List of Publications

Chathuranga Weeraddana, 2026

A1 Journal Article – Refereed (Click to download online)

1. H. Abeynanda, **P. C. Weeraddana**, and C. Fischione, "On the characteristics of the conjugate function enabling effective dual decomposition methods," IEEE Transactions on Signal Processing, vol. 74, pp. 572-588, Jan. 2026.
2. T. AlShammari, **P. C. Weeraddana**, and M. Bennis, "BayGO: Decentralized Bayesian learning and information-aware graph optimization framework," IEEE Transactions on Signal Processing, vol. 72, pp. 2101-2116, Apr. 2024.
3. S. Ranaweera, **P. C. Weeraddana**, P. Dharmawansa, and C. Fischione, "On the convergence of inexact gradient descent with controlled synchronization steps," IEEE Signal Processing Letters, vol. 30, pp. 703-707, May 2023.
4. H. Abeynanda, **P. C. Weeraddana**, G. H. J. Lanel, and C. Fischione, "On the primal feasibility in dual decomposition methods under additive and bounded errors," IEEE Transactions on Signal Processing, vol. 71, pp. 655-669, Feb. 2023.
5. M. Ding, S. Atapattu, **P. C. Weeraddana**, and J. Evans, "Energy-efficiency fairness of interference multi-relay networks for multi-user communication," IEEE Communication Letters, vol. 25, no. 3, Mar. 2021.
6. Y. Xu, E. Alfonsetti, **P. C. Weeraddana**, and C. Fischione, "A semi distributed approach for min-max fair agent-assignment problem with privacy guarantees," IEEE Transactions on Control of Network Systems, vol. 5, no. 1, pp. 333–344, Mar. 2018.
7. M. Levorato, **P. C. Weeraddana**, and C. Fischione, "Distributed optimization of channel access strategies in reactive cognitive networks," IEEE Transactions on Communication, vol. 64, no. 10, pp. 4121–4133, Oct. 2016.
8. S. Magnússon, **P. C. Weeraddana**, M. Rabbat, and C. Fischione, "On the convergence of alternating direction Lagrangian methods for nonconvex structured optimization problems," IEEE Transactions on Control of Network Systems, vol. 3, no. 3, pp. 296–309, Oct. 2016.
9. M. Jakobsson, S. Magnússon, C. Fischione, and **P. C. Weeraddana**, "Extensions of fast-Lipschitz optimization," IEEE Transactions on Automatic Control, vol. 61, no. 4, pp. 861–876, Oct. 2016.
10. S. Magnússon, **P. C. Weeraddana**, and C. Fischione, "A distributed approach for the optimal power flow problem based on ADMM and sequential convex approximations," IEEE Transactions on Control of Network Systems, vol. 2, no. 3, pp. 238–253, Oct. 2015.
11. G. Athanasiou, **P. C. Weeraddana**, C. Fischione, and L. Tassiulas, "Optimizing client association for load balancing and fairness in millimeter-wave wireless networks," IEEE/ACM Transactions on Networking, vol. 23, no. 3, pp. 836-850, Mar. 2014.
12. G. Athanasiou, **P. C. Weeraddana**, and C. Fischione, "Auction-based resource allocation in millimeterwave wireless access networks," IEEE Communications Letters, vol. 17, no. 11, pp. 2108–2111, Nov. 2013.
13. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Multicell downlink weighted sum-rate maximization: A distributed approach," IEEE Transactions on Signal Processing, vol. 61, no. 3, pp. 556–570, Feb. 2013.
14. S. Joshi, **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "Weighted sum-rate maximization for MISO downlink cellular networks via branch and bound," IEEE Transactions on Signal Processing, vol. 60, no. 4, pp. 2090–2095, Apr. 2012.

15. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Weighted sum-rate maximization for a set of interfering links via branch and bound," IEEE Transactions on Signal Processing, vol. 59, no. 8, pp. 3977–3996, Aug. 2011.
16. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Resource allocation for cross-layer utility maximization in wireless networks," IEEE Transactions on Vehicular Technology, vol. 60, no. 6, pp. 2790–2809, Jul. 2011.
17. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "On the effect of self-interference cancellation in multihop wireless networks," EURASIP Journal on Wireless Communications and Networking, vol. 2010, Article ID 513952, 10 pages, 2010, doi:10.1155/2010/513952.
18. **P. C. Weeraddana**, M. Codreanu, L. Wei, and M. Latva-aho, "Primal decomposition-based method for weighted sum-rate maximization in downlink OFDMA systems," EURASIP Journal on Wireless Communications and Networking, vol. 2010, Article ID 324780, 9 pp., 2010, doi:10.1155/2010/324780.
19. **P. C. Weeraddana**, R. M. A. P. Rajatheva, and H. Minn, "Probability of error analysis of BPSK OFDM systems with random residual frequency offset," IEEE Transactions on Communications, vol. 57, no. 1, pp. 106–116, Jan. 2009.

