology Conference*, Seoul, South Korea, May 2014.
- [85] R. L. G. Cavalcante, E. Pollakis, and S. Stanczak. Power estimation in LTE systems with the general framework of standard interference mappings. In *2014 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 818–822, Atlanta, GA, USA, Dec. 2014.
- [86] S. Limmer, S. Stanczak, M-Goldenbaum, and R.L.G. Cavalcante. Exploiting interference for efficient distributed learning in cluster-based wireless sensor networks. In *Proc. IEEE Global Conference on Signal and Information Processing (GlobalSIP) - Network Theory Symposium*, Austin, Texas, USA, 2013. **invited**.
- [87] J. Mohammadi, F. Penna, and S. Stanczak. Decentralized Eigenvalue Algorithms in Wireless Sensor Networks with Limited Energy Supply. In *Proc. the 47th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 2013. **invited**.
- [88] K. Oltmann, R.L.G. Cavalcante, and S. Stanczak. Interference Identification in Cellular Networks via Adaptive Projected Subgradient Methods. In *Proc. the 47th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 2013.
- [89] Q. Liao, F. Penna, S. Stanczak, Z. Ren, and P. Fertl. Context-Aware Handover Optimization for Relay-Aided Vehicular Terminals. In *Proc. IEEE 14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt, Germany, 2013.
- [90] M. Kaliszan, J. Mohammadi, and S. Stanczak. Cross-Layer Security in Two-Hop Wireless Gaussian Relay Network with Untrusted Relays. In *Proc. 2013 IEEE International Conference on Communications (ICC)*, Budepest,Hungary, June 2013.
- [91] S. Maghsudi and S. Stanczak. Dynamic Bandit with Covariates: Strategic Solutions with Application to Wireless Resource Allocation. In *Proc. 2013 IEEE International Conference on Communications (ICC)*, Budepest,Hungary, June 2013.
- [92] E. Pollakis, R.L.G. Cavalcante, and S. Stanczak. Enhancing energy efficient network operation in multi-RAT cellular environments through sparse optimization. In *Proc. IEEE 14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt, Germany, June 2013.

- [93] J. Schreck, P. Jung, and S. Stanczak. On Channel State Feedback for Two-Hop Networks Based on Low Rank Matrix Recovery. In *Proc. 2013 IEEE International Conference on Communications (ICC)*, Budepest,Hungary, June 2013.
- [94] S. Maghsudi and S. Stanczak. Relay Selection Problem in Wireless Networks: A Solution Concept Based on Stochastic Bandits and Calibrated Forecasters. In *Proc. IEEE 14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt,Germany, June 2013.
- [95] Z. Ren, P. Fertl, Q. Liao, F. Penna, and S. Stanczak. Street-Specific Handover Optimization for Vehicular Terminals in Future Cellular Networks. In *Proc. 2013 IEEE 77th Vehicular Technology Conference (VTC-Spring) - Workshop on Mobile and Wireless Communication Systems for 2020 and beyond*, Dresden, Germany, June 2013.
- [96] J. Bühler and S. Stanczak. Energy-efficient Relaying Using Rateless Codes. In *Proc. 2013 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, 2013.
- [97] J. Mohammadi, F. Penna, S. Stanczak, and M. Kasparick. Energy-efficient node selection for cooperative spectrum sensing with spatial correlation. In *2013 Asilomar Conference on Signals, Systems and Computers*, pages 1011–1015, Pacific Grove, CA, USA, Nov. 2013.
- [98] M. Goldenbaum, H. Boche, and S. Stanczak. Reliable Computation of Nomographic Functions Over Gaussian Multiple-Access Channels. In *Proc. 2013 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4814–4818, Vancouver, Canada, May 2013.
- [99] Q. Liao, S. Stanczak, and F. Penna. A Statistical Algorithm for Multi-Objective Handover Optimization Under Uncertainties. In *Proc. 2013 IEEE Wireless Communications and Networking Conference (WCNC)*, Shanghai, China, Apr. 2013.
- [100] S. Maghsudi and S. Stanczak. Relay Selection with No Side Information: An Adversarial Bandit Approach. In *Proc. 2013 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 715–720, Shanghai,China, April 2013.
