Ali Emre Pusane

Professor of Electrical and Electronics Engineering
BU Signal Analysis Research Group (BUSARG)
Bogazici University, Istanbul, Turkey

RESEARCH INTERESTS

Digital communications, information theory, coding theory, codes on graphs, iterative decoding algorithms, low-density parity-check (convolutional) codes, bandwidth efficient communications.

Specific areas of interest are novel wideband communication standards (including visible light, cellular, and satellite communications), their extensions on molecular communications and body area networks, physical layer security, machine learning applications in signal processing, error control code design and analysis, data storage systems, reliable circuit design, optimization problems in wireless communications, signal analysis and localization, and wireless communications security.

EXPERIENCE

Professor, Boğaziçi University, Istanbul	2022-
Associate Professor, Boğaziçi University	2015-2022
Assistant Professor, Boğaziçi University	2009-2015
Visiting Assistant Professor, University of Notre Dame	2008-2009
Post-Doctoral Research Associate, University of Notre Dame	2008
Research Assistant, University of Notre Dame	2003-2008
Teaching Assistant, University of Notre Dame	2002-2003
Research and Teaching Assistant, Istanbul Technical University	1999-2002

EDUCATION

PhD	Electrical Engineering, University of Notre Dame	2008
MSc	Applied Mathematics, University of Notre Dame	2006
MSc	Electrical Engineering, University of Notre Dame	2004
MSc	Electronics and Communications Engineering, Istanbul Technical University	2002
BSc	Electronics and Communications Engineering, Istanbul Technical University	1999

https://academics.boun.edu.tr/ali.pusane
ali.pusane@boun.edu.tr

TEACHING

Boğaziçi University 2009-

- EE 201 Electrical Circuits I
- EE 210 Introduction to Electrical Engineering
- EE 241 Computer Tools for Electrical Engineering
- EE 242 Numerical Methods for Electrical Engineering
- EE 271 Signals and Systems I
- EE 313 Probability for Electrical Engineering
- EE 371/374 Communication Engineering
- EE 372 Random Signals
- EE 477 Digital Communications
- EE 479 Communications Laboratory
- EE 644 Error Control Coding

University of Notre Dame 2008-2009

- EE 553 Advanced Digital Communications
- EE 654 Coding Theory

RESEARCH PROJECTS

Project name	Duration
Design and implementation of molecular communication systems using index modulation *Principal Investigator, TUBITAK 1001 Research Grant*	2019-2023
On the design and analysis of advanced SNR estimation techniques *Principal Investigator, Bogazici University Research Fund Grant*	2019-2020
Optimization-based algorithms to design QC-LDPC codes without small harmful structures in digital communication systems *Researcher, Bogazici University Research Fund Grant*	2018-2019
On the design of high-performance molecular communication networks *Principal Investigator, Bogazici University Research Fund Grant*	2017-2018
Integrated CMOS receiver system for high speed visible light communication *Researcher, TUBITAK 1001 Research Grant*	2017-2020
Modelling diffusion in vessel-like environments for molecular communication and healthcare applications *Researcher, TUBITAK-NRF Research Grant*	2017-2019
Wireless security in cyber physical systems *Researcher, TUBITAK-BMBF Research Grant*	2017-2020
Design and analysis of communication systems with high error correction capability through optimization *Researcher, TUBITAK 1001 Research Grant*	2013-2016

Project name	Duration
Design of low-complexity spatially-coupled channel coding systems *Principal Investigator, TUBITAK 3501 Career Grant*	2011-2014
Advanced coding techniques for mitigating error floors *Principal Investigator, European Union - FP7 Marie Curie IRG*	2010-2014
On the design of polar coded communication systems with high error performance *Principal Investigator, Bogazici University Research Fund Grant*	2011-2012

STUDENT SUPERVISION

PhD supervisions

Name	Dissertation topic	Status
Sema Saraç	Reverse engineering error correction codes using deep learning	ongoing
Muhammet Yaser Yağan	TBD	ongoing
Ramazan Yılmaz	TBD	ongoing
Mehmet Özgün Demir	Detection and mitigation techniques against spoofing in GPS	2023
Massoud Pourmandi	Graph-based regenerating code design for caching data in distributed mobile networks	2023
Abdullah Sarıduman	Improving the error floor performance of LDPC codes	2020
Mehmet Görkem Ülkar	Practical channel coding methods for channels with input-dependent noise	2020
Yağmur Sabucu Sandal	Stable-matching based resource allocation methods in wireless communication systems	2019
Bayram Cevdet Akdeniz	Molecular communication in diffusion based channel	2018
Reza Ashrafi	Error mitigation in next generation NAND Flash memories	2018
Giray Kömürcü (co-advisor)	Realization and analysis of high performance physical unclonable functions based on ring oscillators	2014

Name	Dissertation topic	Status
Ülkühan Güler (co-advisor)	Ring oscillator based random number generators	2014

MSc supervisions

Name	Thesis topic	Status
Tuğrul Can Erk	TBD	ongoing
Gökhan Tosun	TBD	ongoing
Samed Keşir	Coverage optimization for 6G using reconfigurable intelligent surfaces	2023
Batuhan Camcı (co-advisor)	Design and performance analysis of bit interleaved polar codes for higher order modulations	2023
Oğuzhan Aydoğan (co-advisor)	Polar codes and their performance in satellite communication	2022
Barış Bilgili (co-advisor)	Implementation of 5G compatible low density parity check decoder on FPGA	2022
Ezgi Oral	Reduced-complexity reinforcement learning-based polar code construction	2022
Gökberk Yaylalı	Design, analysis, and channel modeling of molecular multiple-receiver communication systems	2022
Ramazan Yılmaz	Deep learning based automatic modulation classification in the presence of carrier phase offset and carrier frequency offset	2022
Muhammet Yaser Yağan	Performance improvement approaches for visible light communication	2021
Ahmet Oğuz Kışlal	Novel error-control coding techniques for molecular communication	2019
Mustafa Can Gürsoy	Multiple user and channel interference reduction methods for molecular communication via diffusion systems	2017
Burcu Tepekule	ISI mitigation techniques in molecular communication	2015
Abdullah Sarıduman	Integer programming based analysis of decoding failures for LDPC codes	2013

Name	Thesis topic	Status
Reza Ashrafi	Spatially-coupled LDPC coding for the correlated erasure channel	2012
Berksan Şerbetçi	Generator-matrix selection for finite-length polar codes	2012

HONORS AND AWARDS

Award name	Date
Excellence in Teaching Award, School of Engineering, Boğaziçi University	2010 2011 2012 2013 2014 2015 2019 2021 2022
Graduate Fellowship of the Center for Applied Mathematics, University of Notre Dame	2006-2007
Best Student Paper Award, "Power control for orthogonal space-time coding with multiple receive antennas," *10th IEEE Signal Processing and Communication Applications Conference*	2002
Werner von Siemens Excellence Award	2002

