ATHINA P. PETROPULU

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RESEARCH INTERESTS

- Radar: compressive sensing based MIMO radar, spectrum sharing between radar and communication systems, dual function radar-communication systems, MIMO radar with sparse arrays
- Networking: cooperative protocols for wireless networks, physical layer security, mobile beamforming, sparse sensing
- Statistical signal processing: system identification, blind source separation, higher-order statistics
- Wireless communications: blind channel estimation and equalization, MIMO systems
- Biomedical engineering: EEG based localization of brain activations, tissue characterization for breast cancer detection, resolution improvement of ultrasound images

EDUCATION

- Ph.D., Electrical and Computer Engineering, Northeastern University, Boston, MA 1991
- M.S.E.E., Electrical and Computer Engineering, Northeastern University, Boston, MA 1988
- Diploma in Electrical Engineering, National Technical University of Athens, Greece 1986

EMPLOYMENT

- **Distinguished Professor**, Electrical and Computer Engineering, Rutgers University 2017 - date
- **Professor**, Electrical and Computer Engineering Rutgers University 2010 - 2017
- **Professor and Chair**, Electrical and Computer Engineering, Rutgers University 2010 - 2016
- **Professor**, Electrical and Computer Engineering, Drexel University 2002 - 2010
- **Associate Professor**, Electrical and Computer Engineering, Drexel University 1997 - 2002
- **Associate Professor**, SUPELEC, CNRS - Universite Paris Sud, France 1999 - 2000
- **Assistant Professor**, Electrical and Computer Engineering, Drexel University 1992 - 1997

AWARDS & HONORS

- Plenary Speaker, 1st IEEE International Conference on Integrated Sensing and Communications (ISAC) Lisbon, Portugal 2026
- Plenary Speaker, IEEE Signal Processing Advances in Wireless Communications (SPAWC), Athens, Greece 2026
- Plenary Speaker, IEEE Sensor Array and Multichannel Signal Processing (SAM), Shenzhen, China 2026
- Plenary Speaker, 6th IEEE International Symposium on Joint Communications & Sensing, (JC&S) Ponte di Legno Italy 2026
- Plenary Speaker, IEEE Workshop On Signal Processing Systems (SiPS), Hong Kong 2025
- IEEE Signal Processing Society Donald G. Fink Overview Paper Award 2024

- Honorary Chair, NIST/IEEE Conference on Computational Imaging Using Synthetic Apertures (CISA) 2024
- IEEE Machine Learning For Signal Processing (MLSP) Workshop Best Student Paper Award (S. Evmorfos) 2023
- IEEE Communications Society Stephen O. Rice Prize 2023
- Technical Program co-Chair, IEEE Int. Conference on Acoustics Speech and Signal Processing (ICASSP), Kos, Greece 2023
- President, IEEE Signal Processing Society 2022-2023
- IEEE Sensor Array and Multichannel Signal Processing Workshop Best Student Paper Award (Y. Li) 2022
- IEEE Signal Processing Society Young Author Best Paper Award (F. Liu) 2022
- Plenary Speaker, IEEE Sensor Array and Multichannel (SAM) Signal Processing Workshop, Trondheim, Norway 2022
- Member of Governing Council, University of Peloponnese, Greece 2022-present
- 2017 Barry Carlton Best Paper Award, IEEE Aerospace and Electronic Systems Society 2021
- President-Elect, IEEE Signal Processing Society 2020-2021
- IEEE Signal Processing Society Young Author Best Paper Award (B. Li) 2020
- American Association for the Advancement of Science (AAAS) Fellow 2018
- Distinguished Lecturer, IEEE Aerospace & Electronics Systems Society 2018-2022
- Member-at-Large, IEEE Signal Processing Society Board of Governors 2018-2020
- General co-Chair, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Kalamata, Greece 2018
- Visiting Research Collaborator, Department of Electrical Engineering, Princeton University 2017-date
- Distinguished Lecturer, IEEE Signal Processing Society 2017-2018
- Diversity Award, ECE Department Heads Association (ECEDHA) 2017
- Visiting Scholar, Department of Electrical and Computer Engineering, University of Southern California 2016-2017
- President, ECE Department Heads Association (ECEDHA) 2015
- Fellow, Committee on Institutional Cooperation Academic Leadership 2014-2015
- Leadership Award, ECE Rutgers 2013
- IEEE Signal Processing Society Meritorious Service Award for *"exemplary service in technical leadership capacities"* 2012
- Great Master, University of Electronics Science and Technology (UESTC), Chengdu, China 2012
- Editor-In-Chief, IEEE Transactions on Signal Processing 2009-2011
- IEEE Fellow 2008
- Visiting Fellow, Department of Electrical Engineering, Princeton University 2006-2007
- VP Conferences, IEEE Signal Processing Society 2006-2008
- General Chair, IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP) 2005
- IEEE Signal Processing Magazine Best Paper Award (co-recipient) 2005
- Member-at-Large, IEEE Signal Processing Society Board of Governors 2004-2005

- ECE Research Achievement Award, Drexel University 2001
- Presidential Faculty Fellow Award (PFF), given by The White House and NSF 1995
- Whitaker Award 1995

PATENTS

- U.S. Application 19/413,372 "Enhancing Privacy In Radar-based Vital Sign Monitoring" into U.S. Application 19/413,372, filed on December 9, 2025
- U.S. Provisional Patent Application 63/820,336 "Low Overhead MIMO-OTFS Channel Estimation," filed June 9, 2025
- U.S. Provisional Application No. 63/720,156 "Virtual Array for Dual-Function MIMO Radar Communication Systems Using OTFS Waveforms," filed on November 13, 2024
- US Application 17/860,060 "Joint Sensing and Communications Using OFDM Waveforms," 2023
- U.S. Application 18/381,416 "Monitoring Vital Signals via Single Phased-MIMO Radar," 2023
- US Patent 12,301,318 "Reinforcement learning for motion policies in mobile relaying networks," 2025
- US Patent 11,943,038 "Relay Beamforming with Predictive Relay Selection in Millimeter Wave Communications," April 2024
- US Patent 7,929,937 B2 "System and Methods for Blind Estimation of Multiple Carrier Frequency Offsets and Separation of User signals in Wireless Communication Systems," April 2011

PUBLICATIONS

Publications That Have Received Recognition

1. J. A. Zhang, F. Liu, C. Masouros, R. W. Heath, Z. Feng, L. Zheng, A. Petropulu, "An Overview of Signal Processing Techniques for Joint Communication and Radar Sensing," *IEEE Journal on Selected Topics in Signal Processing,* vol. 15, no. 6, pp. 1295-1315, Nov. 2021. DOI: 10.1109/JSTSP.2021.3113120 **(2024 IEEE Signal Processing Society Donald G. Fink Overview Paper Award)**
2. S. Evmorfos, Z. Xu, A. Petropulu, "GFlowNets for Sensor Selection," IEEE International Workshop on Machine Learning for Signal Processing, 2023. doi: 10.1109/MLSP55844.2023.10285914 **(Best Student Paper Award)**
3. Y. Li and A. Petropulu, "Dual-Function Radar-Communication System Aided by Intelligent Reflecting Surfaces," *IEEE 12th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, June 2022, pp. 126-130, doi: 10.1109/SAM53842.2022.9827863 **(Best Student Paper Award)**
4. Z. Xu, A. Petropulu, "A bandwidth efficient dual-function radar communication system based on a MIMO radar using OFDM waveforms," *IEEE Transactions on Signal Processing*, vol. 71, pp. 401-416, 2023, DOI: 10.1109/TSP.2023.3241779 **(IEEE Signal Processing Society's top 25 downloaded articles from Sept. 2022 - Sept. 2023 for IEEE Transactions on Signal Processing on IEEE Xplore)**
5. F. Liu, C. Masouros, A. Petropulu, H. Griffiths, and L. Hanzo, "Joint Radar and Communication Design: Applications, State-of-the-art, and the Road Ahead," *IEEE Transactions on Communications,* Volume: 68, Issue: 6, Year: 2020, doi: 10.1109/TCOMM.2020.2973976 **(2023 Stephen O. Rice Prize Best Paper Award)**
6. F. Liu, L. Zhou, C. Masouros, A. Li, W. Luo, and A. Petropulu, "Towards Dual-functional Radar-Communication Systems: Optimal Waveform Design," *IEEE Transactions on Signal Processing,*

Volume: 66 , Issue: 16, Pages: 4264 - 4279, Year: 2018 **(2021 IEEE Signal Processing Society Young Author Best Paper Award)**

7. B. Li, A. Petropulu, "Joint Transmit Design for Co-Existence of MIMO Wireless Communications and Sparse Sensing Radars in Clutter," *IEEE Trans. on Aerospace and Electronic Systems*, Volume: 53, Issue: 6 Pages: 2846 - 2864, Year: 2017. **(2017 Barry Carlton Best Paper Award, IEEE Aerospace and Electronic Systems Society)**.