- [101] R. Abi Akl, S. Valentin, G. Wunder, and S. Stanczak. Compensating for CQI Aging by Channel Prediction: The LTE Downlink. In *Proc. 2012 IEEE Global Telecommunication Conference (GLOBECOM)*, Anaheim, California, USA, Dec. 2012.
- [102] F. Penna and S. Stanczak. Decentralized Largest Eigenvalue Test for Multi-Sensor Signal Detection. In *Proc. IEEE Global Telecommunication Conference (GLOBECOM)*, Anaheim, California, USA, Dec. 2012.
- [103] J. Schreck and S. Stanczak. On SINR Balancing for a Two-Hop Downlink Channel . In *Proc. 46th Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, USA, Nov. 2012.
- [104] J. Mohammadi, M. Kaliszan, and S. Stanczak. Secrecy Capacity Limits of Multiple Antenna Multiple Eavesdropper Multicast. In *Proc. 46th Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, USA, Nov. 2012.
- [105] F. Penna and S. Stanczak. Eigenvalue-based Signal Detection in Cognitive Femtocell Networks using a Decentralized Lanczos Algorithm. In *Proc. 2012 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)*, Seattle, WA, USA, 2012. poster session.
- [106] J. Bühler and S. Stanczak. Energy-Efficient Decode and Forward Relaying in Diamond Networks. In *Proc. 50th Annual Allerton Conference on Communication, Control and Computing*, Urbana-Champaign, IL, USA, Oct. 2012.

- [107] P. Pawelczak, M. Zheng, S. Stanczak, and H. Yu. Enriching Cellular Networks with Dynamic Spectrum Access and Energy Harvesting: A Network Planning Case. In *Proc. 2012 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)*, Seattle, WA, USA, 2012. poster session.
- [108] E. Pollakis, R. L. G. Cavalcante, S. Stanczak, and F. Penna. Robust Interference Identification for Multi-RAT Optimization in Wireless Cellular Networks. In *Proc. 2012 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)*, Oct 2012. poster session.
- [109] S. Stanczak, M. Goldenbaum, R. L. G. Cavalcante, and F. Penna. On in-network computation via wireless multiple-access channels with applications. In *Proc. the Ninth International Symposium on Wireless Communication Systems (ISWCS)*, pages 276–280, Paris, France, Aug. 28-31 2012. **Invited**.
- [110] S. Maghsudi and S. Stanczak. On Network-Coded Rateless Transmission: Protocol Design, Clustering and Cooperator Assignment. In *Proc. 2012 IEEE International Symposium on Wireless Communication Systems (ISWCS)*, pages 306–310, Paris-France, 2012.
- [111] E. Pollakis, R. L. G. Cavalcante, and S. Stanczak. Base station selection for energy efficient network operation with the majorization-minimization algorithm. In *Proc. IEEE 13th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Cesme, Turkey, June 17-20 2012. **Best Student Paper Award**.
- [112] M. Zheng, J. Mohammadi, S. Stanczak, and H. Yu. Concurrent Transmission versus Time Sharing in Gaussian Interference Channels. In *Proc. IEEE 13th International workshop on signal processing advances in wireless communications (SPAWC)*, Cesme, Turkey, June 17-20 2012.
- [113] Q. Liao, M. Wiczanowski, and S. Stanczak. Toward cell outage detection with composite hypothesis testing. In *Proc. 2012 IEEE International Conference on Communications (ICC)*, Ottawa, Canada, June 10-15 2012.
- [114] M. Goldenbaum, H. Boche, and S. Stanczak. Nomographic Gossiping for f-Consensus. In *Proc. 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, Paderborn, Germany, 2012.
- [115] S. Maghsudi and S. Stanczak. A Delay-Constrained Rateless Coded Incremental Relaying Protocol for Two-Hop Transmission. In *Proc. 2012 IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, April 2012.
- [116] M. Zheng, M. Goldenbaum, S. Stanczak, and H. Yu. Fast Average Consensus in Clustered Wireless Sensor Networks by Superposition Gossiping. In *Proc. 2012 IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, April 2012.
- [117] M. Kaliszan, E. Pollakis, and S. Stanczak. Multigroup Multicast with Application-Layer Coding: Beamforming for Maximum Weighted Sum Rate. In *Proc. 2012 IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, April 2012.
