Masoud Ardakani

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Highlights

- Has 20+ years of research experience in the general area of information theory and communications.
- Won several prestigious awards including IEEE Best Paper Awards, institutional awards, and more.
- Serves as Area Editor (Info. Theory and Coding) for the IEEE Transactions on Communications.
- Has served as conference co-chair for several top IEEE and Canadian conferences.
- Has served as TPC Chair for some of the flagship IEEE conferences.
- Has secured and managed about $2.5M in research funds.
- Currently supervising a team of 10 PDFs/Grad. Students.
- Supervised 35 PDFs/Grad. Students in the past.
- Published about 200 peer-reviewed journal papers and IEEE Conference papers.
- Has presented as a keynote speaker or panelist at some top IEEE Conferences (e.g., PIMRC).

Personal Information

Research Interests

- **Modern Coding Techniques**: efficient coding techniques for modern data communications
- **Big Data**: cloud storage and cloud computing techniques with high reliability, and low complexity
- **Machine Learning**: applications of ML in intelligent data communications/processing
- **Wireless Communication Networks**: 5G/6G communications
- **IoT**: efficient distributed algorithms for IoT setups

Education

- **University of Toronto**, Toronto, ON, 1999–2004
  PhD in Electrical and Computer Engineering
  Dissertation: *Efficient Analysis, Design and Decoding of Low-Density Parity-Check Codes*

- **University of Tehran**, Tehran, Iran, 1994–1997
  MSc in Electrical and Computer Engineering
  Dissertation: *Design of Quantitative Robust Controller for Multi-Variable Delayed Systems*

- **Isfahan University of Technology**, Isfahan, Iran, 1989–1994
  BSc in Electrical and Electronics Engineering

Selected Awards

- Best Paper Award, IEEE ICNC, 2017
- Rutherford Award for Excellence in Undergraduate Teaching, 2015
- Faculty of Engineering Undergraduate Teaching Award, 2013
- NSERC Discovery Accelerator, 2011
- Alberta Ingenuity New Faculty, 2006
- Governor General's Gold Medal Award Nomination, 2005
- Edward S.Rogers Sr. Scholar, University of Toronto, 2002

Professional Experience

- **Associate Chair (undergrad)**, July 2019–June 2021
  ECE Department, University of Alberta, Edmonton, AB
- **Professor**, July 2013–present
  ECE Department, University of Alberta, Edmonton, AB
- **Associate Professor**, July 2009–June 2013
  ECE Department, University of Alberta, Edmonton, AB
- **Alberta Ingenuity New Faculty**, February 2007–present
  ECE Department, University of Alberta, Edmonton, AB
- **iCORE Research Associate and Junior Chair**, July 2005–July 2008
  ECE Department, University of Alberta, Edmonton, AB
- **Assistant Professor**, July 2005–June 2009
  ECE Department, University of Alberta, Edmonton, AB
- **Postdoctoral Fellow**, September 2004–June 2005
  ECE Department, University of Toronto, Toronto, ON

Professional Services

Journal Editorship

- IEEE Transactions on Communications, 2023–present
  (Area Editor: Coding and Information Theory)
- IEEE Transactions on Communications, 2020–2023
  (Editor at Large: Coding and Information Theory)
- IEEE Transactions on Communications, 2015–2020
  (Associate Editor: Coding and Information Theory)
- IEEE Communication Letters, 2012–2017
  (One of the only five Senior Editors)
- IEEE Transactions on Wireless Communications, 2009–2015
  (Associate Editor: Physical Layer)
- IEEE Communication Letters, 2008–2012
  (Associate Editor)

Conference Co-Chair

- The 2024 IEEE Communication Theory Workshop (CTW 2024), Banff, AB, May 2024
- The 2020 IEEE 92nd Vehicular Technology Conference (VTC2020-Fall), Victoria, BC, Oct. 2020
  Co-Chair for Track 2:Signal Transmission and Reception
- The 25th IEEE Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Washington, D.C., USA, Sept 2014
  Co-Chair for Track 1: Fundamentals and PHY with approximately 500 submissions
- The 10th Canadian Workshop on Information Theory (CWIT), Edmonton, Alberta, June 2007
  Sponsored by the IEEE Information Theory Society
  CWIT is an international event and the largest gathering of information theorists in Canada