C1 Scientific Book

1. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, A. Ephremides, and C. Fischione, "Weighted Sum-Rate Maximization in Wireless Networks: A Review," *Foundations and Trends in Networking, Now Publishers Inc.*, vol. 6, no. 1-2, pp. 1–163, 2012.

A4 Professional Conference Proceedings

1. T. Perera, S. Atapattu, **P. C. Weeraddana**, and J. Evans, "Opportunistic beamforming and dynamic scheduling for multi-user MIMO-ISAC systems," in *Proc. IEEE Veh. Technol. Conf. (VTC2025-Spring)*, Oslo, Norway, Jun. 17 - 20, 2025.
2. S. Atapattu, **P. C. Weeraddana**, M. Ding, H. Inaltekin, and J. Evans, "Latency minimization with optimum workload distribution and power control for fog computing," in *Proc. Annual IEEE Wireless Commun. and Net. Conf.*, Seoul, Korea (South), May 25 - 28, 2020.
3. C. Asirimath, J. Ratnayake, **P. C. Weeraddana**, and N. Rajatheva, "Critical points to determine persistence homology," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Nov. 3 - 6, 2019.
4. N. Silva, **P. C. Weeraddana**, and C. Fischione, "On musical onset detection via the S-transform," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Oct. 28 - 31, 2018.
5. **P. C. Weeraddana**, and C. Fischione, "On the privacy of optimization," in *Proc. Int. Federation of Automatic Control*, Toulouse, France, Jul. 9–14, 2017.
6. S. Magnússon, **P. C. Weeraddana**, and C. Fischione, "A distributed approach for the optimal power flow problem based on ADMM and sequential convex approximations," in *Proc. European Control Conf.*, Aalborg, Denmark, Jun. 29– Jul. 5, 2016.
7. S. Magnússon, M. Jacobson, C. Fischione, and **P. C. Weeraddana** "On some extensions of fast-Lipschitz optimization," in *Proc. European Control Conf.*, Aalborg, Denmark, Jun. 29– Jul. 5, 2016.
8. E. Alfonsettti, **P. C. Weeraddana**, and C. Fischione, "A semi distributed approach for min-max fair car-parking slot assignment problem," in *Workshop on Smart Vehicles, IEEE SmartVehicles 15*, Boston, MA, USA, Jun. 2015.

9. M. Levorato, **P. C. Weeraddana**, and C. Fischione, "Distributed optimization of transmission strategies in reactive cognitive networks," in *Proc. IEEE Globecom. Conf., to appear*, Austin, TX, USA, Nov. 8–12, 2014.

10. S. Magnússon, **P. C. Weeraddana**, M. Rabbat, and C. Fischione, "On the convergence of an alternating direction penalty method for nonconvex problems," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Nov. 2–5, 2014.

11. **P. C. Weeraddana**, G. Athanasiou, C. Fischione, and J. S. Baras, "Per-se privacy preserving solution methods based on optimization," in *Proc. IEEE Int. Conf. on Dec. and Control*, Florence, Italy, Dec. 10–13, 2013.

12. G. Athanasiou, **P. C. Weeraddana**, C. Fischione, and P. Orten, "Communication infrastructures in industrial automation: The case of 60 GHz millimeterwave communications," in *Proc. IEEE Int. Conf. on Emerging Tech. & Fact. Automations*, Cagliary, Italy, Sep. 10–13, 2013.

13. **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "Multicell downlink weighted sum-rate maximization: A distributed approach," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Nov. 6–9 2011, pp. 1368–1375.

14. S. Joshi, **P. C. Weeraddana**, M. Codreanu, and M. Latva-Aho, "Weighted sum-rate maximization for MISO downlink cellular networks via branch and bound," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Nov. 6–9, 2011, pp. 1569–1573.

15. M. Codreanu, **P. C. Weeraddana**, M. Latva-Aho, and A. Ephremides, "Weighted sum-rate maximization in singlecast and multicast wireless networks - global optimum via branch and bound," in *Proc. IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun.*, Toronto, Canada, Sep. 11–14, 2011, pp. 2274–2278.

16. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Optimal maxweight scheduling in a multihop wireless network via branch and bound," in *Proc. IEEE Int. Symp. Inform. Theory*, Saint Petersburg, Russia, Jul. 31–Aug. 5, 2011, pp. 2787–2791.

17. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Weighted sum-rate maximization for a set of interfering links via branch and bound," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp., Pacific Grove, CA, USA, Nov. 7–10, 2010.* **(AWARDED THE SECOND BEST PAPER)**

18. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "The benefits from simultaneous transmission and reception in wireless networks," in *Proc. IEEE Inform. Theory Workshop*, Dublin, Ireland, Aug. 30–Sep. 3, 2010, pp. 1–5.

19. **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "An efficient close to optimal radio resource allocation mechanism towards LTE downlink transmission," in *Proc. URSI/IEEE Convention Radio Science*, Oulu, Finland, Aug. 26, 2010, pp. 71–74.

20. **P. C. Weeraddana**, M. Codreanu, M. Latva-aho, and A. Ephremides, "Resource allocation for cross-layer utility maximization in multi-hop wireless networks in the presence of self interference," in *Proc. Int. Symp. on Modelling and Opt. in Mobile, Ad-hoc and Wireless Networks*, Avignon, France, May 31–Jun. 4 2010, pp. 70–75.

21. **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "Cross-layer resource allocation for wireless networks via signomial programming," in *Proc. IEEE Global Telecommun. Conf.*, Honolulu, Hawaii, USA, Nov. 30–Dec. 4, 2009, pp. 1–6.

22. M. Codreanu, **P. C. Weeraddana**, and M. Latva-aho, "Cross-layer utility maximization subject to stability constraints for multi-channel wireless networks," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Nov. 2–4, 2009, pp. 776–780.

23. **P. C. Weeraddana**, M. Codreanu, and M. Latva-aho, "On the advantages of using multiuser receivers in wireless ad-hoc networks," in *Proc. IEEE Veh. Technol. Conf.*, Anchorage, Alaska, USA, Sep. 20–23, 2009, pp. 1–6.

24. **P. C. Weeraddana**, L. Wei, M. Codreanu, and M. Latva-aho, "Weighted sum-rate maximization for downlink OFDMA systems," in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, USA, Oct. 27–29, 2008, pp. 990–994.

25. **P. C. Weeraddana**, L. Wei, M. Codreanu, and M. Latva-aho, "Adaptive subcarrier and power allocation for OFDMA systems," in *Proc. of the IFIP Wireless Days Conf.*, Dubai, UAE, Nov. 24–27, 2008, pp. 1–5.

26. **P. C. Weeraddana**, M. Codreanu, Li. Wei, and M. Latva-aho, "Low complexity adaptive subcarrier and power allocation scheme for downlink OFDMA systems," in *Proc. Int. Symp. Wireless Pers. Multimedia Commun.*, Lapland, Finland, Sep. 8–11, 2008, CD-Rom.

27. **P. C. Weeraddana**, R. M. A. P. Rajatheva, and H. Minn, "Probability of error analysis of 4-QAM OFDM systems with random residual frequency offset," in *Proc. IEEE Veh. Technol. Conf.*, Calgary, Alberta, Sep. 21–24, 2008, pp. 1–5.

28. **P. C. Weeraddana** and R. M. A. P. Rajatheva, "Probability of error analysis of OFDM systems with random residual frequency offset," in *Proc. IEEE Veh. Technol. Conf.*, Dublin, Ireland, Apr. 22–25, 2007, pp. 2354–2358.

G2 Master's Thesis, Polytechnic Master's Thesis

1. **P. C. Weeraddana**, *Performance Analysis of OFDM Systems with Random Residual Frequency Offset*, M.Eng. thesis, Centre for Wireless Communications, University of Oulu. Thailand, May 2007, [Online]. Available: `https://chathugithub1.github.io/Home/files/masters_thesis.pdf`.

G4 Doctoral Dissertation (Monograph)

1. **P. C. Weeraddana**, *Optimization Techniques for Radio Resource Management in Wireless Communication Networks*, Ph.D. thesis, Centre for Wireless Communications, University of Oulu. Acta Universitatis Ouluensis, Oulu, Finland, Nov. 2011, [Online]. Available: `http://herkules.oulu.fi/isbn9789514296550/isbn9789514296550.pdf`.