

# List of publications

Marian Codreanu

February 15, 2022

## Articles in international peer-reviewed journals

- J46. M. Moltafet, M. Leinonen, **M. Codreanu**, and N. Pappas, “Dynamic radio resource allocation in wireless sensor networks for AoI-sensitive applications,” *IEEE Transactions on Communications*, vol. 70, no. 1, pp. 419–432, Jan. 2022. [preprint: [arXiv:2007.05364](#)]
- J45. E. Uysal, O. Kaya, A. Ephremides, J. Gross, **M. Codreanu**, P. Popovski, M. Assaad, G. Liva, A. Munari, T. Soleymani, B. Soret, K.H. Johansson, “Semantic Communications in Networked Systems,” *IEEE Network Magazine*, in press, 2022. [preprint: [arXiv:2103.05391](#)]
- J44. M. Hatami, M. Leinonen, Z. Chen, N. Pappas, and **M. Codreanu**, “On-Demand AoI Minimization in Resource-Constrained Cache-Enabled IoT Networks with Energy Harvesting Sensors,” *IEEE Transactions on Communications*, submitted Jan. 2022. [preprint: [arXiv:2201.12277](#)]
- J43. E. Fountoulakis, **M. Codreanu**, A. Ephremides, and N. Pappas, “Joint sampling and transmission policies for minimizing cost under AoI constraints,” *IEEE/ACM Transactions on Networking*, submitted Mar. 2021, revised Dec. 2021. [preprint: [arXiv:2103.15450](#)]
- J42. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Moment Generating Function of Age of Information in Multi-Source M/G/1/1 Queueing Systems,” *IEEE Transactions on Communications*, submitted Dec. 2021. [preprint: [arXiv:2201.10991](#)]
- J41. M. Hatami, M. Leinonen, and **M. Codreanu**, “AoI minimization in status update control with energy harvesting sensors,” *IEEE Transactions on Communications*, vol. 69, no. 12, pp. 8335–8351, Dec. 2021. [preprint: [arXiv:2009.04224](#)]
- J40. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Average AoI in multi-source systems with source-aware packet management,” *IEEE Transactions on Communications*, vol. 69, pp. 1121–1133, Feb. 2021. [preprint: [arXiv:2001.03959](#)]
- J39. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Moment generating function of the AoI in two-source system with packet management,” *IEEE Wireless Communications Letters*, vol. 10, pp. 8820–886, Apr. 2021. [preprint: [arXiv:2009.14439](#)]
- J38. M. Moltafet, M. Leinonen, and **M. Codreanu**, “On the age of information in multi-source queueing models,” *IEEE Transactions on Communications*, vol. 68, no. 8, pp. 5003–5017, Aug. 2020. [online preprint]
- J37. M. Leinonen, and **M. Codreanu**, “Low-complexity vector quantized compressed sensing via deep neural networks,” *IEEE Open Journal of the Communications Society*, vol. 1, pp. 1278–1294, Aug. 2020. [online preprint]
- J36. E. Belyaev, **M. Codreanu**, M. Juntti, and K. Egiazarian, “Compressive sensed video recovery via iterative thresholding with random transforms,” *IET Image Processing*, vol. 14, no. 6, pp. 1187–1199, May 2020. [online preprint]