- [118] M. Zheng, S. Stanczak, and Y. Hai-bin. Utility-cost optimization for joint routing and power control in multi-hop wireless networks. In *Proc. 2012 IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, April, 1-4 2012.
- [119] A. Giovanidis, Q. Liao, and S. Stanczak. A distributed interference-aware load balancing algorithm for LTE multi-cell networks. In *Proc. 16th International ITG Workshop on Smart Antennas (WSA)*, Dresden, Germany, 2012.
- [120] M. Goldenbaum, H. Boche, and S. Stanczak. Analog Computation via Wireless Multiple-Access Channels: Universality and Robustness. In *Proc. 2012 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Kyoto, Japan, March 2012.

- [121] S. Maghsudi and S. Stanczak. Joint Power Allocation and Relay Selection for Network-Coded Two-Way Relaying. In *Proc. 46th Annual Conference of Information Sciences and Systems (CISS)*, Princeton-U.S.A, March 2012.
- [122] M. Goldenbaum, H. Boche, and S. Stanczak. On Analog Computation of Vector-Valued Functions in Clustered Wireless Sensor Networks. In *Proc. 46th Annual Conference on Information Sciences and Systems (CISS)*, Princeton, USA, March 2012.
- [123] M. Goldenbaum and S. Stanczak. On multiantenna sensor networks with interference: Energy consumption vs. robustness. In *Proc. 16th International ITG Workshop on Smart Antennas (WSA)*, pages 125–132, Dresden, Germany, March 2012.
- [124] R. L. G. Cavalcante and S. Stanczak. Robust set-theoretic distributed detection in diffusion networks. In *Proc. 2012 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Kyoto, Japan, March 2012.
- [125] S. Maghsudi and S. Stanczak. A Hybrid Centralized-Decentralized Resource Allocation Scheme for Two-Hop Transmission. In *2011 IEEE International Symposium on Wireless Communication Systems (ISWCS)*, pages 91–96, Aachen-Germany, November 2011.
- [126] M. Goldenbaum, H. Boche, and S. Stanczak. Analyzing the Space of Functions Analog-Computable via Wireless Multiple-Access Channels. In *Proc. 8th International Symposium on Wireless Communication Systems (ISWCS)*, pages 779–783, Aachen, Germany, November 2011.
- [127] J. Mohammadi, S. Stanczak, R. L. G. Cavalcante, and J. Etesami. Iterative distributed channel probing for cognitive radios with power-controlled wireless links. In *Proc. 8th International Symposium on Wireless Communication Systems (ISWCS)*, Aachen, Germany, Nov. 2011.
- [128] M. Zheng, S. Stanczak, and Y. Hai-bin. Joint routing and power control in Rayleigh-faded wireless networks with ARQ protocols. In *The Eighth International Symposium on Wireless Communication Systems (ISWCS)*, Aachen, Germany, Nov. 2011.
- [129] M. Kaliszan, E. Pollakis, and S. Stanczak. Efficient Beamforming Algorithms for MIMO Multicast with Application-Layer Coding. In *Proc. of IEEE International Symposium on Information Theory (ISIT)*, Saint Petersburg, Russia, July 31 - August 5 2011.
- [130] G.S. Paschos, P. Mannersalo, S. Stanczak, E. Altman, and L. Tassiulas. Energy Optimal Algorithms for mobile Internet: Stochastic modeling, performance analysis and optimal control. In *2011 7th EURO-NGI Conference on Next Generation Internet (NGI)*, Kaiserslautern, Germany, June 27-29 2011.
- [131] S. Stanczak, M. Kaliszan, and M. Goldenbaum. Max-Min Fair Rate Control Based on a Saddle-Point Characterization of Some Perron Roots. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Prague, Czech Republic, May 22-27 2011.
- [132] S. Stanczak, M. Kaliszan, and M. Goldenbaum. On Distributed Power Control and Transceiver Optimization in Wireless Networks. In *Proc. 5th International ICST Conference on Performance Evaluation Methodologies and Tools (ValueTools)*, Cachan, France, May 2011. **Invited.**
- [133] Q. Liao, M. Kaliszan, and S. Stanczak. A Virtual Soft Handover Method Based on Base Station Cooperation with Fountain Codes. In *17th European Wireless Conference, Vienna*, 2011.