8. B. Li, A. Petropulu and W. Trappe, "Optimum Design for Coexistence Between Matrix Completion based MIMO Radars and a MIMO Communication System," *IEEE Transactions on Signal Processing*, Volume: 64, Issue: 17, Pages: 4562 - 4575, Year: 2016. **(2020 IEEE Signal Processing Society Young Author Best Paper Award)**

9. S. Sun, A. Petropulu and H.V. Poor, "MIMO Radar for ADAS and Autonomous Driving: Advantages and Challenges," *IEEE Signal Processing Magazine*, Volume: 37, Issue: 4, Year: 2020. **IEEE Signal Processing Society's top 25 downloaded articles from 9/22-9/23 for IEEE Signal Processing Magazine on IEEE Xplore, 2024)**

10. O. Cappe, E. Moulines, J.-C. Pesquet, A. Petropulu, and X. Yang*, "Long-Range Dependence and Heavy-Tail Modeling for Teletraffic Data", *IEEE Signal Processing Magazine*, special issue on Network Traffic Modeling, Volume: 19, Issue: 3, Pages: 14 - 27, May 2002. **(2005 IEEE Signal Processing Magazine Best Paper Award)**

Books and Book Chapters

1. H. Godrich, A. Petropulu and H.V. Poor, "Power Allocation Strategies for Localization in Distributed Information-Theoretical Radar Signal Processing, edited by Y. Gu and Y. D. Zhang, IEEE, 2025, pp.313-346, doi: 10.1002/9781394216956.ch11.

   Bo Li; Athina P. Petropulu, "Spectrum Sharing Between MIMO Radar and MIMO Communication Systems," eds. V. J. Kumar, B. Ottersten, L. Swindlehurst, B. Shankar, IEEE, 2024, pp.207-243, doi: 10.1002/9781119795568.ch8.

2. B. Li and A. Petropulu, "Cooperative Spectrum Sharing between Sparse Sensing based Radar," chapter in "Compressed Sensing (CS)-based Radar Signal Processing" book, eds. A. De Maio, Y. Eldar, A. Haimovich, Cambridge University Press, 2019.

3. A. Garnaev, W. Trappe and A. Petropulu "Bargaining for Dual Radar and Communication Systems Using Radar-prioritized OFDM Waveforms," NEW2AN 2018/ruSMART 2017 (O. Galinina, S. Balandin, Y.Koucheryavy, Eds.), Lecture Notes in Computer Science, Springer, Volume 10531, pp. 382-394, 2017.

4. J. Li and A. Petropulu, "Multiple Antennas for Physical Layer Secrecy," chapter in Festschrift published by Pan Stanford Publishing honoring Prof. A. Constantinides, 2015.

5. Y. Yu*[1], A. P. Petropulu and R. Madan, "Compressive Sensing for MIMO Urban Radar," chapter in "Compressive Sensing for Urban Radars," edited by M. Amin, CRC Press, 2014.

6. X. Yang* and A. Petropulu, "Modeling of Co-Channel Interference in Wireless Communications," chapter in "Classical, Semi-classical and Quantum Noise" (in honor of the contributions of David Middleton), Springer 2012.

7. A. Petropulu, "Higher-Order Spectra," chapter in the Digital Signal Processing Handbook, 2nd Edition, (ed. V. Madisetti), CRC Press, 2009.

8. L. Dong*, A. P. Petropulu and H. V. Poor, "Cross-Layer Cooperative Beamforming for Wireless Networks," chapter in "Cooperative Communications For Improved Wireless Network Transmission:

[1] * indicates students, and + visiting students, advised by A. Petropulu

Frameworks For Virtual Antenna Array Applications," IGI Global publishing, 2009.

9. A. P. Petropulu, X. Yang*,"Long-Range Dependent and Impulsive Phenomena in High-Speed Communication Networks", in *Nonlinear Signal and Image Processing: Theory, Methods, and Applications,* K. Barner and G. Arce, editors, CRC Press, 2003.
10. X. Yang* and A. P. Petropulu, "Interference Modeling in Wireless Communications," The Wiley Encyclopedia of Telecommunications, 2002.
11. A. P. Petropulu, "Higher-Order Spectra in Biomedical Signal Processing," CRC Press Biomedical Engineering Handbook, second edition, 2000.
12. A. P. Petropulu, "Higher-Order Spectra in Signal Processing," CRC Press Signal Processing Handbook, ed. A. Oppenheim, 1998.
13. A. P. Petropulu, "Higher-Order Spectra in Biomedical Signal Processing," *CRC Press Biomedical Engineering Handbook*, 1995.
14. Higher-Order Spectra Analysis: A Nonlinear Signal Processing Framework, C. L. Nikias and A. P. Petropulu, Prentice Hall Inc., 1993.

Journal Articles (Refereed)

1. H. Pu, Z. Han, A. Petropulu, H. Li, "Constellation-Based Blind Sensing for OFDM-ISAC with Cochannel Interference," *IEEE Wireless Communications Letters,* to appear in 2026.
2. Z. Tao*, A. Petropulu, H.V. Poor, "Time-Modulated Intelligent Reflecting Surfaces for Integrated Sensing, Communication and Security: A Generative AI Design Framework", *NPJ Wireless Technology*, in review in 2025.
3. K. Wang* and A. Petropulu, " Low Overhead Channel Estimation in MIMO OTFS Wireless Communication Systems," submitted to *IEEE Transactions on Wireless Communications* in 2025. See also https://arxiv.org/pdf/2511.08504
4. I. Valiulahi, C. Masouros, A. Petropulu,"ISAC Super-Resolution Receiver via Lifted Atomic Norm Minimization," *IEEE Transactions on Communications,*" accepted in 2025. doi: 10.1109/TCOMM.2026.3663525
5. Y. Cui, Z. Wei, S. Sun, X. Zhu, C. Masouros, A. Petropulu, "Physical Layer Anonymous Precoding under CSI and Hardware-Imperfections: A KLD-based Approach," *IEEE Transactions on Wireless Communications*, accepted in 2025. Doi: 10.1109/TWC.2025.3624112
6. K. Wang*, A. Petropulu, "ISAC MIMO Systems with OTFS Waveforms and Virtual Arrays," *IEEE Journal on Selected Areas in Communications,"* accepted for publication in 2025. See also https://arxiv.org/abs/2502.01952. doi: 10.1109/JSAC.2025.3608761
7. Z. Tao* and A. Petropulu, "On the Security of Directional Modulation via Time Modulated Arrays Using OFDM Waveforms," *IEEE Transactions on Wireless Communications*, vol. 24(11), pp. 9749-9762, 2025. doi: 10.1109/TWC.2025.3575019
8. W. Hurst, S. Evmorfos*, A. Petropulu, Y. Mostofi, "Unmanned Vehicles in 6G Networks: A Unifying Treatment of Problems, Formulations, and Tools," *Proceedings of the IEEE*, 2025. doi: 10.1109/JPROC.2025.3541949
9. K. Meng, C. Masouros, A. P. Petropulu, and L. Hanzo, "Cooperative ISAC Networks: Performance Analysis, Scaling Laws and Optimization," *IEEE Transactions on Wireless Communications*, vol. 24(2), pp. 877-892, 2025. doi:10.1109/TWC.2024.3491356

10. K. Meng, C. Masouros, K-K. Wong, A. P. Petropulu, "Integrated Sensing and Communication Meets Smart Propagation Engineering: Opportunities and Challenges," *IEEE Network Magazine,* 2025. doi:10.1109/MNET.2025.3527130

11. S. Mura, D. Tagliaferri, M. Mizmizi, U. Spagnolini, and A. Petropulu, "Optimized Waveform Design for OFDM-based ISAC Systems Under Limited Resource Occupancy," *IEEE Transactions on Wireless Communications,* vol. 24, no. 6, pp. 5241-5254, June 2025, doi: 10.1109/TWC.2025.3546475.