- J35. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Worst case age of information in wireless sensor networks: A multi-access channel,” *IEEE Wireless Communications Letters*, vol. 9, no. 3, pp. 321–325, Mar. 2020. [[online preprint](#)]
- J34. M. Leinonen, **M. Codreanu**, M. Juntti, and G. Kramer, “Rate-distortion performance of lossy compressed sensing of sparse sources,” *IEEE Transactions on Communications*, vol. 66, no. 10, pp. 4498–4512, Oct. 2018. [[online preprint](#)]
- J33. M. Leinonen, **M. Codreanu**, and M. Juntti, “Distributed distortion-rate optimized compressed sensing in wireless sensor networks,” *IEEE Transactions on Communications*, vol. 66, no. 4, pp. 1609–1623, Apr. 2018. [[online preprint](#)]
- J32. H. Shiri, M.A. Tinati, **M. Codreanu**, and G. Azarnia “Distributed sparse diffusion estimation with reduced communication cost,” *IET Signal Processing*, Apr. 2018.
- J31. S. Manosha, S. Joshi, **M. Codreanu**, N. Rajatheva, and M. Latva-aho, “Admission control in algorithms for QoS-constrained multicell MISO Downlink Systems,” *IEEE Transactions on Wireless Communications*, vol. 17, no. 3, pp. 1982–1999, Mar. 2018. [[online preprint](#)]
- J30. H. Shiri, M.A. Tinati, **M. Codreanu**, and S. Daneshvar, “Sparse distributed diffusion based on set membership and affine projection,” *Digital Signal Processing (Elsevier) Journal*, vol. 73, pp. 47–61, Feb. 2018.
- J29. S. Joshi, S. Manosha, **M. Codreanu**, and M. Latva-aho, “Dynamic inter-operator spectrum sharing via Lyapunov optimization,” *IEEE Transactions on Wireless Communications*, vol. 16, no. 10, pp. 6365–6381, Oct. 2017. [[online preprint](#)]
- J28. E. Belyaev, S. Forchhammer, and **M. Codreanu**, “Error concealment for 3-D DWT based video codec using iterative thresholding,” *IEEE Communications Letters*, vol. 21, no. 8, pp. 1731–1734, Aug. 2017. [[online preprint](#)]
- J27. U. Wijewardhana and **M. Codreanu**, “A Bayesian approach for online recovery of streaming signals from compressive measurements,” *IEEE Transactions on Signal Processing*, vol. 65, no. 1, pp. 184–199, Jan. 2017.
- J26. U. Wijewardhana, **M. Codreanu**, and M. Latva-aho, “An interior-point method for modified total variation exploiting transform-domain sparsity,” *IEEE Signal Processing Letters*, vol. 24, no. 1, pp. 56–60, Jan. 2017.
- J25. M. Costa, **M. Codreanu**, and A. Ephremides, “On the age of information in status update systems with packet management,” *IEEE Transactions on Information Theory*, vol. 62, no. 4, pp. 1897–1910, Apr. 2016. [[preprint: arXiv:1506.08637](#)]
- J24. K. Lähetkangas, **M. Codreanu**, and B. Aazhang, “Route discovery protocol for energy efficient networks with MIMO links,” *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 12, pp. 2735–2748, Dec. 2015.
- J23. S. Joshi, U. Wijewardhana, **M. Codreanu**, and M. Latva-aho, “Maximization of worst-case weighted sum-rate for MISO downlink systems with imperfect channel knowledge,” *IEEE Transactions on Communications*, vol. 63, no. 10, pp. 3671–3685, Oct. 2015.
- J22. D. Das, A. Abouzeid, and **M. Codreanu**, “Network-layer scheduling and relaying in cooperative spectrum sharing networks,” *IEEE Transactions on Wireless Communications*, vol. 14, no. 8, pp. 4597–4613, Aug. 2015.
- J21. M. Leinonen, **M. Codreanu**, and M. Juntti, “Sequential compressed sensing with progressive signal reconstruction in wireless sensor networks,” *IEEE Transactions on Wireless Communications*, vol. 14, no. 3, pp. 1622–1635, Mar. 2015.
- J20. S. Manosha, **M. Codreanu**, N. Rajatheva, and M. Latva-aho, “Power-throughput tradeoff in MIMO heterogeneous networks,” *IEEE Transactions on Wireless Communications*, vol. 13, no. 8, pp. 4309–4322, Aug. 2014.

- J19. J. Jeon, **M. Codreanu**, M. Latva-aho, and A. Ephremides, “The stability property of cognitive radio systems with imperfect sensing,” *IEEE Journal on Selected Areas in Communications*, vol. 32, no. 3, pp. 628–640, Mar. 2014.
- J18. U. Wijewardhana, **M. Codreanu**, M. Latva-aho, and A. Ephremides, “A robust beamformer design for underlay cognitive radio networks using worst case optimization,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2014, Article ID 37, 16 pages, 2014.
- J17. S. Joshi, **M. Codreanu**, and M. Latva-aho, “Distributed resource allocation for MISO downlink systems via the alternating direction method of multipliers,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2014, Article ID 1, 19 pages, 2014.
- J16. M. Leinonen, **M. Codreanu**, and M. Juntti, “Distributed joint resource and routing optimization in wireless sensor networks via alternating direction method of multipliers,” *IEEE Transactions on Wireless Communications*, vol. 12, no. 11, pp. 5454–5467, Nov. 2013.
- J15. 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.
- J14. 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.
- J13. 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.
- J12. 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.
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- J10. Z. Khan, J. Lehtomäki, **M. Codreanu**, M. Latva-aho, and L. A. DaSilva, “Throughput-efficient dynamic coalition formation in distributed cognitive radio networks,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 653913, 13 pages, 2010.
- J9. P. C. Weeraddana, **M. Codreanu**, M. Latva-aho, and A. Ephremides, “On the effect of self-interference cancelation in multihop wireless networks,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 513952, 10 pages, 2010.
- J8. 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 pages, 2010.
- J7. A. Tölli, **M. Codreanu**, and M. Juntti, “Linear multiuser MIMO transceiver design with quality of service and per-antenna power constraints,” *IEEE Transactions on Signal Processing*, vol. 56, no. 7, pp. 3049–3055, July 2008.
- J6. A. Tölli, **M. Codreanu**, and M. Juntti, “Cooperative MIMO-OFDM cellular system with soft handover between distributed base station antennas,” *IEEE Transactions on Wireless Communications*, vol. 7, no. 4, pp. 1428–1440, Apr. 2008.