- [134] S. Stefanov, A. Feistel, and S. Stanczak. Two Stage Power Control in Multi-cell Wireless Networks. In *The 17th European Wireless Conference, Vienna*, April 2011.

- [135] M. Goldenbaum, R. Abi Akl, S. Valentin, and S. Stanczak. On the Effect of Feedback Delay in the Downlink of Multiuser OFDM Systems. In *Proc. 45th Annual Conference on Information Sciences and Systems (CISS)*, Baltimore, USA, March 2011.
- [136] I. Koutsopoulos, S. Stanczak, and A. Feistel. Transmit Rate Control for Energy-efficient Estimation in Wireless Sensor Networks. In *IEEE Global Communications Conference (GlobeCom)*, Miami, Florida, USA, Dec. 2010.
- [137] M. Kaliszán and S. Stanczak. Maximizing lifetime in wireless sensor networks under opportunistic routing. In *44th Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, USA, Nov. 7-10 2010.
- [138] M. Kaliszán, S. Stanczak, and N. Bambos. Admission Control for Autonomous Wireless Links With Power Constraints. In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Dallas, USA, March 2010.
- [139] M. Goldenbaum and S. Stanczak. Computing Functions via SIMO Multiple-Access Channels: How Much Channel Knowledge Is Needed? In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, USA, March 14-19 2010.
- [140] D. Tomecki and S. Stanczak. On Feasible SNR Region For Multicast Downlink Channel: Two User Case. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, USA, March 14-19 2010.
- [141] M. Goldenbaum and S. Stanczak. Computing the geometric mean over multiple access channel: Error analysis and comparisons. In *Proc. 43rd Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 1-4 2009.
- [142] S. Stanczak, M. Kaliszán, N. Bambos, and M. Wiczánowski. A characterization of max-min SIR-balanced power allocation with applications. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, Seoul, Korea, June 28–July 3 2009.
- [143] A. Giovanidis and S. Stanczak. Retransmission aware congestion control and distributed power allocation in manets. In *5th Int. Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks (RAWNET/WNC³)*, Seoul, Korea, June 2009.
- [144] A. Giovanidis and S. Stanczak. Conditions for the stability of wireless ARQ protocols and reliable communications. In *15th European Wireless Conference*, Aalborg, Denmark, May 2009.
- [145] G.S. Paschos, P. Mannersalo, and S. Stanczak. Extending the percolation threshold using power control. In *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Budapest, Hungary, April, 5-8 2009.
- [146] D. Tomecki, S. Stanczak, and M. Kaliszán. Proc. IEEE wireless communications and networking conference (wcnc). Budapest, Hungary, April 5-8 2009.
- [147] M. Goldenbaum, S. Stanczak, and M. Kaliszán. On function computation via wireless sensor multiple-access channels. In *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Budapest, Hungary, April 5–8 2009.
- [148] A. Feistel, S. Stanczak, and M. Kaliszán. Resource allocation in multi-antenna systems under general power constraints. In *Proc. of International ITG Workshop on Smart Antennas 2009 (WSA)*, Berlin, Germany, Feb. 16-19 2009.
- [149] S. Stanczak, M. Kaliszán, and N. Bambos. Admission control for power-controlled wireless networks under general interference functions. In *Proc. 42nd Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Oct. 2008.
- [150] C. Schnurr, S. Stanczak, and T. J. Oechtering. Coding theorems for the restricted half-duplex two-way relay channel with joint decoding. In *Proc. 2008 IEEE International Symposium on Information Theory (ISIT)*, Toronto, Canada, July 6-11 2008.

- [151] S. Stanczak, A. Feistel, and H. Boche. QoS support with utility-based power control. In *Proc. 2008 IEEE International Symposium on Information Theory (ISIT)*, Toronto, Canada, July 6-11 2008.
- [152] C. Schnurr, S. Stanczak, and T. J. Oechtering. Achievable rates for the restricted half-duplex two-way relay channel under a partial-decode-and-forward protocol. In *Proc. IEEE Information Theory Workshop (ITW)*, Porto, Portugal, May 5-9 2008.