PROFESSIONAL ACTIVITIES

Service

Activity name	Date
Member, Faculty Board, Faculty of Engineering, Boğaziçi University	2018-2020
Independent Expert, Innovation Fund Denmark	2015-present
Independent Expert, European Union Eurostars program	2015-present
Independent Expert and Rapporteur, European Union Horizon 2020 / Horizon Europe programs	2014-present
Independent Expert and Rapporteur, European Union Seventh Framework programs	2013

Activity name	Date
Assistant Chairperson, Dept. of Electrical and Electronics Engineering, Boğaziçi University	2012-2013
Member, Faculty Executive Board, Faculty of Engineering, Boğaziçi University	2012-2014
Member, Research Policies Advisory Council, Boğaziçi University	2011-present
Member, Telecommunications Engineering Graduate Program Advisory Council, Istanbul Technical University	2011-present

Editorial positions

Activity name	Date
Associate Editor, IEEE Transactions on Communications	2020-2023
Associate Editor, Frontiers in Communications and Network	2020-present
Associate Editor, International Journal of Information and Coding Theory, Interscience, U.K.	2011-2014

PUBLICATIONS

Journal Papers

1. J. Angjo, A. E. Pusane, H. B. Yilmaz, E. Basar, and T. Tugcu, "Molecular beamforming for actuation in molecular communication networks," accepted for publication in IEEE Transactions on NanoBioscience
2. G. Yaylalı, B. C. Akdeniz, T. Tugcu, and A. E. Pusane, "Channel modeling for multi-receiver molecular communication systems," accepted for publication in IEEE Transactions on Communications
3. M. Ö. Demir, G. Karabulut Kurt, and A. E. Pusane, "A pseudorange-based GPS spoofing detection using hyperbola equations," accepted for publication in IEEE Transactions on Vehicular Technology
4. M. Pourmandi, A. E. Pusane, S. S. Arslan, and E. Haytaoglu, "Minimum repair bandwidth LDPC codes for distributed storage systems," accepted for publication in IEEE Communications Letters
5. O. Kara, G. Yaylali, A. E. Pusane, and T. Tugcu, "Molecular index modulation using convolutional neural networks," accepted for publication in Nano Communication Networks
6. A. Zeshan, A. E. Pusane, and T. Baykas, "An integrated molecular communication system based on acoustic tweezers," accepted for publication in IEEE Transactions on NanoBioscience
7. J. Angjo, A. E. Pusane, H. B. Yilmaz, E. Basar, and T. Tugcu, "Asymmetrical relaying in molecular communications," IEEE Transactions on NanoBioscience, vol. 21, no. 4, pp. 570-574, October 2022
8. J. Angjo, A. E. Pusane, H. B. Yilmaz, E. Basar, and T. Tugcu, "Optimal relaying in molecular communications," Nano Communication Networks, vol. 32, June 2022
9. R. Kisacik, M. Y. Yagan, M. Uysal, A. E. Pusane, T. Baykas, G. Dundar, and A. D. Yalcinkaya, "A 130 nm CMOS receiver for visible light communication," IEEE/OSA Journal of Lightwave Technology, vol. 40, no. 12, pp. 3681-3687, June 2022
10. O. Yetimoglu, M. K. Avci, B. C. Akdeniz, H. B. Yilmaz, A. E. Pusane, and T. Tugcu, "Multiple transmitter localization via single receiver in 3-D molecular communication via diffusion," Digital Signal Processing, vol. 124, May 2022
11. B. Kabakulak, Z. C. Taşkın, and A. E. Pusane, "A branch-cut-and-price algorithm for optimal decoding in digital communication systems," Journal of Global Optimization, vol. 81, pp. 805-834, November 2021
12. E. Oncu, H. U. Ozdemir, H. I. Orhan, B. C. Akdeniz, A. Toprakci, A. Aslihak, H. B. Yilmaz, A. E. Pusane, T. Tugcu, and F. Dinc, "Analytical investigation of long-time diffusion dynamics in a synaptic channel with glial cells," IEEE Communications Letters, vol. 25, no. 11, pp. 3444-3448, November 2021
13. B. Koo, C. Lee, A. E. Pusane, T. Tugcu, and C.-B. Chae, "MIMO operations in molecular communications: Theory, prototypes, and open challenges," IEEE Communications Magazine, vol. 59, no. 9, pp. 98-104, September 2021
14. R. Kisacik, M. Y. Yagan, M. Uysal, A. E. Pusane, and A. D. Yalcinkaya, "A new LED response model and its application to pre-equalization in VLC systems," IEEE Photonics Technology Letters, vol. 33, no. 17, pp. 955-958, September 2021
15. B. Camli, O. K. Erden, O. F. Sezgen, Z. C. Canbek Ozdil, S. Dumanlı, A. E. Pusane, A. D. Yalcinkaya, and T. Tugcu, "Rapid prototyping of noncontact microwave microfluidic