12. D. Gore*, D. Petronchak, F. Valencia, N. Warren, G. Young, A. Petropulu, "Radar Based Vital Sign Monitoring with Automated Beam Steering," *IEEE Journal of Engineering Technology*, 2025.

13. H. Jin, W. Yuan, J. Wu, J, Wang, D, Niyato, X., G. K. Karagiannidis, Z. Lin, Y. Gong, D. I. Kim, A. Petropulu, M. S. Greco, A. Jamalipour, "Advancing the Control of Low Altidute Wireless Networks: Architecture, Design Principles, and Future Directions," NPJ Wireless Technology, 2025.

14. Y. Li, Z. Zhang and A. Petropulu, "A Low-Complexity Design for IRS-Assisted Secure Dual-Function Radar-Communication Systems," *IEEE Access*, 2025. DOI: Identifier: 10.1109/ACCESS.2025.3639609

15. K. Meng, C. Masouros, A. Petropulu, L. Hanzo, "Cooperative ISAC Networks: Opportunities and Challenges. IEEE Wireless Communications," pp. 1-8, 2024. doi: 10.1109/MWC.008.2400151.

16. L. Xu, S. Sun, Y. D. Zhang, and A. P. Petropulu, "Reconfigurable Beamforming for Automotive Radar Sensing and Communication: A Deep Reinforcement Learning Approach," *IEEE Journal of Selected Areas in Sensors*, vol. 1, pp. 124-138, 2024, doi: 10.1109/JSAS.2024.3431462.

17. S. Sun, Y. Hu, K. V. Mishra, A. Petropulu, "Widely Separated MIMO Radar Using Matrix Completion," *IEEE Transactions on Radar Systems*, Volume: 2, Page(s): 180-196, 2024. doi: 10.1109/TRS.2024.3362693

18. Y. Li and A. Petropulu, "Intelligent Reflecting Surface-Assisted Dual-Function Radar-Communication System," *IEEE Access*, vol. 11, pp. 2169-3536, November 2023. doi: 10.1109/ACCESS.2023.3338208

19. S. Evmorfos*, A. Petropulu and H. V. Poor, "Actor-Critic Methods for IRS Design in Correlated Channel Environments: A Closer Look into the Neural Tangent Kernel of the Critic," *IEEE Transactions on Signal Processing*, vol. 71, pp. 4029 - 4044, October 2023. doi: 10.1109/TSP.2023.3322830

20. Z. Wei, C. Masouros, X. Zhu, P. Wang, A. P. Petropulu, "PHY Layer Anonymous Precoding: Sender Detection Performance and Diversity-Multiplexing Tradeoff," *IEEE Transactions on Wireless Communications,* 2023. doi: 10.1109/TWC.2023.3319532

21. F. Liu, Z. Zheng, Y. Cui, C. Masouros, A. Petropulu, H. Griffiths, Y. Eldar, "Seventy Years of Radar and Communications: The Road from Separation to Integration," *IEEE Signal Processing Magazine*, 75th Anniversary Issue, June 2023. DOI: 10.1109/MSP.2023.3272881

22. Z. Xu*, A. Petropulu, "A bandwidth efficient dual-function radar communication system based on a MIMO radar using OFDM waveforms," *IEEE Transactions on Signal Processing*, vol. 71, pp. 401-416, 2023 **(IEEE Signal Processing Society's top 25 downloaded articles from Sept. 2022 - Sept. 2023 for IEEE Transactions on Signal Processing on IEEE Xplore)**. DOI: 10.1109/TSP.2023.3241779

23. Z. Wei, C. Masouros, P. Wang, X. Zhu, J. Wang and A. P. Petropulu, "Physical Layer Anonymous Precoding Design: From the Perspective of Anonymity Entropy," *IEEE Journal on Selected Areas in Communications,* special issue on Edge-Based Wireless Communications Technologies to Counter Communicable Infectious Diseases, Volume: 40, Issue: 11 Page(s): 3224-3238, Year: 2022. DOI: 10.1109/JSAC.2022.3211556

24. Z. Wei, F. Liu, C. Masouros, N. Su, A. P. Petropulu, "Towards Multi-Functional 6G Wireless Networks: Integrating Sensing, Communication and Security," *IEEE Communications Magazine*, vol. 60, no. 4, pp. 65-71, April 2022, DOI: 10.1109/MCOM.002.2100972

25. S. Evmorfos*, D. Kalogerias and A. Petropulu, "Adaptive Discrete Motion Control for Mobile Relay Networks," *Frontiers in Signal Processing-Signal Processing for Communications,* Year: 2022.

26. A. Garnaev, A. Petropulu, W. Trappe, H. V. Poor, "An Anti-Jamming Multiple Access Channel Game Using Latency As Metric," *IEEE Wireless Communications Letters,* Volume: 11, Issue: 9 Page(s): 1800-1804, Year: 2022. DOI: 10.1109/LWC.2022.3181301

27. Z. Xu*, C. Shi, T. Zhang, S. Li, Y. Yuan, C.-T. Wu, Y. Chen, A. Petropulu, "Simultaneous Monitoring of Multiple People's Vital Sign Leveraging a Single Phased-MIMO Radar," *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology,* Volume: 6, Issue: 3 Page(s): 311-320, Year: 2022. DOI: 10.1109/JERM.2022.3143431

28. S. Evmorfos*, K. Diamantaras, A. Petropulu, "Reinforcement Learning for Motion Policies in Mobile Relaying Networks," *IEEE Transactions on Signal Processing,* vol. 70, pp. 850-861, Year: 2022, DOI: 10.1109/TSP.2022.3141305

29. Z. Wei, C. Masouros, H. V. Poor, A. P. Petropulu and L. Hanzo, "Physical Layer Anonymous Precoding: The Path to Privacy-Preserving Communications," *IEEE Wireless Communications,* vol. 29, no. 2, pp. 154-160, April 2022, DOI: 10.1109/MWC.103.2100283

30. J. A. Zhang, F. Liu, C. Masouros, R. W. Heath, Z. Feng, L. Zheng, A. Petropulu, "An Overview of Signal Processing Techniques for Joint Communication and Radar Sensing," *IEEE Journal on Selected Topics in Signal Processing,* vol. 15, no. 6, pp. 1295-1315, Nov. 2021. DOI: 10.1109/JSTSP.2021.3113120

31. A. Garnaev, A. Petropulu, W. Trappe and H.V. Poor, "A Multi-Jammer Power Control Game," *IEEE Communication Letters,* Volume: 25, Issue: 9, Page(s): 3031-3035, Year: 2021. DOI: 10.1109/LCOMM.2021.3093235

32. A. Garnaev, W. Trappe, A. Petropulu, H.V. Poor, "Jamming Game with Latency as the User's Communication Utility," *IEEE Communication Letters,* Volume: 24, Issue: 9, Page(s): 1899-1903, September 2020.

33. A. Garnaev, W. Trappe, A. Petropulu, H.V. Poor, "A Jamming Game with Rival-Type Uncertainty," *IEEE Transactions on Wireless Communications,* Volume: 19, Issue: 8, Page(s): 5359-5372, 2020.

34. F. Liu, C. Masouros, T. Ratnarajah, and A. Petropulu, "On Range Sidelobe Reduction for Dual-functional Radar-Communication Waveforms," *IEEE Wireless Communications Letters,* Volume: 9, Issue: 9, Page(s): 1572-1576, September 2020.

35. E. Tohidi, A. Hariri, H. Behroozi, M. Nayebi, G. Leus, and A. Petropulu, "Compressed Domain Signal Processing for Colocated MIMO Radars," *IEEE Transactions on Aerospace and Electronic Systems,* Volume: 56, Issue: 6, Year 2020.