- [153] Z. Du, D. Qian, S. Stanczak, R. Heras-Evangelio, and Y. Liu. Autoconfiguration of shared network-layer address in cluster-based wireless sensor network. In *Proc. of the IEEE International Conference on Networking, Sensing and Control (ICNSC)*, pages 148–153, Sanya, Hainan, China, April, 6-8 2008.
- [154] R. Heras-Evangelio, S. Stanczak, and C. Schnurr. Energy efficiency of a two-stage relaying scheme in wireless sensor networks. In *Proc. 42nd Annual Conference on Information Sciences and Systems (CISS 2008)*, Princeton University, NJ, USA, March 19-21 2008.
- [155] S. Stanczak and M. Kaliszan. Some bounds on the network outage probability in wireless networks. In *Proc. 42nd Annual Conference on Information Sciences and Systems (CISS)*, Princeton University, NJ, USA, March 19–21 2008.
- [156] S. Stanczak, A. Feistel, H. Boche, and M. Wiczanowski. Towards efficient and fair resource allocation in wireless networks. In *Proc. 6th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Berlin, Germany, March 31–April 4 2008. Keynote speech.
- [157] R. Heras-Evangelio, S. Stanczak, and C. Schnurr. On the optimal power allocation in relay networks based on a two-stage relaying scheme. In *Proc. 7th International ITG Conference on Source and Channel Coding*, Ulm, Germany, Jan. 14-16 2008.
- [158] C. Schnurr, T. J. Oechtering, and S. Stanczak. Achievable rates for the restricted half-duplex two-way relay channel. In *Proc. 41st Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 4-7 2007.
- [159] S. Stanczak, H. Boche, and M. Wiczanowski. On the network outage probability with a common SIR requirement. In *Proc. 41st Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 4–7 2007.
- [160] M. Wiczanowski, H. Boche, and S. Stanczak. Characterization of max-min fair performance in large networks via Szemerédi’s Regularity Lemma. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, Nice, France, June 24-28 2007.
- [161] M. Wiczanowski, H. Boche, and S. Stanczak. Unifying characterization of max-min fairness in wireless networks by graphs. In *Proc. IEEE International Conference on Communications (ICC)*, Glasgow, UK, June 24-28 2007.
- [162] A. Feistel and S. Stanczak. Hop-by-hop congestion control with power control for wireless mesh networks. In *Proc. 65th IEEE Vehicular Technology Conference (VTC2007-Spring)*, Dublin, Ireland, April 22-25 2007.
- [163] C. Schnurr, T. J. Oechtering, and S. Stanczak. On coding for the broadcast phase in the two-way relay channel. In *Proc. 41st Annual Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, USA, March 15-17 2007.
- [164] S. Stanczak, A. Feistel, and D. Tomecki. On utility-based power control and receive beamforming. In *Proc. 41st Annual Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, USA, March 14-16 2007.
- [165] M. Wiczanowski, A. Feistel, S. Stanczak, and H. Boche. On energy cost of bit and bit/s in multiantenna wireless networks under hardware constraints. In *Proc. ITG/IEEE International Workshop on Smart Antennas (WSA)*, Wien, Austria, Feb. 26-27 2007.

- [166] A. Feistel, M. Wicznanowski, and S. Stanczak. Optimization of energy consumption in wireless sensor networks. In *Proc. ITG/IEEE International Workshop on Smart Antennas (WSA), 2007*, Wien, Austria, Feb. 26-27 2007.
- [167] C. Schnurr, S. Stanczak, and A. Sezgin. The impact of different MIMO strategies on the network-outage performance. In *Proc. ITG/IEEE International Workshop on Smart Antennas (WSA), 2007*, Wien, Austria, Feb. 26-27 2007.
- [168] M. Wicznanowski, H. Boche, and S. Stanczak. Characterization of optimal resource assignments in the framework of blocking system theory. In *Proc. IEEE Intern. Symposium on Information Theory and its Applications (ISITA)*, Seoul, Korea, Oct. 29-Nov. 1 2006.