devices for sensing applications," Journal of Micromechanics and Microengineering, vol. 31, no. 9, August 2021
16. E. Oral, A. Schmeink, G. Dartmann, G. Ascheid, A. E. Pusane, and G. Karabulut Kurt, "Consensus analysis of wireless multi-agent systems over fading channels," IEEE Wireless Communications Letters, vol. 10, no. 7, pp. 1528-1531, July 2021
17. O. Sezgen, O. Altan, A. Bilir, M. G. Durmaz, N. Haciosmanoglu, B. Camli, Z. C. Canbek, A. E. Pusane, A. D. Yalçınkaya, T. Tugcu, U. O. Seker, and S. Dumanlı, "A multiscale communications system based on engineered bacteria," IEEE Communications Magazine, vol. 59, no. 5, pp. 62-67, May 2021
18. R. Kisacik, A. D. Yalcinkaya, A. E. Pusane, T. Baykas, and M. Uysal, "Characterization of LEDs for visible light communications," Optical Engineering, vol. 60, no. 2, February 2021
19. Y. Sabucu Sandal, A. E. Pusane, G. Karabulut Kurt, and F. Benedetto, "Reputation based attacker identification policy for multi-access edge computing in Internet of things," IEEE Transactions on Vehicular Technology, vol. 69, no. 12, pp. 15346-15356, December 2020
20. A. O. Kışlal, B. C. Akdeniz, C. Lee, A. E. Pusane, T. Tuğcu, and C. Chae, "ISI-mitigating channel codes for molecular communication via diffusion," IEEE Access, vol. 8, no. 1, pp. 24588-24599, December 2020
21. M. G. Ülkar, T. Baykaş, and A. E. Pusane, "VLCnet: Deep learning based end-to-end visible light communication system," IEEE/OSA Journal of Lightwave Technology, vol. 38, no. 21, pp. 5937-5948, November 2020
22. M. Ö. Demir, A. E. Pusane, G. Dartmann, G. Ascheid, and G. Karabulut Kurt, "A garden of cyber-physical systems: requirements, challenges and implementation aspects," IEEE Internet of Things Magazine, vol. 3, no. 3, pp. 84-89, September 2020
23. O. A. Topal, M. Ö. Demir, Z. Liang, A. E. Pusane, G. Dartmann, G. Ascheid, and G. Karabulut Kurt, "A physical layer security framework for cognitive cyber physical systems," IEEE Wireless Communications, vol. 27, no. 4, pp. 32-39, August 2020
24. M. C. Gursoy, H. B. Yılmaz, A. E. Pusane, and T. Tugcu, "Simulation study and analysis of diffusive molecular communications with an apertured plane," IEEE Transactions on NanoBioScience, vol. 19, no. 3, pp. 468-476, July 2020
25. M. C. Gursoy, A. Celik, E. Basar, A. E. Pusane, and T. Tugcu, "Molecular index modulation with space-time equalization," IEEE Wireless Communications Letters, vol. 9, no. 5, pp. 702-705, May 2020
26. O. D. Kose, M. C. Gursoy, M. Saraclar, A. E. Pusane, and T. Tugcu, "Machine learning-based silent entity localization using molecular diffusion," IEEE Communications Letters, vol. 24, no. 4, pp. 807-810, April 2020
27. B. Kabakulak, Z. C. Taşkın, and A. E. Pusane, "A branch-and-cut algorithm for a bipartite graph construction problem in digital communication systems," Networks, vol. 75, no. 2, pp. 137-157, March 2020
28. A. Sarıduman, A. E. Pusane, and Z. C. Taşkın, "On the construction of regular QC-LDPC codes with low error floor," IEEE Communications Letters, vol. 24, no. 1, pp. 25-28, January 2020
29. F. Gökbudak, B. C. Akdeniz, T. Tugcu, and A. E. Pusane, "Spatial receptor allocation for a multiple access hub in nanonetworks," IEEE Transactions on Molecular, Biological and Multi-Scale Communications, vol. 5, no. 1, pp. 63-67, October 2019
30. R. Ashrafi, Ş. Ş. Arslan, and A. E. Pusane, "On the distribution of the threshold voltage in multi-level cell Flash memories," Physical Communication, vol. 36, pp. 1-7, October 2019

31. F. Dinc, B. C. Akdeniz, A. E. Pusane, and T. Tugcu, "A general analytical approximation to impulse response of 3-D microfluidic channels in molecular communication," IEEE Transactions on NanoBioscience, vol. 18, no. 3, pp. 396-403, July 2019
32. E. Afacan, G. Dündar, F. Başkaya, A. E. Pusane, and M. B. Yelten, "On chip reconfigurable CMOS analog circuit design and automation against aging phenomena: Sense and react," ACM Transactions on Design Automation of Electronic Systems, vol. 24, no. 4, June 2019
33. F. Dinc, B. C. Akdeniz, E. Erol, D. Gokay, E. Tekgul, A. E. Pusane, and T. Tugcu, "Analytical derivation of the impulse response for the bounded 2-D diffusion channel," Physics Letters A, vol. 383, no. 14, pp. 1589-1600, May 2019
34. M. C. Gursoy, E. Basar, A. E. Pusane, and T. Tugcu, "Index modulation for molecular communication via diffusion systems," IEEE Transactions on Communications, vol. 67, no. 5, pp. 1558-0857, May 2019
35. B. Kabakulak, Z.C. Taşkın, and A. E. Pusane, "Optimization-Based Decoding Algorithms for LDPC Convolutional Codes in Communication Systems," IISE Transactions, vol. 51, no. 10, pp. 1061-1074, April 2019
36. A. O. Kislal, H. B. Yilmaz, A. E. Pusane, and T. Tugcu, "ISI-aware channel code design for molecular communication via diffusion," IEEE Transactions on NanoBioscience, vol. 18, no. 2, pp. 205-213, April 2019
37. M. C. Gursoy, E. Basar, A. E. Pusane, and T. Tugcu, "Pulse position-based spatial modulation for molecular communications," IEEE Communications Letters, vol. 23, no. 4, pp. 596-599, April 2019
38. Y. Sabucu, A. E. Pusane, and G. Karabulut Kurt, "Robust matching algorithms for carrier aggregated heterogeneous networks," Physical Communication, vol. 33, pp. 123-134, April 2019
39. M. G. Ulkar, A. E. Pusane, and T. Tuğcu, "Novel decoding methods of constant weight coding for molecular communications," Nano Communication Networks, vol. 19, pp. 157-167, March 2019
40. M. Turan, B. C. Akdeniz, M. S. Kuran, H. B. Yilmaz, I. Demirkol, A. E. Pusane, and T. Tugcu, "Transmitter localization in vessel-like diffusive channels using ring-shaped molecular receivers," IEEE Communications Letters, vol. 22, no. 12, pp. 2511-2514, December 2018
41. B. C. Akdeniz, N. Turgut, H. B. Yilmaz, C. Chae, T. Tugcu, and A. E. Pusane, "Molecular signal modeling of a partially counting absorbing spherical receiver," IEEE Transactions on Communications, vol. 66, no. 2, pp. 6237-6246, December 2018
42. R. Ashrafi and A. E. Pusane, "An efficient low-complexity two-dimensional equalisation technique for multi-level cell flash memory storage systems," IET Communications, vol. 12, no. 14, pp. 1671-1677, August 2018
43. F. Dinc, B. C. Akdeniz, A. E. Pusane, and T. Tugcu, "Impulse response of the molecular diffusion channel with a spherical absorbing receiver and a spherical reflective boundary," IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, vol. 4, no. 2, pp. 118-122, June 2018
44. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, "Position-based modulation in molecular communications," Nano Communication Networks, vol. 16, pp. 60-68, June 2018
45. M. C. Gursoy, A. E. Pusane, and T. Tuğcu, "Molecule-as-a-frame: A frame based communication approach for nanonetworks," Nano Communication Networks, vol. 16, pp. 45-59, June 2018