36. F. Liu, C. Masouros, A. Petropulu, H. Griffiths, and L. Hanzo, "Joint Radar and Communication Design: Applications, State-of-the-art, and the Road Ahead," *IEEE Transactions on Communications,* Volume: 68, Issue: 6, Year: 2020, doi: 10.1109/TCOMM.2020.2973976 **(2023 Stephen O. Rice Prize Best Paper Award).**

37. W. Xia, G. Zheng, Y. Zhu, J. Zhang, J. Wang and A. P. Petropulu, "A Deep Learning Framework for Optimization of MISO Downlink Beamforming," *IEEE Transactions on Communications,* Volume:68, Issue: 3, Pages 1866-1880, Year: 2020.

38. S. Sun, A. Petropulu and H.V. Poor, "MIMO Radar for ADAS and Autonomous Driving: Advantages and Challenges," *IEEE Signal Processing Magazine,* Volume: 37, Issue: 4, Year: 2020.

39. A. Garnaev, W. Trappe and A. Petropulu, "A dilemma in the communication of a UAV with its Controller," *International Journal of Game Theory Review,* Special Issue titled "Operations Research and Game Theory: Modeling and Computation," 2020.

40. A. Dimas*, D. Kalogerias and A. Petropulu, "Cooperative Beamforming with Predictive Relay Selection for Urban mmWave Communications," *IEEE Access*, Volume: 7, Pages: 157057-157071, doi:10.1109/ACCESS.2019.2950274, December 2019.

41. A. Al Hilli*, L. Najafizadeh, A. Petropulu, "Weighted Sparse Bayesian Learning (WSBL) for Basis Selection in Linear Underdetermined Systems," *IEEE Transactions on Vehicular Technology*, Volume: 68, Issue: 8, Year: 2019.

42. Y. Han*, I. Christoudis, K. Diamantaras, S. Zonouz and A. Petropulu, "Contactless Monitoring of Critical Infrastructure," *IEEE Signal Processing Magazine*, Volume: 36, Issue: 2, Pages: 22-35, Year: 2019.

43. S. Wang*, V. Patel, A. Petropulu, "Multidimensional Sparse Fourier Transform Based on the Fourier Projection-Slice Theorem," *IEEE Transactions on Signal Processing*, Volume: 67, Issue: 1, Pages: 54 - 69, Year: 2019.

44. D. S. Kalogerias* and A. P. Petropulu, "Spatially Controlled Relay Beamforming, 2-Stage QoS Enhancement Distributed Policies," *IEEE Transactions on Signal Processing*, Volume: 66 , Issue: 24 Pages: 6418 - 6433, Year: 2018.

45. F. Liu, L. Zhou, C. Masouros, A. Li, W. Luo, and A. Petropulu, "Towards Dual-functional Radar-Communication Systems: Optimal Waveform Design," *IEEE Transactions on Signal Processing*, Volume: 66 , Issue: 16, Pages: 4264 - 4279, Year: 2018 **(2021 IEEE Signal Processing Society Young Author Best Paper Award)**

46. A. Petropulu and S. Lord, "Improving the Diversity of Faculty in Electrical and Computer Engineering (iREDEFINE ECE)," *Proceedings of the IEEE*, February 2018.

47. L. Li+, Z. Chen, and A. Petropulu, "Linear Precoder Design for a MIMO Gaussian Wiretap Channel with Full-Duplex Source and Destination Nodes," *IEEE Trans. Information Forensics & Security*, Volume: 13, Issue: 2 Pages: 421 - 436, Year: 2018.

48. A. Al Hilli*, L. Najafizadeh and A. Petropulu, "A Weighted Approach for Sparse Signal Support Estimation with Application to EEG Source Localization," *IEEE Transactions on Signal Processing*, Volume: 65, Issue: 24 Pages: 6551 - 6565, Year: 2017.

49. L. Li+, Z. Chen and A. Petropulu, "MIMO Secret Communications Against an Active Eavesdropper," *IEEE Trans. Information Forensics & Security*, Volume: 12, Issue: 10, Pages: 2387 - 2401, Year: 2017.

50. B. Li*, A. Petropulu, "Joint Transmit Design for Co-Existence of MIMO Wireless Communications and Sparse Sensing Radars in Clutter," *IEEE Trans. on Aerospace and Electronic Systems*, Volume: 53, Issue: 6 Pages: 2846 - 2864, Year: 2017. (**2017 Barry Carlton Best Paper Award, IEEE Aerospace and Electronic Systems Society**).

51. Y. Wang+, W. Xia, Z. He, H. Li, and A. Petropulu, "Polarimetric Detection in Compound Gaussian Clutter with Kronecker Structured Covariance Matrix," *IEEE Transaction on Signal Processing*, , Volume: 65, Issue: 17, Pages: 4562 - 4576, Year: 2017.

52. S. Wang*, V. Patel, and A. Petropulu, "The Robust Sparse Fourier Transform (RSFT) and Its Application in Radar Signal Processing," *IEEE Trans. on Aerospace and Electronic Systems*, Volume: 53, Issue: 6 Pages: 2735 - 2755, Year: 2017.

53. D. Kalogerias* and A. Petropulu, "Uniform ϵ-Stability of Distributed Nonlinear Filtering over DNAs: Gaussian-Finite HMMs," *IEEE Transactions on Signal and Information Processing over Networks*, Vol. 2, Issue 4, pp. 461 - 476, December 2016.

54. L. Li+, A. Petropulu, Z. Chen, J. Fang, "Secrecy Degrees of Freedom Region of a MIMO Two-User Wiretap Interference Channel," *IEEE Journal on Selected Topics in Signal Processing*, Special issue

on "Exploiting Interference towards Energy Efficient and Secure Wireless Communications," Year: 2016, Volume: 10, Issue: 8 Pages: 1433 - 1448.

55. D. Kalogerias* and A. Petropulu, "Grid-Based Nonlinear Filtering Revisited: Recursive Estimation & Asymptotic Optimality," *IEEE Transactions on Signal Processing*, Volume: 64, Issue: 16, Pages: 4244 - 4259, Year: 2016.

56. B. Li*, A. Petropulu and W. Trappe, "Optimum Design for Coexistence Between Matrix Completion based MIMO Radars and a MIMO Communication System," *IEEE Transactions on Signal Processing*, Volume: 64, Issue: 17, Pages: 4562 - 4575, Year: 2016. **(2020 IEEE Signal Processing Society Young Author Best Paper Award)**

57. S. Sun* and A. Petropulu, "Waveform Design for MIMO Radars With Matrix Completion," *IEEE Journal on Selected Topics in Signal Processing*, Volume: 9, Issue: 8, Pages: 1400 - 1414, 2015.

58. D. Kalogerias* and A. Petropulu, "Asymptotically Optimal Discrete Time Nonlinear Filters from Stochastically Convergent State Process Approximations," *IEEE Transactions on Signal Processing*, Volume: 63 Issue: 13, Pages: 3522-3536, July 2015.

59. S. Sun*, W. Bajwa and A. Petropulu, "MIMO-MC Radar: A MIMO Radar Approach based on Matrix Completion," *IEEE Trans. on Aerospace and Electronic Systems*, Volume 51, Number 3, Pages: 1839-1852, July 2015.

60. B. Li* and A. Petropulu, "Distributed MIMO Radar Based On Sparse Sensing: Analysis And Efficient Implementation," *IEEE Trans. on Aerospace and Electronic Systems*, Volume: 51, Issue: 4 Pages: 3055 - 3070, 2015.

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149. H. Godrich, A.Petropulu and H. V. Poor, "Resource allocation schemes for target localization in distributed multiple radar," *Annual ONR/GTRI Workshop on Target Tracking and Sensor Fusion*, Santa Barbara CA, May 2010 (Invited).

150. Y. Yu*, A.Petropulu and H. V. Poor, "Compressive Sensing Based MIMO Radar," *Annual ONR Workshop on MIMO Radar*, Santa Barbara CA, May 2010 (Invited).