- [169] H. Boche, M. Wicznanowski, and S. Stanczak. Characterization of the fairness gap in resource allocation for wireless cellular networks. In *Proc. IEEE Intern. Symposium on Information Theory and its Applications (ISITA) 2006*, Seoul, Korea, Oct. 29-Nov. 1 2006.
- [170] S. Stanczak and H. Boche. On the existence and uniqueness of proportionally fair power allocation. In *Proc. 2006 Information Theory Workshop (ITW)*, Chengdu, China, Oct. 22-26 2006.
- [171] M. Wicznanowski, H. Boche, and S. Stanczak. Power allocation and resource assignment in the view of blocking and antiblocking polyhedra. In *Proc. 2006 Information Theory Workshop (ITW)*, Chengdu, China, Oct. 22-26 2006.
- [172] M. Schubert, H. Boche, and S. Stanczak. Strict convexity of the QoS feasible region for log-convex interference functions. In *Proc. Asilomar Conf. on Signals, Systems and Computers*, Monterey, CA, USA, Oct. 29-Nov. 1 2006.
- [173] S. Stanczak and H. Boche. Strict log-convexity of the minimum power vector. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, Seattle, WA, USA, July 9-14 2006.
- [174] M. Wicznanowski, S. Stanczak, and H. Boche. Autonomous QoS control for wireless mesh and ad-hoc networks: The generalized Lagrangean approach. In *Proc. 14th European Signal Processing Conference (EUSIPCO)*, Florence, Italy, Sept. 4-8 2006. **Invited.**
- [175] M. Wicznanowski, S. Stanczak, and H. Boche. Quadratically converging decentralized power allocation algorithm for wireless ad-hoc networks: The max-min framework. In *Proc. IEEE Intern. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, Toulouse, France, May 14-19 2006.
- [176] C. Schnurr and S. Stanczak. On correlated binary data: Bounds, optimal sequences, and their dependence on stochastic interactions. In *Proc. 4th International Symposium on Turbo Codes and Related Topics (ITG)*, Munich, Germany, April 3-7 2006.
- [177] S. Stanczak, M. Wicznanowski, and H. Boche. Distributed power control for optimizing a weighted sum of QoS parameter values. In *Proc. IEEE Global Telecommunications Conference (GLOBECOM)*, St. Louis, MO, USA, Nov. 28-Dec. 2 2005.
- [178] M. Wicznanowski, S. Stanczak, and H. Boche. Distributed optimization and duality in QoS control for wireless best-effort traffic. In *Proc. 39th Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, USA, Oct. 30-Nov. 2 2005.
- [179] M. Schellmann and S. Stanczak. Multi-user MIMO channel estimation in the presence of carrier frequency offsets. In *Proc. 39th Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, USA, Oct. 30-Nov. 2 2005.
- [180] C. Schnurr and S. Stanczak. On the bit error probability in CDMA channels with correlated binary data: Bounds and optimal sequences. In *Proc. 39th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Oct. 30-Nov.2 2005.

- [181] M. Wiczanowski, H. Boche, and S. Stanczak. Characterization of optimal resource allocation in cellular networks: Optimization theoretic view and algorithmic solutions. In *Proc. 19th International Teletraffic Congress (ITC19)*, Beijing, China, Aug. 29-Sept. 2 2005.
- [182] M. Schubert, H. Boche, and S. Stanczak. Joint power control and multiuser receiver design—fairness issues and cross-layer optimization. In *Proc. IST Summit 2005*, Dresden, Germany, June 19-23 2005.
- [183] M. Wiczanowski, Y. Chen, S. Stanczak, and H. Boche. Optimal energy control in energy-constrained wireless networks with random arrivals under stability constraints. In *Proc. IEEE 6th International Workshop on Signal Processing Advances for Wireless Communications (SPAWC)*, New York, USA, June 5-8 2005.
- [184] S. Stanczak and M. Wiczanowski. Distributed fair power control for wireless networks: Objectives and algorithms. In *Proc. the 43rd Annual Allerton Conference on Communications, Control, and Computing*, Sept. 28-30 2005. **Invited.**
- [185] A. Feistel and S. Stanczak. Dynamic resource allocation in wireless ad-hoc networks based on QS-CDMA. In *Proc. 16th IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC)*, Berlin, Germany, Sept. 11-14 2005.