Conference Technical Program Committee Chair

- The 2023 IEEE Vehicular Technology Conference (VTC2023-Spring), Florance, Italy, June 2023.
- The 2023 IEEE Biennial Symposium on Communications (BSC), Montreal, Canada, June 2023
- The 2022 Canadian Workshop on Information Theory (CWIT), Ottawa, Canada, June 2022
- The 2020 IEEE Vehicular Technology Conference (VTC-Fall), Victoria Canada/Virtual, Oct. 2020
- The 2019 Canadian Conference on Electrical and Computer Engineering (CCECE), Edmonton, Canada, May 2019
- The 2018 Biennial Symposium on Communication (BSC), Kelowna, Canada, June 2018

Award Selection Committee

- One of the three members of the selection committee for the 2022 CWIT Best Paper Award.

- One of the four members of the selection committee for the 2008 Canadian Award in Telecommunications Research (presented to Dr. David Falconer of Carlton University in June 2008.)

University Services

- Associate Chair (undergrad), July 2019–June 2021
  ECE Department, University of Alberta
- Graduate Studies Committee, July 2007–2013, July 2014–July 2019
  ECE Department, University of Alberta
- Examining Committee Member, July 2005–present
  ECE Department, University of Alberta, More than 50 Oral Ph.D./Masters theses defense
- Examining Committee Member, July 2005–present
  External Examiner, More than 20 Oral Ph.D./Masters theses defense, external to U. Alberta

Professional Membership

- Institute of Electrical and Electronics Engineers (IEEE)
  Student Member 1999, Member 2004, Senior Member 2009–present
- American Society for Engineering Education (ASEE)
  Member since 2005
- Association of Professional Engineers and Geoscientists of Alberta (APEGA)
  Professional Engineer since 2008

Research Funding History

Selected Funds

In all reported cases, I have been the Principal Investigator (PI)

1. Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
   Practical Coding Solutions for Emerging Information Systems, 2023/4 – 2028/3, $250,000

2. Alberta Innovates NSERC Alliance
   Efficient and Reliable Coded Distributed Computing, 2022/3 – 2024/2, $300,000

3. Huawei Technologies Canada Co.
   Constant Power Modulation for Fiber Optics Communications, 2020/11-2021/9, $70,000

4. Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
   Advanced Coding Solutions for Large-scale Data Storage and Communication, 2017/4 – 2022/3, $198,000

5. Natural Sciences and Engineering Research Council of Canada (NSERC) Collaborative Research and Development (CRD) Grant
   Advanced coding techniques for 5G and beyond, 2017/11 – 2020/10, $386,400
   Industrial Sponsor: TELUS

6. Natural Sciences and Engineering Research Council of Canada (NSERC) Collaborative Research and Development (CRD) Grant
   Practical network coding solutions for multimedia multicast, Grant, 2013/12 - 2017/11, $357,600
   Industrial Sponsor: TELUS

7. Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
   Novel channel coding techniques under practical assumptions, 2011/4 – 2017/3, $200,000

8. Natural Sciences and Engineering Research Council of Canada (NSERC) Accelerator Grant
   Novel channel coding techniques under practical assumptions, 2012/4 – 2014/3, $120,000

9. Natural Sciences and Engineering Research Council of Canada (NSERC) Idea-to-Innovation (I2I) Grant
   Low-overhead low-complexity network coding, 2012/9 – 2013/8, $9,974

10. Alberta Innovates – Technology Futures (AITF) New Faculty Grant
    Graphical models for advanced coding solutions, 2006/9 – 2011/3, $300,000

11. Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
    Channel coding solution with optimal complexity-performance trade-off, 2006/4 – 2011/3, $115,000