46. G. Genc, A. E. Pusane, T. Tuğcu, and Y. E. Kara, "Reception Modeling of sphere-to-sphere molecular communication via diffusion," Nano Communication Networks, vol. 16, pp. 69-80, June 2018
47. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, "Optimal reception delay in diffusion-based molecular communication," IEEE Communications Letters, vol. 22, no. 1, pp. 57-60, Jan. 2018
48. E. Afacan, G. Dündar, A. E. Pusane, M. B. Yelten, and F. Başkaya, "Aging signature properties and an efficient signature determination tool for online monitoring," Integration, the VLSI Journal, vol. 58, no. 1, pp. 496-503, June 2017
49. Ü. Güler, A. E. Pusane, and G. Dündar, "Design of Efficient CMOS Ring-Oscillator-Based Random Number Generator," International Journal of Electronics, vol. 104, no. 9, pp. 1465–1482, 2017
50. B. C. Akdeniz, B. Tepekule, A. E. Pusane, and T. Tuğcu, "Novel network coding approaches for diffusion-based molecular nanonetworks," Transactions on Emerging Telecommunications Technologies, vol. 28, no. 7, pp. 1-7, July 2017
51. İ. Çiçek, A. E. Pusane, and G. Dündar, "An integrated dual entropy core true random number generator," IEEE Trans. Circuits and Systems II, vol. 64, no. 3, pp. 329-333, Mar. 2017
52. N. Ul-Hassan, A. E. Pusane, M. Lentmaier, G. P. Fettweis, and D. J. Costello, Jr., "Non-uniform window decoding schedules for spatially coupled LDPC codes," IEEE Transactions on Communications, vol. 65, no. 2, pp. 510, Feb. 2017
53. E. Afacan, G. Berkol, G. Dündar, A. E. Pusane, and F. Başkaya, "A lifetime-aware analog circuit sizing tool," Integration, the VLSI Journal, vol. 55, no. 1, pp. 349-356, Sep. 2016
54. E. Afacan, G. Berkol, G. Dündar, A. E. Pusane, and F. Başkaya, "An analog circuit synthesis tool based on efficient and reliable yield estimation," Microelectronics Journal, vol. 54, pp. 14-22, Aug. 2016
55. D. G. M. Mitchell, M. Lentmaier, A. E. Pusane, and D. J. Costello, Jr., "Randomly punctured LDPC codes," IEEE Journal on Selected Areas in Communications, vol. 34, no. 2, pp. 408-421, Feb. 2016
56. G. Kömürcü, A. E. Pusane, and G. Dündar, "Effects of aging and compensation mechanisms in ordering based RO-PUFs," Integration, the VLSI Journal, vol. 52, no. 1, pp. 71-76, Jan. 2016
57. B. Tepekule, A. E. Pusane, M. S. Kuran, and T. Tuğcu, "A novel pre-equalization method for molecular communication via diffusion in nanonetworks," IEEE Communications Letters, vol. 19, no. 8, pp. 1311-1314, Aug. 2015
58. B. Tepekule, A. E. Pusane, H. B. Yılmaz, C.-B. Chae, and T. Tuğcu, "ISI mitigation techniques in molecular communication," IEEE Transactions on Molecular, Biological and Multi-Scale Communications, vol. 1, no. 2, pp. 202-216, June 2015.
59. G. Kömürcü, A. E. Pusane, and G. Dündar, "Enhanced challenge-response set and secure usage scenarios for ordering based RO-PUFs," IET Circuits, Devices, and Systems, vol. 9, no. 2, pp. 87-95, March 2015
60. G. Kömürcü, A. E. Pusane, and G. Dündar, "An efficient grouping method and error probability analysis for RO-PUFs," Computers & Security, vol. 49, pp. 123-131, March 2015
61. A. Sariduman, A. E. Pusane, and Z. C. Taskin, "An integer programming-based search technique for error-prone structures of LDPC codes," AEU - International Journal of Electronics and Communications, vol. 68, No. 11, pp. 1097-1105, Nov. 2014

62. İ. Çiçek, A. E. Pusane, and G. Dündar, “A new dual entropy core true random number generator,” Analog Integrated Circuits and Signal Processing, vol. 81, No. 1, pp. 61-70, Oct. 2014 (invited paper)
63. B. Şerbetçi and A. E. Pusane, “Practical polar code construction using generalised generator matrices,” IET Communications, vol. 8, no. 4, pp. 419-426, March 2014
64. İ. Çiçek, A. E. Pusane, and G. Dündar, “A novel design method for discrete time chaos based true random number generators,” Integration, the VLSI Journal, vol. 47, no. 1, pp. 38-47, Jan. 2014
65. G. Kömürcü, A. E. Pusane, and G. Dündar, "A ring oscillator based PUF implementation on FPGA," IU-Journal of Electrical and Electronics Engineering, vol. 13, no. 2, pp. 1647-1652, 2013
66. R. Ashrafi and A. E. Pusane, “Spatially-coupled communication system for the correlated erasure channel,” IET Communications, vol. 7, no. 8, pp. 755-765, May 2013
67. D. G. M. Mitchell, A. E. Pusane, and D. J. Costello, Jr., “Minimum distance and trapping set analysis of protograph-based LDPC convolutional codes,” IEEE Trans. Inform. Theory, vol. IT-59, no. 1, pp. 254 – 281, Jan. 2013
68. A. E. Pusane, R. Smarandache, P. O. Vontobel, and D. J. Costello, Jr., “Deriving good LDPC convolutional codes from LDPC block codes,” IEEE Trans. Inform. Theory, vol. IT-57, no. 2, pp. 835 – 857, Feb. 2011
69. R. Smarandache, A. E. Pusane, P. O. Vontobel, and D. J. Costello, Jr., “Pseudo-codeword performance analysis of LDPC convolutional codes,” IEEE Trans. Inform. Theory, vol. IT-55, no. 6, pp. 2577–2598, Jun. 2009
70. K. Sh. Zigangirov, A. E. Pusane, D. K. Zigangirov, and D. J. Costello, Jr., “On the error correcting capability of LDPC codes,” Problems of Information Transmission (Problemy Peredachy Informatsii), vol. 44, no. 3, pp. 50–62, Sep. 2008
71. A. E. Pusane, A. Jimenez-Feltström, A. Sridharan, M. Lentmaier, K. Sh. Zigangirov, and D. J. Costello, Jr., “Implementation aspects of LDPC convolutional codes,” IEEE Trans. Commun., vol. 56, no. 7, pp. 1060–1069, Jul. 2008
72. S. Bates, Z. Chen, L. Gunthorpe, A. E. Pusane, K. Sh. Zigangirov, and D. J. Costello, Jr., “A low-cost serial decoder architecture for low-density parity-check convolutional codes,” IEEE Trans. Circuits and Systems I, vol. 55, no. 7, pp. 1967–1976, Aug. 2008
73. E. Panayırcı, Ü. Aygölü, and A. E. Pusane, “Sequence estimation with transmit diversity for wireless communications,” AEÜ Int. Journal on Electronics and Communications, vol. 57, pp. 309–316, Sep. 2003