- [186] S. Stanczak and H. Boche. The infeasible SIR region is not a convex set. In *Proc. 2005 IEEE International Symposium on Information Theory (ISIT)*, Adelaide, Australia, Sept. 4-9 2005.
- [187] H. Boche, M. Schubert, and S. Stanczak. A unifying approach to multiuser receiver design under qos constraints. In *Proc. IEEE Vehicular Technology Conference (VTC)*, Stockholm, Sweden, May 29-June 1 2005.
- [188] M. Wiczanowski, S. Stanczak, and Y. Chen. Throughput-fairness trade-off in probabilistic medium access control for wireless ad hoc networks. In *Proc. IEEE Vehicular Technology Conference (VTC)*, Stockholm, Sweden, May 29-June 1 2005.
- [189] H. Boche, M. Schubert, S. Stanczak, and M. Wiczanowski. An axiomatic approach to resource allocation and interference balancing. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Philadelphia, PA, USA, March 18-23 2005.
- [190] S. Stanczak, H. Boche, and M. Wiczanowski. Towards a better understanding of medium access control for multiuser beamforming systems. In *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, New Orleans, LA, USA, March 13-17 2005.
- [191] H. Boche, M. Wiczanowski, and S. Stanczak. Unifying view on min-max fairness and utility optimization in cellular networks. In *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, New Orleans, LA, USA, March 13-17 2005.
- [192] S. Stanczak and A. Feistel. Dynamic resource allocation for frequency-selective orthogonal QS-CDMA systems. In *Proc. 38th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 7-10 2004.
- [193] S. Stanczak and H. Boche. Information theoretic approach to the Perron root of nonnegative irreducible matrices. In *Proc. 2004 Information Theory Workshop (ITW)*, San Antonio, Texas, USA, Oct. 24-29 2004.
- [194] H. Boche, M. Wiczanowski, and S. Stanczak. Characterization of optimal resource allocation in cellular networks. In *Proc. IEEE 5th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Lisboa, Portugal, July 11-14 2004.
- [195] S. Stanczak and G. Wunder. On multipath channel estimation for the uplink of CDMA systems: Optimal pilot sequences. In *Proc. 38th Annual Conference on Information Sciences and Systems (CISS)*, pages 95–100, Princeton, NJ, USA, March 17-19 2004.

- [196] H. Boche and S. Stanczak. Optimal QoS tradeoff and power control in CDMA systems. In *Proc. 23rd IEEE Conference on Computer Communications (INFOCOM)*, Hong Kong, March 7-11 2004.
- [197] H. Boche and S. Stanczak. Log-concavity of SIR and characterization of the feasible SIR region for CDMA channels. In *Proc. 37th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 9-12 2003.
- [198] H. Boche and S. Stanczak. Log-convexity of the minimal feasible total power in CDMA channels. In *Proc. 14th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Beijing, China, Sept. 7-10 2003.
- [199] S. Stanczak. On sequence sets for symbol-asynchronous CDMA channels with fixed time offsets. In *Proc. 37th Annual Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, USA, March 2003.
- [200] V. Kravcenko, S. Stanczak, and B. Filova. Resource allocation and performance in quasi-synchronous CDMA systems. In *Proc. IEEE Sarnoff Symposium On Advances In Wired And Wireless Communications*, The College of New Jersey, USA, March 11-12 2003.
- [201] H. Boche and S. Stanczak. Iterative algorithm for finding resource allocation in symbol-asynchronous CDMA channels with different SIR requirements. In *Proc. 36th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 03-06, 2002.
- [202] S. Stanczak and H. Boche. On sequence sets for CDMA channels with a small delay spread. In *Proc. 36th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 3-6, 2002.
- [203] S. Stanczak and H. Boche. Optimal signature sequences for asynchronous CDMA systems with fixed signal delays. In *Proc. 5th International Symposium on Wireless Personal Multimedia Communications (WPMC)*, Honolulu, Hawaii, Oct. 27-30 2002.
- [204] S. Stanczak and H. Boche. QS-CDMA: A potential air interface candidate for 4G wireless communications. In *Proc. ITCOM Conference*, pages 137–148, Boston, MA, USA, July 29-Aug. 2 2002.