12. Faculty of Engineering, University of Alberta, Startup Funds, 2005/6 – 2008/5, $75,000

Graduate Supervision

Postdoctoral Fellow

1. Maryam Haghigh Ardakani since Feb/21

2. Alireza Heidarpour since Aug/22 Co-supervisor: Dr. Chintha Tellambura

PhD Students

1. Koosha Pourtahmasi since Sep/19

2. Abbas Abolfathimomtaz since Sep/18

3. Mahyar Karami since Sep/23

4. Farimehr Zohari since Sep/23

MSc Students

1. Alireza Vosoughi-Rad since Jan/23

2. Pedram Zamani since Sept/22

3. Khashayar Hashemi since Sept/21 Co-supervisor: Dr. Hai Jiang

MEng Students

1. Wenyu Jing since Sept/23

Alumni

1. Mehrad Mehrabi, MSc student, (Sep/20–Sep/23)

2. Muhammad Fetrat Qarebagh, MSc student, (Sep/21–Sep/23)

3. Liwei Feng, MEng student, (Sep/21–Sep/23)

4. Mehrtash Mehrabi, PhD student, (Jan/19–Aug/23)

5. Yuxin Lou, MEng student, (Jan/21–Apr/23)

6. Amirhosein Soleimanzade, MSc student, (Sep/19–Dec/2021)

7. Dr. Alireza Heidarpour, PhD student (Sep/16–May/21)

8. Amin Bavand, MSc student (Sep/18–Dec/20)

9. Dr. Maryam Haghighi Ardakani, PhD student (Sep/16–Dec/20)

10. Melika Vahdat, MSc student (Jul/18–Dec/20)

11. Arash Yazdani, MSc student (Jan/18–Aug/20)

12. Dr. Samira Rahimian, PhD student (Sep/16–Aug/20), MSc Student (Sep/13–Aug/15)

13. Dr. Shashindra Silva, PhD student (Sep/15–Apr/20, MSc Student (Sep/13–Jun/15)

14. Dr. Muhammad Hanif, Postdoctoral Fellow (Oct/16–Jul/19)

15. Hao Sun, MEng student (Jan/17–Apr/19)

16. Shengyang Chan, MEng student (Jan/17–Apr/19)

17. Dr. Mostafa Mohammadkarimi, Postdoctoral Fellow (Mar/18–Mar/19)

18. Farid Taei, MSc Student (Sep/13–Jan/18)

19. Dr. Mostafa Shahabinejad, PhD Student (Jun/13–Sep/17)

20. Haolan Chen, MSc Student (Sep/14–Jul/17)

21. Pourya Karimian, MSc Student (Sep/14–May/17)

22. Dr. Moslem Noori, Postdoctoral Fellow (Jun/14–Jun/16), PhD Student (Sep/09–Jun/13), MSc Student (Sep/06–Aug/08)

23. Wuhua Zhang, MSc Student (Sep/13–Sep/15)

24. Reza Rafie Borujeny, MSc Student (Sep/12–Sep/14)

25. Dr. Sahar Movaghati, PhD Student (Sep/08–Mar/14)

26. Dr. Amir Reza Alizad Rahvar, PhD Student (Jan/09–Jan/14)

27. Dr. Gayan Amarasuriya, MSc to PhD Student (Aug/08–Aug/13)

28. Dr. Raman Yazdani, Postdoctoral Fellow (Aug/12–Aug/13), PhD Student (Sep/07–Jul/12), MSc Student (Sep/05–Jun/07)

29. Dr. Mahdi Ramezani, PhD Student (Sep/08–Jan/13), MSc Student (Sep/06–Aug/08)

30. Zohreh Abdeyazdan, MSc Student (Sep/09–Sep/12)

31. Kaveh Mahdaviani, MSc Student (Sep/09–Aug/12)

32. Chao Zheng, MSc Student (Sep/09–Jan/12)

33. Dr. Hossein Bagheri, Postdoctoral Fellow (Oct/10–Oct/11)

34. Dr. Youngwook Ko, Postdoctoral Fellow (Jul/08–Mar/10)

35. Ali Sanaei, MSc Student (Sep/05–Mar/08)

Publications

Under Review

1. M. Haghighi Ardakani, M. Ardakani, and C. Tellambura, "Coded Reactive Stragglers Mitigation in Distributed Computing Systems", *IEEE Trans. Commun.*, Minor revisions requested.

2. Mu. Fetrat Qharabagh, Ma. Fetrat Qharabagh, M. Ardakani, "A New Coded MMC Distributed Computing Scheme: Analysis and Optimization," *Submitted to IEEE Communications Letters.*

Journal

1. M. Fetrat Qharabagh, M. Ardakani, "A Family of Binary Locally Repairable Codes for Coded Distributed Computing," Accepted (Sept. 2023), *IEEE Trans. Commun..*

2. A. Soleimanzade, M. Ardakani, and H. Ebrahimzad, "Optimization of the Non-Linearity Tolerant 4D Geometric Shaped Constellations for Optical Fiber Communication Systems Using Neural Networks," Accepted (Sept. 2023), *IEEE Journal of Lightwave Technology.*

3. M. Mehrabi, M. Haghighi Ardakani, M. Ardakani, "Deadline-Aware Coded Computation Across Homogeneous Workers", *IEEE Signal Process. Lett.*, vol. 30, pp. 982-986, Jul. 2023.