International Conference Papers

1. O. K. Ülger, M. Ö. Demir, O. A. Topal, G. Karabulut Kurt, and A. E. Pusane, "An efficient physical layer spoofing detection with autoregressive model," in Proc. International Conference on Telecommunications and Signal Processing, Milan, Italy, July 2020 (online)
2. R. Yılmaz and A. E. Pusane, "Deep learning-based automatic modulation classification in the case of carrier phase shift," in Proc. International Conference on Telecommunications and Signal Processing, Milan, Italy, July 2020 (online)
3. M. C. Kardaş and A. E. Pusane, "An envelope-based feature for NDA SNR estimation," in Proc. International Conference on Telecommunications and Signal Processing, Milan, Italy, July 2020 (online)
4. M. Ö. Demir, G. Karabulut Kurt, and A. E. Pusane, "On the limitations of GPS time-spoofing attacks," in Proc. International Conference on Telecommunications and Signal Processing, Milan, Italy, July 2020 (online)
5. M. Y. Yağan, R. Kisacık, T. Erkınacı, A. E. Pusane, M. Uysal, T. Baykaş, G. Dündar, and A. D. Yalçınkaya, "Experimental validation of a novel RLL code for visible light communication," in Proc. International Conference on Telecommunications and Signal Processing, Milan, Italy, July 2020 (online)
6. M. G. Durmaz, A. Dilmac, B. Çamlı, E. Gençtürk, Z. C. Canbek Ozdil, A. E. Pusane, A. D. Yalçınkaya, K. Ülgen, and T. Tugcu, "Preliminary studies on flow assisted propagation of fluorescent microbeads in microfluidic channels for molecular communication systems," in Proc. EAI International Conference on Bio-inspired Information and Communications Technologies, Shanghai, China, July 2020 (online)
7. M. O. Demir, O. A. Topal, G. Dartmann, A. Schmeink, G. H. Ascheid, G. Karabulut Kurt, and A. E. Pusane, "Using perfect codes in relay aided networks: A security analysis," in Proc. International Conference on Wireless and Mobile Computing, Networking and Communications, Barcelona, Spain, October 2019
8. A. Çelik, M. C. Gürsoy, E. Başar, A. E. Pusane, and T. Tuğcu, "A low-complexity solution to angular misalignments in molecular index modulation," in Proc. IEEE 30th Annual International Symposium on Personal, Indoor and Mobile Radio Communications, Istanbul, Turkey, September 2019
9. O. A. Topal, M. O. Demir, G. Dartmann, A. Schmeink, G. Ascheid, A. E. Pusane, and G. Karabulut Kurt, "Physical layer spoofing against eavesdropping attack," in Proc. Mediterranean Conference on Embedded Computing, Budva, Montenegro, June 2019
10. M. C. Gürsoy, E. Başar, A. E. Pusane, and T. Tuğcu, "An ILI mitigating modulation scheme for molecular MIMO communications," in Proc. International Conference on Telecommunications and Signal Processing, Budapest, Hungary, July 2019
11. M. C. Gürsoy, H. B. Yılmaz, A. E. Pusane, and T. Tuğcu, "Performance enhancement of diffusive molecular communications with an apertured plane," in Proc. 4th Workshop on Molecular Communications, Linz, Austria, April 2019
12. R. D. Aksoy, H. B. Yılmaz, M. S. Kuran, A. Wipat, A. E. Pusane, G. Mısırlı, and T. Tuğcu, "Receiver design using genetic circuits in molecular communication," in Proc. 4th Workshop on Molecular Communications, Linz, Austria, April 2019
13. M. O. Demir, G. K. Kurt, G. Dartmann, G. Ascheid, and A. E. Pusane, "Security analysis of forward error correction codes in relay aided networks," in Proc. Global Information Infrastructure and Networking Symposium, Thessaloniki, Greece, October 2018

14. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, “A network coding approach for multi-hop nanonetworks in molecular communication," in Proc. International Symposium on Wireless Communication Systems, Lisbon, Portugal, August 2018
15. B. Kabakulak, Z.C. Taşkın, and A. E. Pusane, “LDPC kodlarının eniyi kod çözümü için dal-fiyatlandır-ve-kesi algoritması,” in Proc. Operations Research and Industrial Engineering Congress, Eskisehir, Turkey, June 2018
16. Y. Sabucu, A. E. Pusane, and G. Karabulut Kurt, “Trust-based stable matching approach for carrier aggregated heterogeneous networks,” in Proc. International Conference on Telecommunications and Signal Processing, Athens, Greece, July 2018
17. C. Gürsoy, B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, “Error probability calculation with reduced complexity for molecular communications,” in Proc. International Conference on Telecommunications and Signal Processing, Athens, Greece, July 2018
18. I. C. Odabaşı, M. B. Yelten, E. Afacan, F. Başkaya, A. E. Pusane, and G. Dündar, “A rare event based yield estimation methodology for analog circuits," in Proc. 21st IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems, Budapest, Hungary, April 2018
19. B. C. Akdeniz, H. B. Yılmaz, A. E. Pusane, and T. Tuğcu, “Impulse response of 3-D molecular communication via diffusion and flow channel with an absorbing receiver," in Proc. 3rd Workshop on Molecular Communications, Ghent, Belgium, April 2018
20. B. C. Akdeniz, C. Gürsoy, A. E. Pusane, and T. Tuğcu, “On the performance of the modulation Methods in time-varying molecular communication channels," in Proc. International Conference on Telecommunications and Signal Processing, Barcelona, Spain, July 2017
21. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, “2-D channel transfer function for molecular communication with an absorbing receiver," in Proc. IEEE Symposium on Computers and Communications, Crete, Greece, July 2017
22. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, “Two-way communication systems in molecular communication," in Proc. IEEE Intl. Black Sea Conference on Communications and Networking, Istanbul, Turkey, June 2017
23. C. Gürsoy, A. E. Pusane, and T. Tuğcu, “Throughput optimization for molecule-as-a-frame communications," in Proc. IEEE Intl. Black Sea Conference on Communications and Networking, Istanbul, Turkey, June 2017
24. D. J. Costello, Jr., D. G. M. Mitchell, A. E. Pusane, and M. Lentmaier, “On the finite-length scaling behavior of spatially coupled LDPC codes," in Proc. Information Theory and Applications Workshop, San Diego, CA, USA, Feb. 2017
25. O. Calik, U. Iricioglu, G. Karabulut Kurt, A. E. Pusane, A. S. Demiroglu, G. Kayık, “Impact of retransmissions on the quality of experience in VoIP systems,” in Proc. Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, Nov. 2016
26. D. G. M. Mitchell, A. E. Pusane, M. Lentmaier, and D. J. Costello, Jr., “On the block error rate performance of spatially coupled LDPC codes for streaming applications," in Proc. IEEE Information Theory Workshop, Cambridge, UK, Sept. 2016
27. E. Afacan, G. Dündar, A. E. Pusane, F. Başkaya, and M. B. Yelten, “Efficient signature selection tool for sense & react systems,” in Proc. International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Lisbon, Portugal, June 2016
28. E. Afacan, G. Dündar, A. E. Pusane, and F. Başkaya, “Semi-empirical aging model development via accelerated aging test,” in Proc. International Conference on Synthesis,

Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Lisbon, Portugal, June 2016

29. T. Guzel, A. E. Pusane, and H. Deliç, "Generalized Gaussian distribution-based LDPC receiver for power-line communications," in Proc. IEEE AFRICON, Addis Ababa, Ethiopia, Sept. 2015
30. E. Afacan, G. Berkol, G. Dündar, A. E. Pusane, and F. Başkaya, "A deterministic aging simulator and an analog circuit sizing tool robust to aging phenomena," in Proc. International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Istanbul, Turkey, Sept. 2015
31. H. B. Yılmaz, C.-B. Chae, B. Tepekule, and A. E. Pusane, "Arrival modeling and error analysis for molecular communication via diffusion with drift," in Proc. ACM International Conference on Nanoscale Computing and Communication, Boston, Massachusetts, USA, Sept. 2015
32. G. Kömürcü, A. E. Pusane, and G. Dündar, "Implementation and Comparison of Conventional and Ordering Based RO-PUFs for Secret Key Generation," in Proc. International Conference on Advances in Circuits, Electronics and Micro-electronics, Venice, Italy, August 2015
33. R. Ashrafi, A. E. Pusane, and I. Demirkan, "On the reliability and efficiency of novel programming architectures for next-generation Flash memories," in Proc. International Conference on Telecommunications and Signal Processing, Prague, Czech Republic, July 2015
34. D. G. M. Mitchell, M. Lentmaier, A. E. Pusane, and D. J. Costello, Jr., "Approximating decoding thresholds of punctured LDPC code ensembles on the AWGN channel," in Proc. IEEE Intl. Symposium on Inform. Theory, Hong Kong, June 2015
35. G. Berkol, A. Unutulmaz, E. Afacan, G. Dündar, F. V. Fernandez, A. E. Pusane, and F. Başkaya, "A two-step layout-in-the-loop design automation tool," in Proc. IEEE International NEW Circuits And Systems Conference, Grenoble, France, June 2015
36. G. Kömürcü, A. E. Pusane, and G. Dündar, "On the application and comparison of conventional and ordering-based RO-PUFs," in Proc. International Symposium on Digital Forensics and Security, Ankara, Turkey, May 2015
37. G. Berkol, E. Afacan, G. Dündar, A. E. Pusane, and F. Başkaya, "A novel yield aware multi-objective analog circuit optimization tool," in Proc. IEEE Symposium on Circuits and Systems, Lisbon, Portugal, May 2015
38. E. Afacan, G. Berkol, G. Dündar, A. E. Pusane, and F. Başkaya, "A hybrid quasi Monte Carlo method for yield aware analog circuit sizing tool," in Proc. Design, Automation and Test in Europe (DATE), Grenoble, France, March 2015
39. E. Afacan, G. Berkol, A. E. Pusane, G. Dündar, and F. Başkaya, "Adaptive sized quasi-Monte Carlo based yield aware analog circuit optimization tool," in Proc. European Workshop on CMOS Variability, Palma de Mallorca, Spain, Sept. 2014
40. D. G. M. Mitchell, M. Lentmaier, A. E. Pusane, and D. J. Costello, Jr., "Randomly punctured spatially coupled LDPC codes," in Proc. Intl. Symposium on Turbo Codes and Related Topics, Bremen, Germany, Aug. 2014 (invited paper)
41. R. Ashrafi, A. Sariduman, and A. E. Pusane, "Asymptotic and finite-length performance of irregular spatially-coupled codes," in Proc. IEEE Intl. Black Sea Conference on Communications and Networking, Chisinau, Moldova, May 2014
42. B. Tepekule, A. E. Pusane, H. B. Yilmaz, T. Tuğcu, "Energy efficient ISI mitigation for communication via diffusion," in Proc. IEEE Intl. Black Sea Conference on Communications and Networking, Chisinau, Moldova, May 2014

43. G. Kömürcü, G. Dündar, and A. E. Pusane, "Robust RO-PUFs with Enhanced Challenge-Response Set," in Proc. Intl. Conf. on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), Nakhon Ratchasima, Thailand, May 2014
44. Ü. Güler, A. E. Pusane, and G. Dündar, "Investigating flicker noise effect on randomness of CMOS ring oscillator based true random number generator," in Proc. International Conference on Information Science, Electronics and Electrical Engineering Hokkaido, Japan, April 2014
45. N. Ul Hassan, A. E. Pusane, M. Lentmaier, G. Fettweis, and D. J. Costello, Jr., "Non-uniform windowed decoding schedules for spatially coupled codes," in Proc. GLOBECOM, Atlanta, GA, USA, Dec. 2013
46. İ. Çiçek, A. E. Pusane, and G. Dündar, "A novel dual entropy core true random number generator," in Proc. Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, Nov. 2013
47. G. Kömürcü, A. E. Pusane, and G. Dündar, "Analysis of ring oscillator structures to develop a design methodology for RO-PUF circuits," in Proc. IEEE International Conference on Very Large Scale Integration, Istanbul, Turkey, Oct. 2013
48. G. Kömürcü, A. E. Pusane, and G. Dündar, "Dynamic programming based grouping method for RO-PUFs," in Proc. PRIME 2013, Villach, Austria, June 2013
49. R. Ashrafi and A. E. Pusane, "A spatially-coupled communication system for the correlated erasure channel," in Proc. International Symposium on Signals, Systems and Electronics, Potsdam, Germany, Oct. 2012.
50. R. Ashrafi and A. E. Pusane, "On the asymptotic performance of spatially-coupled codes with minimal coupling," in Proc. International Symposium on Signals, Systems and Electronics, Potsdam, Germany, Oct. 2012.
51. N. Ul Hassan, A. E. Pusane, M. Lentmaier, G. Fettweis, and D. J. Costello, Jr., "Reduced complexity decoding schedules for coupled LDPC codes," in Proc. IEEE Information Theory Workshop, Lausanne, Switzerland, Sept. 2012 (invited paper)
52. B. Şerbetçi and A. E. Pusane, "Finite-length polarization measures for polar coded systems," in Proc. IEEE International Workshop on Signal Processing Advances in Wireless Communications, Izmir, Turkey, Jun. 2012
53. D. G. M. Mitchell, A. E. Pusane, M. Lentmaier, and D. J. Costello, Jr., "Exact free distance and trapping set growth rates for LDPC convolutional codes," in Proc. IEEE Intl. Symposium on Inform. Theory, St. Petersburg, Russia, Aug. 2011, pp. 1101–1105
54. D. G. M. Mitchell, A. E. Pusane, and D. J. Costello, Jr., "Asymptotic trapping set analysis of regular protograph-based LDPC convolutional code ensembles," in Proc. Information Theory and Applications Workshop, San Diego, CA, USA, Feb. 2009 (invited paper)
55. D. G. M. Mitchell, A. E. Pusane, and D. J. Costello, Jr., "Trapping set analysis of protograph-based LDPC convolutional codes," in Proc. IEEE Intl. Symposium on Inform. Theory, Seoul, Korea, Jun. 2009, pp. 561–565
56. D. G. M. Mitchell, A. E. Pusane, N. Goertz, and D. J. Costello, Jr., "Free distance bounds for protograph based regular LDPC convolutional codes," in Proc. Intl. Symposium on Turbo Codes and Related Topics, Lausanne, Switzerland, Sep. 2008
57. D. G. M. Mitchell, A. E. Pusane, K. Sh. Zigangirov, and D. J. Costello, Jr., "Asymptotically good LDPC convolutional codes based on protographs," in Proc. IEEE Intl. Symposium on Inform. Theory, Toronto, Canada, Jul. 2008, pp. 1030–1034