- [205] S. Stanczak and H. Boche. On resource allocation in asynchronous CDMA channels. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, page 80, Lausanne, Switzerland, June 30-July 5 2002.
- [206] G. Wunder, S. Stanczak, and H. Boche. Channel estimation for the uplink of CDMA systems with linear MMSE estimators: Lower bounds and optimal sequences. In *Proc. IEEE Int. Symp. on Spread-Spectrum Techniques and Applications (ISSSTA)*, volume 1, pages 34–38, Prague, Czech Republic, Sept. 2-5 2002.
- [207] S. Stanczak and H. Boche. Sequences with small aperiodic correlations in the vicinity of the zero shift. In *Proc. 4th International ITG Conference on Source and Channel Coding*, pages 183–190, Berlin, Germany, Jan. 28-30, 2002.
- [208] S. Stanczak, H. Boche, and M. Haardt. Are LAS codes a miracle? In *Proc. IEEE Global Communications Conference (GLOBECOM)*, San Antonio, Texas, USA, Nov. 25-29 2001.
- [209] H. Boche and S. Stanczak. Optimal sequences for asynchronous CDMA channels with different SIR requirements. In *Proc. 35th Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, USA, Nov. 04-07, 2001.
- [210] V. Jungnickel, V. Pohl, U. Krüger, C. von Helmolt, T. Haustein, and S. Stanczak. A radio system with multi-element antennas. In *Proc. IEEE Semiannual Vehicular Technology Conference (VTC Spring)*, Rhodes Island, Greece, May 6-9 2001.

- [211] H. Boche and S. Stanczak. Lower bound on the mean square channel estimation error for multiuser receiver. In *Proc. IEEE International Symposium on Circuits and Systems (ISCAS)*, Sydney, Australia, May 6-9 2001.
- [212] S. Stanczak, H. Boche, F. Fitzek, and A. Wolisz. Design of spreading sequences for SMPT-based CDMA systems. In *Proc. 34th Asilomar Conference on Signals, Systems, and Computers*, pages 1622–1626, Monterey, CA, USA, Oct. 29- Nov. 1 2000.
- [213] S. Stanczak and H. Boche. Influence of periodic correlation properties of sequences on the sum capacity of CDMA systems. In *Proc of the 34th Asilomar Conference on Signals, Systems, and Computers*, pages 1288–1292, Monterey, CA, USA, Oct. 29- Nov. 1 2000.
- [214] H. Boche and S. Stanczak. Estimation of deviations between the aperiodic and periodic correlation functions of polyphase sequences in the vicinity of the zero shift. In *Proc. 6th IEEE Int. Symp. on Spread-Spectrum Tech. and Appl. (ISSSTA)*, volume 1, pages 283–287, Parsippany, NJ, USA, Sept. 6-8 2000.
- [215] S. Stanczak and H. Boche. The $1/\sup 1/$ -norm of out-of-phase peaks of the aperiodic auto-correlation function of binary sequences. volume 6, pages 2533–2536, Istanbul, Turkey, June 2000.
- [216] S. Stanczak and H. Boche. Aperiodic properties of generalized binary Rudin-Shapiro sequences and some recent results on sequences with a quadratic phase function. In *Proc. International Zürich Seminar On Broadband Communications (IZS)*, pages 279–286, Zürich, Switzerland, Feb. 15-17, 2000.
- [217] H. Boche and S. Stanczak. Aperiodic auto-correlation of polyphase sequences with a small peak-factor. In *Proc. 33rd Asilomar Conference on Signals, Systems, and Computers*, pages 705–709, Monterey, CA, USA, Oct. 24-27, 1999.
- [218] S. Stanczak and H. Boche. Aperiodic properties of binary Rudin-Shapiro sequences and a lower bound on the merit-factor of sequences with a quadratic phase function. In *ITG-Fachbericht, European Wireless 99*, pages 219–224, Munich, Germany, Oct. 1999.
- [219] S. Stanczak and H. Boche. Aperiodic correlation properties of polyphase sequences with a quadratic phase function. In *Proc. 3rd Workshop "Kommunikationstechnik" Schloss Reisensburg near Ulm*, pages 61–68, July 1999.