4. A. R. Heidarpour, M. R. Heidarpour, M. Ardakani, C. Tellambura, and M. Uysal, "Soft Actor-Critic-Based Computation Offloading in Multi-User MEC-Enabled IoT-A Lifetime Maximization Perspective" *IEEE Internet of things J.*, May 2023.

5. K. Pourtahmasi Roshandeh, M. Mohammadkarimi, M. Ardakani, "Joint Method of Moments (JMoM) and Successive Moment Cancellation (SMC) Multiuser Time Synchronization for ZP-OFDM-Based Waveforms Applicable to Joint Communication and Sensing," (Invited) *Sensors,* vol. 23, no. 7, pp. 3660 (16 pages), 2023.

6. M. Mohammadkarimi, M. Ardakani, "Efficient Massive Machine Type Communication (mMTC) via AMP," *IEEE Wireless Commun. Lett.*, vol. 12, no. 6, pp. 1002 - 1006, Jun. 2023.

7. M.R. Heidarpour, M.H. Manshaei, M. Ardakani, "Optimal Association Strategy of Multi-gateway Wireless Sensor Networks Against Smart Jammers," *IEEE Wireless Communications Letters*, vol. 12, no. 2, pp.317-321, Feb. 2023.

8. A.R. Heidarpour, M.R. Heidarpour, M. Ardakani, C. Tellambura, M. Uysal, "Joint Lifetime-Outage Optimization in Relay-Enabled IoT Networks—A Deep Reinforcement Learning Approach," *IEEE Communications Letters*, vol. 27, no. 1, pp. 190-194, Jan. 2023.

9. A.R. Heidarpour, M. Ardakani, C. Tellambura, M. Uysal, "Network-Coded Cooperative Systems in Cognitive Radio Networks," *IEEE Transactions on Wireless Communications,* vol. 21, no. 12, pp. 11011-11023, Dec. 2022.

10. A. Abolfathimomtaz, M. Ardakani, H. Ebrahimzad, and R. Yazdani, "Constant Power Constellation Grouping for Reducing Nonlinearity Effects in Fiber Optics," *IEEE Journal of Lightwave Technology,* vol. 40, no. 22, pp. 7314-7325, Nov. 2022.

11. A. Bavand, S.A. Khajehoddin, A. Tabesh, M. Ardakani, "Online Estimations of Li-ion Battery SOC and SOH Applicable to Partial Charge/Discharge." *IEEE Transaction on Transportation Electrification*, vol. 8, no. 3, pp. 3673 - 3685, Sept. 2022.

12. A. Yazdanialahabadi, M. Ardakani, "Distributed Decoding for Coded Distributed Computing," *IEEE Internet of Things Journal*, vol. 9, no. 14, pp. 12555 - 12562, July 2022.

13. A. Soleimanzade, M. Ardakani, "EGN-Based Optimization of the APSK Constellations for the Non-Linear Fiber Channel Based on the Symbol-Wise Mutual Information." *IEEE Journal of Lightwave Technology*, vol. 40, no. 7, pp. 1937 - 1952, April 2022.

14. M.H. Ardakani, M. Mehrabi, and M. Ardakani "On Allocation of Systematic Blocks in Coded Distributed Computing," *IEEE Communications Letters*, vol. 26, no. 4, pp. 748 - 752, April 2022.

15. K. Pourtahmasi, M. Mohammadkarimi and M. Ardakani, "Maximum Likelihood Time Synchronization for Zero-padded OFDM," *IEEE Trans. Signal Process.*, vol. 69, pp. 641-654, Jan. 2021.

16. A. Yazdani and M. Ardakani, "A Distributed Low-complexity Coding Solution for Large-scale Distributed FFT," *IEEE Trans. Commun.*, vol. 68, no. 11, pp. 6617 - 6628, Nov. 2020.

17. A. Reza Heidarpour, M. Ardakani, C. Tellambura, M. Di Renzo and M. Uysal, "Network-Coded Cooperative Systems With Generalized User-relay Selection," *IEEE Trans. Wireless Commun.*, vol. 19, no. 11, pp. 7251 - 7264, Nov. 2020

18. S. Rahimian, Y. Jing and M. Ardakani, "Performance Analysis of Massive Mimo Multi-way Relay Networks with Low-resolution ADCs," *IEEE Trans. Wireless Commun.*, vol. 19, no. 9, pp. 5794 - 5806, Sept. 2020.