151. Y. Yu*, A. Petropulu and H. V. Poor, "MIMO radar based on reduced complexity compressive sensing," *Proc. of IEEE Radio and Wireless Symposium (RWS2010)*, New Orleans LA, 2010 (Invited).

152. Y. Yu*, A. P. Petropulu and H. V. Poor, "DOA and Doppler estimation for distributed MIMO radar," *Proc. of 4th Int.l Symp. on Communications, Control and Signal Processing (ISCCSP)*, Limassol, Cyprus, 2010 (Invited).

153. J. Li and A. Petropulu, "Optimal input covariance for achieving secrecy capacity in Gaussian MIMO wiretap channels," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP)*, Dallas TX, 2010.

154. S. Shah*, Y. Yu* and A. Petropulu, "Step-frequency radar with compressive sampling (SFR-CS)," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP)*, Dallas TX, 2010.

155. X. Liu*, J. Kountouriotis, A. Petropulu, K. Dandekar, "ALOHA with collision resolution: physical layer description and software defined radio implementation," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP)*, Dallas TX, 2010.

156. Y. Liu*, A. Petropulu, "Cooperative beamfroming in multi-source multi-destination relay systems with SINR constraints," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP)*, Dallas TX, 2010.

157. Y. Liu* and A. Petropulu, "Beamforming and power allocation in 3-user relay systems with QoS constraints," *IEEE Workshop on Signal Processing Advances in Wireless Communications, (SPAWC-2010)*, Marrakech, Morocco 2010.

158. Y. Yu*, A. P. Petropulu and H. V. Poor, "Compressive sensing for MIMO Radar," *ONR Workshop on MIMO Radar Benchmark*, San Diego, CA, July 2009 (Invited).

159. L. Dong*, Z. Han, A. Petropulu, H. V. Poor, "Amplify-and-forward based cooperation for secure wireless communications," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Taipei, Taiwan, 2009.

160. Y. Yu*, A. Petropulu, H. V. Poor, "Compressive sensing for MIMO radar," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Taipei, Taiwan, 2009.

161. Y. Yu*, A. P. Petropulu and H. V. Poor, "Compressive sensing for MIMO Radar," *ONR Workshop on MIMO Radar Benchmark*, San Diego, CA, July 2009 (Invited).

162. J. Li, A. Petropulu, S. Weber, "Transmit power minimization under secrecy capacity constraint in cooperative wireless communications," *IEEE Workshop on Statistical Signal Processing*, Cardiff, Wales, U.K., September 2009.

163. L. Dong*, Z. Han, A. Petropulu, H. V. Poor, "Cooperative jamming for wireless physical layer security," *IEEE Workshop on Statistical Signal Processing*, Cardiff, Wales, U.K., September 2009.

164. Y. Liu*, A. Petropulu, "Carrier Frequency Offset Estimation in OFDMA Systems Based on Averaging over Successive Blocks," *IEEE Int. Workshop on Signal Processing Advances in Wireless Communications*, Perugia, Italy, June 2009.

165. X. Liu*, A. Petropulu, K. Dandekar, "Collision Resolution Based on Pulse Shape Diversity," *IEEE Int. Workshop on Signal Processing Advances in Wireless Communications*, Perugia, Italy, June 2009.

166. J. Li, A. Petropulu and S. Weber, "Secrecy rate optimization under cooperation with perfect channel state information," *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, 2009.

167. Y. Yu*, A. Petropulu and H. V. Poor, "Reduced Complexity Angle-Doppler-Range Estimation for Colocated MIMO Radar that employs Compressive-Sensing," *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, 2009 (Invited).

168. A. Petropulu, M. Olivieri, Y. Yu*, L. Dong*, A. Lackpour, "Pulse-Shaping for Blind Multi-User Separation In Distributed MISO Configurations," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Las Vegas, 2008.

169. L. Dong*, A. P. Petropulu, H. V. Poor, "Performance analysis of a cross-layer collaborative beamforming approach in the presence of channel and phase errors," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Las Vegas, 2008.

170. L. Dong*, Z. Han, A. Petropulu and H. V. Poor, "Secure wireless communications via cooperation," *Allerton Conference on Communication, Control, and Computing*, Allerton IL, 2008.

171. S. Weber, A. Kini, A. Petropulu, "Achievable throughput and service delay for imperfect cooperative retransmission MAC protocols," *ACM-IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, Vancouver, British Columbia, Canada, October 2008.

172. A. Petropulu, Y. Yu* and H. V. Poor, "Cooperative Transmit Beamforming for MIMO Radar Systems," *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, October 29, 2008.

173. S. Weber, A. Petropulu, "Achievable throughput and queueing delay for imperfect cooperative retransmission MAC protocols," *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, October 29, 2008.

174. S. Weber, A. Kini, and A. Petropulu, "A new approximation for slotted buffered Aloha," *Proceedings of the 42nd Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March 2008.

175. L. Dong* and A. P. Petropulu, "A comparison of cooperative beamforming to direct transmission based on spectral efficiency," *Proceedings of the 42nd Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March 2008.

176. Y. Yu*, S. Yatawatta* and Athina P. Petropulu, "A Precoded OFDMA System with User Cooperation," *Proceedings of the 42nd Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March 2008.

177. J. Tripathi. L. Dong*, J.C. de Oliveira and A. P. Petropulu, "Dominant set based ALLIANCES: a high throughput and energy efficient approach for wireless sensor networks," *Proceedings of the 42nd Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March 2008.

178. L. Dong*. A. P. Petropulu and H. V. Poor, "Cooperative Beamforming for Wireless Ad Hoc Networks," *50th IEEE Global Communications Conference (GLOBECOM 2007)*, Washington, DC, Nov. 2007.

179. Y. Yu*, A. P. Petropulu, H. V. Poor and V. Koivunen, "Blind Estimation of Multiple Carrier Frequency Offsets," *18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'07)*, Athens, Greece, Sept. 2007 (Invited).

180. Y. Yu*, A. P. Petropulu and H. V. Poor, "Blind Identification of Distributed Antenna Systems with Multiple Carrier Frequency Offsets," *IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC)*, Helsinki Finland, June 2007.

181. S. Betz, V. Poor and A. P. Petropulu, "Cooperative Beamforming and Power Control," *Proc. of the 2007 Asilomar Conference on Signals, Systems and Computers*, 2007.

182. L. Dong*, J. Yu*, and A. P. Petropulu, "Cooperative Transmissions for Random Access Wireless Networks with frequency selective fading," *2006 IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Toulouse, France 2006.

183. H. Yang* and A. P. Petropulu, "BER Analysis of A Cooperative Random Access Protocol in Rayleigh Fading Channels," *2006 IEEE Intern. Conf. on Acoustics Speech and Signal Processing*, Toulouse, France 2006.

184. Y. Yu* and A. P. Petropulu, "Robust PARAFAC Based Blind Estimation Of MIMO Systems with possibly more inputs than outputs," *2006 IEEE Intern. Confe. on Acoustics Speech and Signal Processing*, Toulouse, France 2006.

185. Y. Yu* and A. P. Petropulu, "Reduced Complexity Blind Estimation of Under-Determinant Convolutive MIMO Systems," *2006 IEEE Digital Signal Processing Workshop,* Teton National Park WY, 2006.

186. H. Yang* and A. P. Petropulu, "ALLIANCES with Optimal Relay Selection," *2007 IEEE Intern. Conf. on Acoustics Speech and Signal Processing,* Honolulu, Hawaii, April 2007.

187. L. Dong*, A. Elancheziyan, J.C. de Oliveira and A. P. Petropulu, "Multicluster ALLIANCES: A High Throughput and Energy Efficient Approach for Wireless Sensor networks," *Fortieth Annual Asilomar Conference on Signals, Systems, and Computers,* Monterey, CA, Nov. 2006.

188. L. Dong* and A. P. Petropulu, "A Multichannel Cooperative Scheme for Wireless Networks and Performance Characterization," *2007 IEEE Intern. Conf. on Acoustics Speech and Signal Processing,* Honolulu, Hawaii, April 2007.