58. D. J. Costello, Jr., A. E. Pusane, C. R. Jones, and D. Divsalar, "A comparison of ARA and protograph-based LDPC block and convolutional codes," in Proc. Information Theory and Applications Workshop, San Diego, CA, USA, Jan. 2007 (invited paper)
59. A. E. Pusane, R. Smarandache, P. O. Vontobel, and D. J. Costello, Jr., "On deriving good LDPC convolutional codes from QC LDPC block codes," in Proc. IEEE Intl. Symposium on Inform. Theory, Nice, France, Jun. 2007, pp. 1221–1225
60. D. J. Costello, Jr. and A. E. Pusane, "LDPC convolutional codes: What are they? how do they work? are they any good?" in Proc. AMS Joint Mathematics Meetings, New Orleans, LA, USA, Jan. 2007
61. R. Smarandache, A. E. Pusane, P. O. Vontobel, and D. J. Costello, Jr., "Pseudo-codewords in LDPC convolutional codes," in Proc. IEEE Intl. Symposium on Inform. Theory, Seattle, WA, USA, Jul. 2006, pp. 1364– 1368
62. A. E. Pusane, K. Sh. Zigangirov, and D. J. Costello, Jr., "Construction of irregular LDPC codes with fast encoding property," in Proc. IEEE Intl. Conference on Commun., Istanbul, Turkey, Jun. 2006
63. D. J. Costello, Jr., A. E. Pusane, S. Bates, and K. Sh. Zigangirov, "A comparison between LDPC block and convolutional codes," in Proc. Information Theory and Applications Workshop, San Diego, CA, USA, Feb. 2006 (invited paper)
64. S. Bates, L. Gunthorpe, A. E. Pusane, Z. Chen, K. Sh. Zigangirov, and D. J. Costello, Jr., "Decoders for low-density parity-check convolutional codes with large memory," in Proc. IEEE Symposium on Circuits and Systems, Kos, Greece, May 2006
65. S. Bates, L. Gunthorpe, A. E. Pusane, Z. Chen, K. Sh. Zigangirov, and D. J. Costello, Jr., "Decoders for low-density parity-check convolutional codes with large memory," in Proc. 12th NASA Symposium on VLSI Design, Coeur d'Alene, ID, USA, Oct. 2005
66. A. E. Pusane, M. Lentmaier, T. E. Fuja, K. Sh. Zigangirov, and D. J. Costello, Jr., "Multilevel coding/modulation using LDPC convolutional codes," in Proc. Intl. Symposium on Information Theory and its Applications, Parma, Italy, Oct. 2004, pp. 685–689
67. A. E. Pusane, M. Lentmaier, K. Sh. Zigangirov, and D. J. Costello, Jr., "Reduced complexity decoding strategies for LDPC convolutional codes," in Proc. IEEE Intl. Symposium on Inform. Theory, Chicago, IL, USA, Jun. 2004, p. 490
68. E. Panayırcı, Ü. Aygölü, and A. E. Pusane, "EM-based sequence estimation for wireless systems with orthogonal transmit diversity," in Proc. IEEE Intl. Conference on Commun., Anchorage, AL, USA, May 2003, pp. 3210–3214
69. A. E. Pusane and Ü. Aygölü, "Power control for orthogonal space-time coding with multiple receive antennas," in Proc. 13th International Symposium on Personal, Indoor and Mobile Radio Communications Conference, Lisbon, Portugal, Sep. 2002, pp. 95–99
70. A. E. Pusane and Ü. Aygölü, "Space-time coded multiple MSK," in Proc. 8th International Conference on Advances in Communications and Control, Crete, Greece, Jun. 2001, pp. 25–35
71. A. E. Pusane, Ü. Aygölü, and İ. Altunbaş, "Performance analysis of trellis-coded MSK in two-ray fading channels," in Proc. IEEE Balkan Conference on Signal Processing, Communications, Circuits and Systems, Istanbul, Turkey, Jun. 2000