19. S. Silva, M. Ardakani and C. Tellambura, "Interference Suppression and Energy Efficiency Improvement with Massive MIMO and Relay Selection in Cognitive Two-way Relay Networks," *IEEE Trans. Green Commun. Netw.*, vol. 4, no. 2, pp. 326-339, Jan. 2020.

20. M. Mohammadkarimi, M. Mehrabi, M. Ardakani and Y. Jing, "Deep Learning Based Sphere Decoding," *IEEE Trans. Wireless Commun.*, vol. 18, no. 9, pp. 4368-4378, Sep. 2019.

21. M. Mehrabi, M. Mohammadkarimi, M. Ardakani and Y. Jing, "Decision Directed Channel Estimation Based on Deep Neural Network k-step Predictor for MIMO Communications in 5G," *IEEE J. Sel. Areas Commun.*, vol. 37, no. 11, pp. 2443-2456, Aug. 2019.

22. A. Reza Heidarpour, M. Ardakani, C. Tellambura and M. Di Renzo, "Relay Selection in Network-Coded Cooperative MIMO Systems," *IEEE Trans. Commun.*, vol. 67, no. 8, pp. 5346-5361, Aug. 2019.

23. M. Haghighi Ardakani, M. Hanif, M. Ardakani and C. Tellambura, "Fast Successive-Cancellation Based Decoders of Polar Codes," *IEEE Trans. Commun.*, vol. 67, no. 7, pp. 4562-4574, Jul. 2019.

24. M. Noori, S. Rahimian and M. Ardakani, "Capacity Region of Aloha Protocol for Heterogeneous Iot Networks," *IEEE Journal of Internet of Things*, vol. 1, no. 1, pp. 1-1, May 2019.

25. A. Reza Heidarpour, M. Ardakani and C. Tellambura, "Multiuser Diversity in Network-Coded Cooperation: Outage and Diversity Analysis," *IEEE Commun. Lett.*, vol. 23, no. 3, pp. 550-553, Mar. 2019.

26. M. Hanif and M. Ardakani, "Polar Codes: Bounds on Bhattacharyya Parameters and Their Applications," *IEEE Trans. Commun.*, vol. 66, no. 12, pp. 5927-5937, Dec. 2018.

27. S. Rahimian, W. Zhang, M. Noori, Y. Jing and M. Ardakani, "Partial Zero-forcing for Multi-way Relay Networks," *IEEE Trans. Commun.*, vol. 66, no. 10, pp. 4444-4456, Oct. 2018.

28. M. Mehrabi, M. Shahabinejad, M. Ardakani and M. Khabbazian, "Improving the Update Complexity of Locally Repairable Codes," *IEEE Trans. Commun.*, vol. 66, no. 9, pp. 3711-3720, Sep. 2018.

29. A. Reza Heidarpour, M. Ardakani and C. Tellambura, "Network-Coded Cooperation with Outdated CSI," *IEEE Commun. Lett.*, vol. 22, no. 8, pp. 1720-1723, Aug. 2018.

30. M. Shahabinejad, M. Khabbazian and M. Ardakani, "On the Average Locality of Locally Repairable Codes," *IEEE Trans. Commun.*, vol. 66, no. 7, pp. 2773-2783, Jul. 2018.

31. S. Silva, G. Amarasuriya, M. Ardakani and C. Tellambura, "Performance Analysis of Massive MIMO Two-way Relay Networks with Pilot Contamination, Imperfect CSI, and Antenna Correlation," *IEEE Trans. Veh. Technol.*, vol. 67, no. 6, pp. 4831-4842, Jul. 2018.

32. K. Pourtahmasi, M. Ardakani and C. Tellambura, "Exact Solutions for Certain Weighted Sum-rate and Common-rate Maximization Problems," *IEEE Commun. Lett.*, vol. 22, no. 5, pp. 1026-1029, May 2018.

33. A. Arefi, M. Khabbazian, M. Ardakani and G. Bansal, "Blind Instantly Decodable Network Codes for Wireless Broadcast of Real-time Multimedia," *IEEE Trans. Wireless Commun.*, vol. 17, no. 4, pp. 2276-2288, Apr. 2018.