189. F. Prihoda*, E. Garbarine*, A. P. Petropulu, "Resolving Wireless Collisions in Random Access Networks," *Proc. of the 2006 Asilomar Conference on Signals, Systems and Computers,* October 29 - November 1, 2006.

190. R. Lin* and A. P. Petropulu, "Cooperative Transmission for Random Access Wireless Networks," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP),* Philadelphia PA, March, 2005

191. J. Yu*, A. P. Petropulu, "On Propagation of Self-Similar Traffic Through an Energy-Conserving Wireless Gateway," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP),* Philadelphia PA, March 2005.

192. S. Yatawatta*, A. P. Petropulu, J. Graff, "Energy Efficient Channel Estimation in MIMO Systems," *IEEE Intern. Conf. on Acoustics Speech and Signal Processing (ICASSP),* Philadelphia PA, March 2005.

193. L. Dong* and A. P. Petropulu, "Cooperative Wireless Medium Access Aided by Multiple-Beam Adaptive Arrays," *Conference on Information Sciences and Systems (CISS 2005),* Baltimore MD, March, 2005.

194. J. Yu* and A. P. Petropulu, "Cooperative Transmissions for Random Access Wireless Network with MPR Channels," *Conf. on Information Sciences and Systems,* Baltimore MD, March, 2005.

195. L. Dong* and A. P. Petropulu, "Cooperative Wireless Medium Access with Multi-Beam Adaptive Arrays," *The sixth IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC),* June 2005.

196. Y. Yu* and A. P. Petropulu, "Blind MIMO System Estimation Based on PARAFAC Decomposition of HOS Tensors," *IEEE Statistical Signal Processing Workshop,* Bordeaux, France, July 2005.

197. Y. Yu*, A. P. Petropulu, "Improved PARAFAC based blind MIMO system estimation," *39th Asilomar Conference on Signals, Systems, and Computers,* Monterey, CA, November, 2005.

198. Y. Yu* and A. P. Petropulu, "Improved PARAFAC based Blind MIMO system estimation," *5th IEEE International Symposium on Signal Processing and Information Technology,* Athens, Greece, December 2005.

199. P. Salvo Rossi, A. P. Petropulu, J. Yu, F. Palmieri, and G. Iannello, " Internet Loss-Delay Modeling by Use of Input/Output Hidden Markov Models ," *IEEE International Workshop on Multimedia Signal Processing (MMSP),* Siena, Italy, September, 2004.

200. A. P. Petropulu, V.T. Nasis*, O. Tretiak, and C.W. Piccoli, "Benign Versus Malignant Classification of Breast Tumors Based on the PLSN Model for the Ultrasound RF Echo and Homomorphic

Filtering," *26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, San Francisco, September, 2004.

201. I. Bradaric* and A. P. Petropulu, "Performance of Training Based OFDM Systems in the Presence of Time Varying Frequency Selective Channels," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Montreal, Canada, May, 2004.

202. Y. Yu*, R. Lin*, and A. P. Petropulu, "Linearly Precoded OFDM Systems with Adaptive Modulation," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Montreal, Canada, May, 2004.

203. J. Yu* and A. P. Petropulu, "Is High Speed Wireless Network Traffic Self-Similar?," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Montreal, Canada, May, 2004.

204. Y. Yu*, R. Lin*, and A. P. Petropulu, "Linearly Precoded OFDM Systems with Adaptive Modulation," *Conference on Information Sciences and Systems, (CISS)*, Princeton, NJ, March, 2004.

205. S. Yatawatta* and A. P. Petropulu, "Optimal Code Design for Linear Block Precoded OFDM Systems Using Genetic Algorithms," *Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March, 2004.

206. J. Yu* and A. P. Petropulu, "The propagation of self-similarity via wireless gateway," *Thirty Eighth Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, November, 2004.

207. R. Lin* and A. P. Petropulu, "A New Wireless Network Medium Access Protocol Based on Cooperation," *Thirty Eighth Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, November, 2004.

208. S. Yatawatta* and A. P. Petropulu, "A Multiuser OFDM System with User Cooperation," Thirty Eighth Asilomar Conference on Signals, Systems, and Computers, Monterey, CA, November, 2004.

209. P. Salvo Rossi, A. P. Petropulu, J. Yu, F. Palmieri, and G. Iannello, "Internet Loss-Delay Modeling by Use of Input/Output Hidden Markov Models," IEEE International Workshop on Multimedia Signal Processing (MMSP) 2004 , Siena, Italy, September, 2004.

210. A. P. Petropulu, V.T. Nasis*, O. Tretiak, and C.W. Piccoli, "Benign Versus Malignant Classification of Breast Tumors Based on the PLSN Model for the Ultrasound RF Echo and Homomorphic Filtering," *26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, San Francisco, September, 2004.

211. P. Salvo Rossi, F. Palmieri, G. Iannello, A. P. Petropulu, "Interleaving over Lossy Channels," *IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, pp. 476-479, Roma, 18-21 December 2004.

212. J. Yu*, A. P. Petropulu and H. Sethu, "Rate-Limited EAFRP: A New Improved Model for High-Speed Network Traffic," *IEEE International Conference on Acoustics, Speech and Signal Processing*, Hong Kong, April 2003.

213. S. Yatawatta*, A. P. Petropulu and R. Dattani, "Blind Estimation of Bandlimited Channels: A Low Complexity Approach," *IEEE International Conference on Acoustics, Speech and Signal Processing*, Hong Kong, April 2003.

214. I. Bradaric*, A. P. Petropulu "Blind Estimation of the Carrier Frequency Offset in OFDM Systems," *IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWCC 2003)*, Rome, Italy, June 15-18, 2003.

215. R. Lin*, A. P. Petropulu "Linear Block Precoding for Blind Channel Estimation in OFDM Systems," *Seventh International Symposium on Signal Processing and Its Applications (ISSPA 2003)*, Paris,

France, July 1-4, 2003.

216. I. Bradaric*, R. Dattani*, A. P. Petropulu, F.L. Schurgot, Jr., and J. Inserra, "Analysis of Physical Layer Performance of IEEE 802.11a in an Ad-Hoc Network Environment," *Military Communications Conference (MILCOM 2003)*, Boston, MA, October, 2003.

217. R. Lin*, A. P. Petropulu, "Blind Channel Estimation for OFDM Systems on the Basis of Non-redundant Linear Precoder," *IEEE Workshop on Statistical Signal Processing (SSP'03)*, St. Louis, Missouri, Sept. 28 - Oct. 1, 2003.

218. S. Yatawatta* and A. P. Petropulu, "Multiuser OFDM Systems with Block Linear Precoding," *IEEE Workshop on Statistical Signal Processing (SSP'03)*, St. Louis, Missouri, Sept. 28 - Oct. 1, 2003.

219. T. Acar* and A. P. Petropulu "Blind MIMO system identification using PARAFAC decomposition of an output HOS-based tensor," *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 9-12, 2003.

220. B. Chen*, L. DeLathauwer and A. P. Petropulu, "Blind identification of convolutive MIMO systems with 3 inputs and 2 outputs," *Asilomar Conference on Signals, Systems and Computers*, Nov. 4-7, Monterey CA, 2001.

221. X. Yang*, A. P. Petropulu, "Joint statistics of interference in a wireless communication link resulted from a Poisson field of interferers," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Orlando, Florida, May 2002.

222. I. Bradaric* and A. P. Petropulu, "MIMO System Estimation Based on Second-Order Spectra Correlations Applied to Estimation of Sparse Channels," *International Union of Radio Science, XXVIIth General Assembly. URSI 2002*, Maastricht, Netherlands, August 2002 (Invited).

223. I. Bradaric*, A. P. Petropulu and K.I. Diamantaras, "On Blind Identifiability of FIR-MIMO Systems with Cyclostationary Inputs Using Second Order Statistics," *IEEE International Conference on Acoustics, Speech and Signal Processing, ICASSP'02*, Orlando, Florida, May 2002.

224. I. Bradaric* and A. P. Petropulu, "Blind MIMO Identification of Sparse Channels," *36th Annual Conf. on Information Sciences and Systems, CISS'02*, Princeton, New Jersey, March 2002.