National Conference Papers

1. M. Pourmandi, S. S. Arslan, A. E. Pusane, E. Haytaoglu, and A. C. Tengiz, "Average bandwidth-cost v.s. storage trade-off for BS-assisted distributed storage networks," in Proc. IEEE Signal Processing and Communications Applications Conference, June 2021 (online)
2. M. C. Kardaş and A. E. Pusane, "Blind non-data-aided signal-to-noise ratio estimation with convolutional neural networks," in Proc. IEEE Signal Processing and Communications Applications Conference, Gaziantep, Turkey, October 2020 (online)
3. R. Kisacık, T. Erkınacı, M. Y. Yağan, A. E. Pusane, M. Uysal, T. Baykaş, G. Dündar, and A. D. Yalçınkaya, "Opto-electronic receiver system with postequalization for visible light communications," in Proc. IEEE Signal Processing and Communications Applications Conference, Gaziantep, Turkey, October 2020 (online)
4. R. Ashrafi, Ş. Arslan, A. E. Pusane, "Kernel density estimation for optimal detection in all-bit-line MLC Flash memories," in Proc. IEEE Signal Processing and Communications Applications Conference, Sivas, Turkey, April 2019
5. A. Zeshan, T. Baykaş, S. Erküçük, A. E. Pusane, "Hybrid MEMS-based molecular communication system," in Proc. IEEE Signal Processing and Communications Applications Conference, Sivas, Turkey, April 2019
6. R. Kisacık, B. C. Efe, A. E. Pusane, M. Uysal, T. Baykaş, G. Dündar, A. D. Yalçınkaya, "Distance and power based experimental verification of channel model in visible light communication," in Proc. IEEE Signal Processing and Communications Applications Conference, Sivas, Turkey, April 2019
7. M. O. Demir, G. Karabulut Kurt, G. Dartmann, G. Ascheid, and A. E. Pusane, "Security analysis of Hamming codes in relay aided networks," in Proc. IEEE Signal Processing and Communications Applications Conference, Izmir, Turkey, May 2018
8. M. C. Gursoy, A. E. Pusane, and T. Tugcu, "Superposition based molecular communications in nanomachine swarms," in Proc. IEEE Signal Processing and Communications Applications Conference, Izmir, Turkey, May 2018
9. A. O. Kislal, A. E. Pusane, and T. Tugcu, "A comparative analysis of channel coding for molecular communications," in Proc. IEEE Signal Processing and Communications Applications Conference, Izmir, Turkey, May 2018
10. R. Ashrafi, A. E. Pusane, and S. S. Arslan, "Next-generation data storage: transistor and DNA," in Proc. IEEE Signal Processing and Communications Applications Conference, Izmir, Turkey, May 2018
11. R. Ashrafi and A. E. Pusane, "An efficient equalization technique for multi-level cell Flash memory storage systems," in Proc. IEEE Signal Processing and Communications Applications Conference, Antalya, Turkey, May 2017
12. C. Gürsoy, B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, "On the effects of mobile transmitter and receiver on the performance of molecular communications system," in Proc. IEEE Signal Processing and Communications Applications Conference, Antalya, Turkey, May 2017
13. B. C. Akdeniz, A. E. Pusane, and T. Tuğcu, "A novel concentration-type based modulation in molecular communication," in Proc. IEEE Signal Processing and Communications Applications Conference, Antalya, Turkey, May 2017
14. B. Çamlı, A. D. Yalçınkaya, R. Kısacık, M. M. Maç, A. E. Pusane, T. Baykaş, and M. Uysal, "Application of standard CMOS photodiodes in optical communication systems," in Proc.

IEEE Signal Processing and Communications Applications Conference, Antalya, Turkey, May 2017

15. A. Sarıduman, A. E. Pusane, and Z. C. Taşkın, "A heuristic method for adaptive linear programming decoding," in Proc. IEEE Signal Processing and Communications Applications Conference, Zonguldak, Turkey, May 2016
16. R. Ashrafi, A. E. Pusane, and I. Demirkan, "Analysis of advanced programming architectures for next-generation Flash memories," in Proc. IEEE Signal Processing and Communication Applications Conference, Malatya, Turkey, May 2015
17. Y. Sabucu, A. E. Pusane, and G. Karabulut Kurt, "Applications of stable matching algorithm in wireless communication systems," in Proc. IEEE Signal Processing and Communication Applications Conference, Malatya, Turkey, May 2015
18. B. C. Akdeniz, B. Tepekule, A. E. Pusane, T. Tuğcu, "Network coding applications in molecular communication," in Proc. IEEE Signal Processing and Communication Applications Conference, Malatya, Turkey, May 2015
19. A. Sariduman, A. E. Pusane, and Z. C. Taskin, "Adaptive linear programming for decoding LDPC codes," in Proc. 22nd IEEE Signal Processing and Communication Applications Conference, Trabzon, Turkey, April 2014
20. R. Ashrafi and A. E. Pusane, "Spatially-coupled coding based communication over the correlated Nakagami fading channel," in Proc. 22nd IEEE Signal Processing and Communication Applications Conference, Trabzon, Turkey, April 2014
21. B. Tepekule, A. E. Pusane, H. B. Yilmaz, T. Tuğcu, "A novel modulation technique in diffusion based molecular communication and its performance analysis," in Proc. 22nd IEEE Signal Processing and Communication Applications Conference, Trabzon, Turkey, April 2014 **(B. Tepekule received a best student paper award)**
22. R. Ashrafi and A. E. Pusane, "Performance analysis of spatially coupled codes over the correlated erasure channel," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2013
23. M. S. Baltaoğlu, B. Önal, and A. E. Pusane, "Sudoku puzzle as an LDPC code," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2013
24. B. Tepekule, U. Yavuz, and A. E. Pusane, "On the use of modern coding techniques in QR applications," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2013
25. İ. Çiçek, A. E. Pusane, and G. Dündar, "Field programmable analog array implementation of logistic map," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2013
26. İ. Çiçek, A. E. Pusane, and G. Dündar, "Random number generation using field programmable analog array implementation of logistic map," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2013
27. G. Kömürcü, A. E. Pusane, and G. Dündar, "RO-based PUF implementation on an FPGA," in Proc. Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, Nov. 2012.
28. İ. Çiçek, A. E. Pusane, and G. Dündar, "A feasibility study of a 1D chaotic map for true random number generation," in Proc. IEEE Signal Processing and Communications Applications Conference, Mugla, Turkey, Apr. 2012
29. R. Ashrafi and A. E. Pusane, "Asymptotically regular spatially coupled codes with low decoding delay," in Proc. IEEE Signal Processing and Communications Applications Conference, Mugla, Turkey, Apr. 2012

30. B. Şerbetçi and A. E. Pusane, "On the selection of generator matrices for polar coded communication systems," in Proc. IEEE Signal Processing and Communications Applications Conference, Mugla, Turkey, Apr. 2012
31. A. Sarıduman, A. E. Pusane, and Z. C. Taskın, "An integer programming based trapping set search technique," in Proc. IEEE Signal Processing and Communications Applications Conference, Mugla, Turkey, Apr. 2012
32. A. E. Pusane, R. Smarandache, P. O. Vontobel, and D. J. Costello, Jr., "On the iterative decoding of LDPC convolutional codes," in Proc. IEEE Signal Processing and Communications Applications Conference, Diyarbakır, Turkey, Apr. 2010, pp. 519–522
33. A. E. Pusane and Ü. Aygölü, "Power control for orthogonal space-time coding with multiple receive antennas," in Proc. IEEE Signal Processing and Communications Applications Conference, Denizli, Turkey, Jun. 2002, pp. 743–788 **(best student paper award)**
34. A. E. Pusane, Ü. Aygölü, and E. Panayırcı, "Orthogonal space-time coded OFDM over correlated fading channels," in Proc. IEEE Signal Processing and Communications Applications Conference, Denizli, Turkey, Jun. 2002, pp. 383–388
35. A. E. Pusane and Ü. Aygölü, "Space-time coded multiple MSK modulation," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2001, pp. 312–317
36. A. E. Pusane, Ü. Aygölü, and E. Panayırcı, "MSK modulated OFDM systems," in Proc. IEEE Signal Processing and Communications Applications Conference, N. Cyprus, Apr. 2001, pp. 318–323