- J5. **M. Codreanu**, M. Juntti, and M. Latva-aho, “On the dual decomposition based sum capacity maximization for vector broadcast channels,” *IEEE Transactions on Vehicular Technology*, vol. 56, no. 7, pp. 3577–3581, Nov. 2007.
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- J3. **M. Codreanu**, M. Juntti, and M. Latva-aho, “Low complexity iterative algorithm for finding the MIMO-OFDM broadcast channel sum capacity,” *IEEE Transactions on Communications*, vol. 55, no. 1, pp. 48–53, Jan. 2007.
- J2. A. Tölli, **M. Codreanu**, and M. Juntti, “Compensation of non-reciprocal interference in adaptive MIMO-OFDM cellular systems,” *IEEE Transactions on Wireless Communications*, vol. 6, no. 2, pp. 545–555, Feb. 2007.
- J1. **M. Codreanu**, D. Tujkovic, and M. Latva-aho, “Adaptive MIMO-OFDM with low signalling overhead for unbalanced antenna systems,” *IEICE Transactions on Communications*, vol. E88-B, no. 1, pp. 28–38, Jan. 2005.

### Scientific monographs

- M2. M. Leinonen, **M. Codreanu**, and G. Giannakis, *Compressed sensing with applications in wireless networks*, Foundations and Trends<sup>®</sup> in Signal Processing, Now Publishers, pp. 1–282, 2019. [\[available online\]](#)
- M1. 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<sup>®</sup> in Networking, Now Publishers, pp. 1–163, 2012. [\[available online\]](#)

### Book chapters

- BC1. M. Molatafet, M. Leinonen, and **M. Codreanu**, *Timely status updating via packet management in multi-source systems*, in press, CUP Special Issue on Age of Information. Cambridge University Press, 2021.

### Academic theses

- AT3. **M. Codreanu**, *Multidimensional Adaptive Radio Links for Broadband Communications*, Ph.D. thesis, Centre for Wireless Communications, University of Oulu. Acta Universitatis Ouluensis, Oulu, Finland, Nov. 2007. [\[available online\]](#)
- AT2. **M. Codreanu**, *Decision feedback adaptive recurrent neural network for communication channels equalization*, Master’s thesis in Romanian, Department of Applied Electronics, ”Politehnica” University of Bucharest. Bucharest, Romania, 1998.
- AT1. **M. Codreanu**, *Reduction of the narrow band interference in spread spectrum communications*, Bachelor’s thesis in Romanian, Department of Applied Electronics, ”Politehnica” University of Bucharest. Bucharest, Romania, 1997.

### Articles in international peer-reviewed conference proceedings

- C91. M. Hatami, M. Leinonen, Z. Chen, N. Pappas, and **M. Codreanu**, “Asymptotically Optimal On-Demand AoI Minimization in Energy Harvesting IoT Networks,” submitted to the *IEEE Int. Symp. Inform. Theory*, Espoo, Finland, Jun. 26–Jul. 1 2022.