225. S. Yatawatta* and A. P. Petropulu, "Blind Channel Equalization in a Multiuser OFDM Communications System," *36th Asilomar Conference on Signals, Systems and Computers*, Nov 3-6, 2002, Pacific Grove, CA.

226. A. P. Petropulu, R. Zhang, "Blind Channel Estimation for OFDM Systems," *10th Digital Signal Processing Workshop*, Pine Mountain, Georgia, October 13-16, 2002.

227. B. Chen*, A. P. Petropulu and L. De Lathauwer, "Blind Identification of Complex Convolutive MIMO Systems with 3 Sources and 2 Sensors," *Intern. Conf. on Acoustics Speech and Signal Processing, ICASSP-2002*, Orlando FL, May 2002.

228. C. Dafis*, C. O. Nwankpa, A. Petropulu, "Harmonic Decomposition of Transient Disturbances Using the LS Prony and ESPRIT-Based Methods," *14th. Power Systems Computation Conference*, Sevilla, Spain, June, 2002.

229. M. Castella, J-C. Pesquet and A. P. Petropulu, "New contrasts functions for blind separation of non iid sources in the convolutive case," *EUSIPCO*, Toulouse, France, September 3-6, 2002.

230. A. Zerva, A. P. Petropulu and P.-Y. Bard, "Blind system identification," *Proc. of the 8th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability* , University of Notre Dame, Indiana, 2000.

231. B. Chen*, A. P. Petropulu and L. De Lathauwer, "Blind Identification of Convolutive MIMO System with 3 Sources and 2 Sensors ," *35th Annual Conf. on Information Sciences and Systems, CISS'2001*, The Johns Hopkins University, Baltimore, Maryland, March 2001.

232. X. Yang*, A. P. Petropulu, J. C. Pesquet, "Classifying Marginally Heavy-tailed Self-Similar Traffic Flows: Estimation of the Generalized Codifference", *IEEE International Conference on Acoustics, Speech and Signal Processing*, Salt Lake City, Utah, 2001.

233. J-C. Pesquet, B. Chen* and A. P. Petropulu "Frequency-Domain Contrast Functions for Separation of Convolutive Mixtures," *IEEE International Conference on Acoustics, Speech and Signal Processing - ICASSP'2001*, Salt Lake City, Utah, USA, June 2001.

234. X. Yang*, A. P. Petropulu, "On self-interference in Spread Spectrum Packet Radio Networks," *IEEE - EURASIP Workshop on Nonlinear Signal and Image Processing*, Baltimore, Maryland, June 3-5 2001.

235. X. Yang*, A. P. Petropulu, "Dependence Structure of Self-Interference in Spread Spectrum Packet Radio Networks," *11th IEEE Workshop on Statistical Signal Processing*, Orchid Country Club, Singapore, August, 2001.

236. I. Bradaric*, A. P. Petropulu and K. Diamantaras, "Blind MIMO FIR Channel Identification Based on Second-Order Spectra Correlations," *11th IEEE Workshop on Statistical Signal Processing*, Orchid Country Club, Singapore, August, 2001.

237. C. Dafis*, C. Nwankpa, A. Petropulu, "Analysis of Power System Transient Disturbances Using an ESPRIT-based Method," Proc. of *IEEE Power Engineering Society Summer Meeting 2000*, Document No. 0-7803-6423-6/00.

238. B. Chen*, A. P. Petropulu, L. De Lathauwer and B. De Moor, "Blind MIMO System Identification Based on Cross-Polyspectra," *European Signal Processing Conference - EUSIPCO'2000*, Tampere, Finland, September 2000.

239. M.A. Kutay, A. P. Petropulu, J.M. Reid and C. Picolli, "Malignant versus Benign Tumor Classification Based on Ultrasonic B-Scan Images of the Breast," *IEEE UFFC Symposium*, Puerto Rico, October 2000.

240. B. Chen* and A. P. Petropulu, "Separation of Convolutive Mixtures Using Higher-Order Statistics," *IEEE Wireless Communications and Networking Conference, WCNC'2000*, Chicago IL, September 2000.

241. A. Zerva, A. P. Petropulu and P.-Y. Bard, "Blind deconvolution of ground surface seismic recordings for site response identification," *Proc. of the 12th World Conference on Earthquake Engineering*, Auckland, New Zealand, 2000.

INVITED LECTURES & TUTORIALS

1. Plenary Speaker, IEEE Signal Processing Advances in Wireless Communications (SPAWC), Athens, Greece	2026
2. Plenary Speaker, 6th IEEE International Symposium on Joint Communications & Sensing, Ponte di Legno Italy	2026
3. Plenary Speaker, IEEE Workshop On Signal Processing Systems (SiPS), Hong Kong	2025
4. Panelist, Panel on Future 6G Base Stations for Communications, Sensing and Positioning, IEEE International Conference on Communications (ICC)	2025
5. Keynote Speaker, Conference on Computational Imaging Using Synthetic Apertures (CISA), University of Maryland in College Park, Maryland	2025

6. Keynote Speaker, International Conference on Signal Processing and Information Security (ICSPIS), Dubai, UAE — 2024
7. Invited Speaker, 6G Summit Abu Dhabi, "Towards Networks of Intelligence", Abu Dhabi, UAE — 2024
8. Plenary Speaker, Cybersecurity and Privacy (CySeP) Summer School, ACM Europe Summer School, Stockholm, Sweden — 2024
9. Keynote Speaker, 4th IEEE Symp. on Joint Communications and Sensing (JC&S), Leuven, Belgium — 2024
10. Invited Speaker, IEEE Signal Processing Society webinar on paper: S. Sun, A. Petropulu and H. V. Poor, "MIMO Radar for ADAS and Autonomous Driving: Advantages and Challenges," IEEE Signal Processing Magazine, Volume: 37, Issue: 4, Year: 2020. The paper was IEEE Signal Proc. Society's top 25 downloaded articles from 9/22-9/23 for IEEE Signal Processing Magazine on IEEE Xplore) — 2024
11. Invited Speaker, IEEE Signal Processing Society webinar on paper: Z. Xu and A. Petropulu, "A bandwidth efficient dual-function radar-communication system based on a MIMO radar using OFDM waveforms," IEEE Trans. Signal Proc., 2023. The paper was IEEE Signal Proc. Society's top 25 downloaded articles from 9/22-9/23 for IEEE Trans. on Signal Proc. on IEEE Xplore) — 2024
12. Colloquium Speaker, University of California at Irvine — 2024
13. Plenary Speaker, Signal Processing Symposium (SPSympo), Karpacz, Poland — 2023
14. Keynote Speaker, IEEE International Conference ICASSP Satellite Workshop: Integrated Sensing and Communications: New Frontiers, Newer Challenges, Kos, Greece — 2023
15. Invited Speaker, International Conference on Digital Signal Processing, Kos, Greece — 2023
16. Lecture, Dual-Function Radar Communication System With Communication and Radar Performance Tradeoff, India Institute of Technology, New Delhi, India — 2023
17. Distinguished Visitor Lecture, Dual-Function Radar Communication System With Communication and Radar Performance Tradeoff, India Institute of Science (IISc), Bangalore, India — 2023
18. Invited Speaker, "Dual-Function Radar Communication System With Communication and Radar Performance Tradeoff," TAMU-Qatar, Doha, Qatar — 2023
19. Invited Speaker, "Dual Function Radar-Communication Systems with OFDM Waveforms," University of Modena and Reggio Emilia Department of Engineering "Enzo Ferrari," Modena, Italy — 2022
20. Invited Speaker, Workshop on Integrated Sensing and Communication (ISAC) in 6G, hosted within the European Microwave Week (EuMW2022), Milan, Italy — 2022
21. Virtual Distinguished Lecture, "Dual-Function Radar Communication System With Communication and Radar Performance Tradeoff," IEEE Aerospace and Electronic Systems Society — 2022
22. Plenary Speaker, IEEE International Workshop on Sensor Array and Multichannel Signal Processing Workshop (SAM), Trondheim, Norway — 2022
23. Webinar Speaker, "Optimal Waveform Design for Integrated Sensing and Communications: Algorithm Design and Experimental Verification," IEEE Signal Processing Society Webinar — 2022
24. Invited Speaker, Women in Engineering Panel, 2021 IEEE International Workshop on Metrology for AeroSpace — 2021