34. A. Reza Heidarpour, M. Ardakani and C. Tellambura, "Generalized Relay Selection for Network Coded Cooperation Systems," *IEEE Commun. Lett.*, vol. 21, no. 12, pp. 2742-2745, Dec. 2017.

35. M. Hanif and M. Ardakani, "Fast Successive-cancellation Decoding of Polar Codes: Identification and Decoding of New Nodes," *IEEE Commun. Lett.*, vol. 21, no. 11, pp. 2360-2363, Nov. 2017.

36. R. Rafie Borujeny, M. Noori and M. Ardakani, "Maximizing Data Rate for Multiway Relay Channels with Pairwise Transmission Strategy," *IEEE Trans. Wireless Commun.*, vol. 16, no. 3, pp. 1609-1618, Mar. 2017.

37. K. Pourtahmasi, A. Kuhestani, M. Ardakani and C. Tellambura, "Ergodic Sum Rate Analysis and Efficient Power Allocation for A Massive Mimo Two-way Relay Network," *IET Communications*, vol. 11, no. 2, pp. 211-217, Jan. 2017.

38. S. Rahimian, M. Noori and M. Ardakani, "An Energy Efficient Adaptive Frameless ALOHA Protocol," *EURASIP Journal on Wireless Commun. and Netw.*, vol. 2016, no. 186, pp. 1-11, Aug. 2016.

39. M. Shahabinejad, M. Khabbazian and M. Ardakani, "A Class of Binary Locally Repairable Codes," *IEEE Trans. Commun.*, vol. 64, no. 8, pp. 3182-3193, Aug. 2016.

40. A. Fazeli, M. Javad Omidi, H. Saeedi Sourck and M. Ardakani, "Superposition Network Coded Cooperation for Wireless Networks," *Transactions on Emerging Telecommunications Technologies*, vol. 27, no. 6, pp. 874-890, Jun. 2016.

41. S. Movaghati and M. Ardakani, "Distributed Channel-aware Quantization Based on Maximum Mutual Information," *International Journal of Distributed Sensor Networks*, vol. 2016, no. 3595389, pp. 1-10, May 2016.

42. J. Wook Kim and E. Al., "Characterizing Genomic Alterations in Cancer by Complementary Functional Associations," *Nature Biotechnology*, vol. 34, no. 1, pp. 539-546, Apr. 2016.

43. R. Rafie Borujeny and M. Ardakani, "A New Class of Rateless Codes Based on Reed-solomon Codes," *IEEE Trans. Commun.*, vol. 64, no. 1, pp. 49-58, Jan. 2016.

44. S. Silva, G. Amarasuriya, C. Tellambura and M. Ardakani, "Relay Selection Strategies for MIMO Two-way Relay Networks with Spatial Multiplexing," *IEEE Trans. Commun.*, vol. 63, no. 12, pp. 4694-4710, Dec. 2015.

45. M. Noori and M. Ardakani, "Allocation for Heterogeneous Storage Nodes," *IEEE Commun. Lett.*, vol. 19, no. 12, pp. 2102-2105, Dec. 2015.

46. P. Karimian, R. Rafie Borujeny and M. Ardakani, "On Network Coding for Funnel Networks," *IEEE Commun. Lett.*, vol. 19, no. 11, pp. 1897-1900, Nov. 2015.

47. M. Noori and M. Ardakani, "Efficient Multi-way Relaying for Data Sharing in Energy Harvesting Sensor Networks," *Hindawi Journal of Sensors*, vol. 2015, no. 285056, pp. 1-8, Apr. 2015.

48. R. Rafie Borujeny and M. Ardakani, "Fountain Code Design for the Y-network," *IEEE Commun. Lett.*, vol. 19, no. 5, pp. 703-706, Feb. 2015.

49. S. Movaghati and M. Ardakani, "Distributed Binary Quantization of A Noisy Source in Wireless Sensor Networks," *Hindawi Journal of Sensors*, vol. 2014, no. 2014, pp. 1-11, Aug. 2014.

50. M. Shahabinejad, M. Khabbazian and M. Ardakani, "An Efficient Binary Locally Repairable Code for Hadoop Distributed File System," *IEEE Commun. Lett.*, vol. 18, no. 8, pp. 1287-1290, Jul. 2014.

51. S. Movaghati and M. Ardakani, "Optimum Bit-sensor Assignment for Distributed Estimation in Inhomogeneous Sensor Networks," *IEEE Commun. Lett.*, vol. 18, no. 4, pp. 668-671, May. 2014.