- C90. M. Moltafet, M. Leinonen, and **M. Codreanu**, “AoI in Source-Aware Preemptive M/G/1/1 Queueing Systems: Moment Generating Function,” submitted to the *IEEE Int. Symp. Inform. Theory*, Espoo, Finland, Jun. 26–Jul. 1 2022.
- C89. A. Zakeri, M. Moltafet, M. Leinonen, and **M. Codreanu**, “Minimizing AoI in resource-constrained multi-source relaying systems with stochastic arrivals,” in *Proc. IEEE Global Commun. Conf. (GLOBECOM)*, Madrid, Spain, Dec. 7–11 2021. [preprint: [arXiv:2109.05106](https://arxiv.org/abs/2109.05106)]
- C88. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Moment generating function of the AoI in multi-source systems with computation-intensive status updates,” in *Proc. IEEE Inform. Theory Workshop (ITW)*, Kanazawa, Japan, Oct. 17–21 2021. [preprint: [arXiv:2102.01126](https://arxiv.org/abs/2102.01126)]
- C87. M. Hatami, M. Leinonen, and M. Codreanu, “Minimizing average on-demand AoI in an IoT network with energy harvesting sensors,” in *Proc. IEEE Works. on Sign. Proc. Adv. in Wirel. Comms. (SPAWC)*, virtual conference, Sep. 27–30 2021.
- C86. M. Moltafet, M. Leinonen, and M. Codreanu, “Source-Aware Packet Management for Computation-Intensive Status Updating: MGF of the AoI”, in *Proc. Int. Symp. on Wireless Commun. Syst. (ISWCS)*, special session on Age of Information, virtual conference, Sep. 6–9 2021.
- C85. M. Hatami, M. Jahandideh, M. Leinonen, and **M. Codreanu**, “Age-aware status update control for energy harvesting IoT sensors via reinforcement learning,” in *Proc. IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun.*, London, UK, August 31–September 3 2020. [preprint: [arXiv:2004.12684](https://arxiv.org/abs/2004.12684)]
- C84. M. Moltafet, M. Leinonen, and **M. Codreanu**, “An exact expression for the average AoI in a multi-source M/M/1 queueing model,” in *Proc. IEEE Int. Symp. Pers., Indoor, Mobile Radio Commun.*, London, UK, August 31–September 3 2020. [online preprint]
- C83. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Average age of information for a multi-source M/M/1 queueing model with packet management,” in *Proc. IEEE Int. Symp. Inform. Theory*, Los Angeles, California, USA, June 21–26 2020. [online preprint]
- C82. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Average age of information in a multi-source M/M/1 queueing model with LCFS prioritized packet management,” in *Proc. IEEE INFOCOM, Age of Information Workshop*, Toronto, Canada, July 6–9 2020. [online preprint]
- C81. M. Fountoulakis, N. Pappas, **M. Codreanu**, and A. Ephremides, “Optimal sampling cost in wireless networks with age of information constraints,” in *Proc. IEEE INFOCOM, Age of Information Workshop*, Toronto, Canada, July 6–9 2020. [preprint: [arXiv:2003.02512](https://arxiv.org/abs/2003.02512)]
- C80. M. Moltafet, M. Leinonen, and **M. Codreanu**, “Average age of information for a multi-source M/M/1 queueing model with packet management and self-preemption in service,” in *Proc. Int. Symp. on Modelling and Opt. in Mobile, Ad-hoc and Wireless Networks*, Volos, Greece, June 15–19 2020. [online preprint]
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- C76. M. Hatami, M. Leinonen, and **M. Codreanu**, “Online caching policy with user preferences and time-dependent requests: A reinforcement learning approach,” in *Proc. Annual Asilomar Conf. Signals, Syst., Comp.*, Pacific Grove, CA, Nov.3–6 2019. [[online preprint](#)]
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- C71. M. Leinonen, **M. Codreanu**, and M. Juntti, “Signal reconstruction performance under quantized noisy compressed sensing,” in *Proc. Data Compression Conference*, Snowbird, UT, USA, Mar. 26–29 2019.
- C70. M.U. Aminu, **M. Codreanu**, and M. Juntti, “Bayesian learning based millimeter-wave sparse channel estimation with hybrid antenna arrays,” in *Proc. IEEE Works. on Sign. Proc. Adv. in Wirel. Comms.*, Kalamata, Greece, Jun. 25–28 2018.
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- C61. S. Joshi, U. Wijewardhana, **M. Codreanu**, and M. Latva-aho, “Maximization of worst-case weighted sum-rate for MISO downlink systems with channel uncertainty,” in *Proc. IEEE Int. Conf. Commun.*, London, UK, Jun. 8–12 2015, pp. 2289–2294.
- C60. U. Wijewardhana, **M. Codreanu**, “A sparse Bayesian learning method for streaming signal recovery,” in *Proc. IEEE Inform. Theory Workshop*, Hobart, Tasmania, Australia, Nov. 2–5 2014, pp. 302–306.
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- C56. M. Leinonen, **M. Codreanu**, and M. Juntti, “Compressed acquisition and progressive reconstruction of multi-dimensional correlated data in wireless sensor networks,” in *Proc. IEEE Int. Conf. Acoust., Speech, Signal Processing*, Florence, Italy, May. 4–9 2014, pp. 6449–6453.
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