52. G. Amarasuriya, C. Tellambura and M. Ardakani, "Multi-Way MIMO Amplify-and-Forward Relay Networks with Zero-Forcing Transmission," *IEEE Trans. Commun.*, vol. 61, no. 12, pp. 4847-4863, Dec. 2013.

53. G. Amarasuriya, C. Tellambura and M. Ardakani, "Sum Rate Analysis of Two-Way MIMO AF Relay Networks with Zero-Forcing," *IEEE Trans. Wireless Commun.*, vol. 12, no. 9, pp. 4456-4469, Dec. 2013.

54. M. Noori, H. Bagheri and M. Ardakani, "Low-latency Data Sharing in Erasure Multi-way Relay Channels," *IEEE Trans. Commun.*, vol. 61, no. 10, pp. 4161-4172, Oct. 2013.

55. M. Ramezani and M. Ardakani, "On the Capacity of Duplication Channels," *IEEE Trans. Commun.*, vol. 61, no. 3, pp. 1020-1027, Mar. 2013.

56. M. Noori and M. Ardakani, "On the Achievable Rates of Symmetric Gaussian Multi-way Relay Channels," *EURASIP Journal on Wireless Commun. and Netw.*, vol. 2013, no. 1, pp. 1-11, Jan. 2013.

57. R. Yazdani and M. Ardakani, "Reliable Communication over Non-Binary Insertion/Deletion Channels," *IEEE Trans. Commun.*, vol. 60, no. 12, pp. 3597-3608, Dec. 2012.

58. M. Noori and M. Ardakani, "Optimal User Pairing for Asymmetric Multi-way Relay Channels with Pairwise Relaying," *IEEE Commun. Lett.*, vol. 16, no. 11, pp. 1852-1855, Nov. 2012.

59. G. Amarasuriya, C. Tellambura and M. Ardakani, "Performance Analysis of Pairwise Amplify-and-forward Multi-way Relay Networks," *IEEE Wireless Commun. Lett.*, vol. 1, no. 5, pp. 524-527, Oct. 2012.

60. K. Mahdaviani, M. Ardakani and C. Tellambura, "On Raptor Code Design for Inactivation Decoding," *IEEE Trans. Commun.*, vol. 60, no. 9, pp. 2377-2381, Sep. 2012.

61. G. Amarasuriya, C. Tellambura and M. Ardakani, "Two-way Amplify-and-forward Multiple-input Multiple-output Relay Networks with Antenna Selection," *IEEE J. Sel. Areas Commun.*, vol. 30, no. 8, pp. 1513-1529, Sep. 2012.

62. C. Zheng, A. Sanaei and M. Ardakani, "Design of LDPC Codes with Strong Universal Properties," *IEEE Wireless Commun. Lett.*, vol. 1, no. 4, pp. 392-395, Aug. 2012.

63. G. Amarasuriya, C. Tellambura and M. Ardakani, "Performance Analysis of Hop-by-hop Beamforming for Dual-hop MIMO AF Relay Networks," *IEEE Trans. Commun.*, vol. 60, no. 7, pp. 1823-1837, Jul. 2012.

64. A. Reza Alizad Rahvar and M. Ardakani, "Finding Weak Directional Coupling in Multi-scale Time Series," *Phys. Rev. E*, vol. 86, no. 1, pp. 16215-16215, Jul. 2012.

65. H. Bagheri, M. Ardakani and C. Tellambura, "Resource Allocation for Two-way Amplify-forward Relaying with Receive Channel Knowledge," *IEEE Trans. Wireless Commun.*, vol. 11, no. 6, pp. 2002-2007, Jun. 2012.

66. M. Noori and M. Ardakani, "Design of Heterogeneous Sensor Networks with Lifetime and Coverage Considerations," *IEEE Wireless Commun. Lett.*, vol. 1, no. 3, pp. 193-196, Jun. 2012.

67. Y. Ko, M. Ardakani and S. Vorobyov, "Power Allocation Strategies Across N Orthogonal Channels at Both Source and Relay," *IEEE Trans. Commun.*, vol. 60, no. 6, pp. 1469-1473, Jun. 2012.

68. G. Amarasuriya, C. Tellambura and M. Ardakani, "Performance Analysis of Zero-forcing for Two-way MIMO AF Relay Networks," *IEEE Wireless Commun. Lett.*, vol. 1, no. 2, pp. 53-56, Apr. 2012.

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