25. Webinar Speaker, "Dual Function Radar Communication Systems," IEEE ComSoc ISAC-ETI Webinar Series 2021
26. Seminar Speaker, "Optimal Motion Policies for Mobile Relay Beamforming Networks," Electrical and Computer Engineering Department, Tufts University, Boston MA 2021
27. Invited Speaker, 1st IEEE Symposium on Joint Communications and Sensing (JC&S), organized by IEEE ComSoc, the Barkhausen Institut, 5G Lab Germany, TU Dresden and NC State University 2021
28. Distinguished Speaker, IEEE-UAE Innovation & Research Program, Fall 2020 Distinguished Seminar Series 2020
29. Tutorial, IEEE Radar Conference, "Joint MIMO-Radar-MIMO-Communications" 2020
30. Invited Online Talk, "Reinforcement Learning for Mobile Beamforming," Workshop on Advances in Signal Processing and Machine Learning, The National Academy of Sciences India (NASI) Delhi Chapter 2020
31. Invited Online Talk,"Spectrum Sharing between Radar and Communication Systems," IEEE EMBS India Chapter 2020
32. Invited Talk, "Optimum Design of MIMO Radar with Sparse Arrays," Sensor Signal Processing for Defense Conference (SSPD2020), Edinburgh UK 2020
33. Keynote Talk, "Communication and Radar Spectrum Sharing: From Coexistence to Co-Design," IEEE International Conference on Communications (ICC), Workshop on Spectrum Sharing 2020
34. Invited Lecture, "On Exploiting Sparsity In Automotive MIMO Radars," Nokia - Bell Labs, Murray Hill 2019
35. Invited Lecture, Lockheed Martin Distinguished Speaker Series, "Localization of Brain Activations Based on EEG Recordings and Sparse Signal Recovery Theory," UMBC Department of Computer Science and Electrical Engineering 2019
36. Invited Lecture, "Localization of Brain Activations Based on EEG Recordings and Sparse Signal Recovery Theory," National Taiwan University (NTU), Taipei, Taiwan 2019
37. Invited Talk, "Enhanced Beamforming via Spatially Controlled Relays," Princeton-TAMU Symposium on Quantum Engineering and Technology, Princeton University 2019
38. Invited Talk, "Networked Autonomous Vehicles," talk at "Building the Future: New Technological Frontiers Conference," Princeton University 2019
39. Colloquium Talk, "Enhanced Beamforming via Spatially Controlled Relays," University of Virginia 2019
40. Plenary Talk, IEEE International Conference on Signal Processing (ICSP), Beijing, China 2018
41. Plenary Talk, IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC), Xiamen, Fujian, China 2018
42. Keynote Talk, "Localization of Brain Activations Based on EEG Recordings and Sparse Signal Recovery Theory," IEEE International Conference on Signal Processing (ICSP), Beijing, China 2018
43. Plenary Talk, "On Enhancing QoS in Mobile Beamforming Networks," IEEE 26th Signal Processing and Communication Applications Conference (SIU), Cesme, Izmir, Turkey 2018
44. Colloquium Talk, "Mobile Beamforming," University of Illinois at Chicago, Chicago, IL 2018
45. Invited Talk, "Optimum Co-Design for Spectrum Sharing Between MIMO Radar and MIMO Communication Systems," University of Luxembourg, Luxembourg 2017

46. Invited Talk, "Optimum Co-Design for Spectrum Sharing Between MIMO Radar and MIMO Communication Systems," University of Eindhoven, Netherlands 2017
47. Invited Talk, "Enhancing QoS in Beamforming Networks: Mobile Beamformers and Optimal Motion Policies," Shanghai Jiao Tong University, Shanghai 2017
48. Invited Talk,"Enhancing QoS in Beamforming Networks: Mobile Beamformers and Optimal Motion Policies," Iowa State University 2017
49. Invited Talk, "Spectrum Sharing Between MIMO Radars and MIMO Communication Systems," ECSE RPI 2017
50. Invited Talk, "Enhancing QoS in Beamforming Networks: Mobile Beamformers & Optimal Motion Policies," University of Athens 2017
51. "Mobile Beamforming," Distinguished Inter-Disciplinary Seminar Series sponsored by the Laboratory for Analytical Sciences and the Army Research Office, North Carolina State University 2017
52. Colloquium Talk, "Enhancing QoS in Beamforming Networks: Mobile Beamformers & Optimal Motion Policies," ECE Department, Georgia Tech Research Institute 2017
53. Invited Talk, "Enhancing QoS in Beamforming Networks: Mobile Beamformers & Optimal Motion Policies," ECE Department, Temple University 2017
54. Invited Talk, "Enhancing QoS in Beamforming Networks: Mobile Beamformers & Optimal Motion Policies," ECE Department, UC Santa Barbara 2017
55. Colloquium Talk,"Spectrum Sharing Between MIMO Radars and MIMO Communication Systems," Electrical Engineering, University of Washington 2016
56. Invited Talk, "Spectrum Sharing Between MIMO Radars and MIMO Communication Systems," Ming Hsieh Department of Electrical Engineering, University of Southern California 2016
57. Invited Talk, "Optimum Co-Design for Spectrum Sharing Between MIMO Radars and MIMO Communication Systems," National Technical University of Athens, Greece 2016
58. Invited Talk, "Optimum Co-Design for Spectrum Sharing Between MIMO Radars and MIMO Communication Systems," Technical University of Chania, Greece 2016
59. Keynote Talk, "MIMO Radars with Sparse Sensing," IET International Radar Conference, Hangzhou, China 2015
60. Invited Talk, "MIMO Radar based on Sparse Sensing and Matrix Completion," Workshop on Mathematical Issues in Information Sciences (MISS), Xidian University, Xi'an, China 2014
61. Invited Talk, "MIMO Radar based on Sparse Sensing and Matrix Completion," University of Electronics Science and Technology, Chengdu, China 2014
62. Invited Talk, "MIMO Radar based on Sparse Sensing and Matrix Completion," Beijing Institute of Technology, Beijing, China 2014
63. Invited Talk, "High-Resolution MIMO Radar based on Undersampled Observations," Math Department, Drexel University 2013
64. Plenary Talk, IEEE Integrated STEM Education Conf. (ISEC), Princeton University 2013
65. Invited Talk, "High-Resolution MIMO Radar based on Undersampled Observations," CS Department, Temple University 2013
66. Keynote Talk, "Physical Layer Design for Ensuring Secrecy of Wireless Communications," at Sensor Signal Processing for Defence (SSPD)," sponsored by the U.K. Ministry of Defence, Imperial College London, UK 2012
67. Invited Talk, Lockheed Martin Top Gun Research Symposium,"Compressive Sensing Based MIMO Radar," Lockheed Martin, Moorestown NJ 2012

68. Invited Talk, Weber Lecture Series, "Cooperative Approaches for Physical Layer Based Secrecy Communications," ECE Department, NYU-Poly 2012
69. Invited Talk, "Cooperative Approaches for Physical Layer Based Secrecy Communications," Chalmers University, Gotenburg, Sweden 2012
70. Keynote Talk, Sensor Signal Processing for Defense (SSPD),workshop sponsored by the U.K. Ministry of Defense, Imperial College London, UK 2012
71. Invited Talk, "On Ensuring Secrecy of Wireless Communications by Designing a Secure Physical Layer," Department of Electrical and Systems Engineering, University of Pennsylvania 2012
72. Keynote Talk, "Cooperative Approaches for Physical Layer Based Secrecy Communications," CDSP Workshop, Northeastern University 2012
73. Invited Talk, "Compressive Sensing Based MIMO Radar," ECE Department, University of Maryland 2011
74. Invited Talk, "Compressive Sensing Based MIMO Radar," MIT Lincoln Labs, Boston MA 2011
75. Invited Talk, "Compressive Sensing Based MIMO Radar," ECE Department, Boston University 2011
76. Invited Talk, "Compressive Sensing Based MIMO Radar," ECE Department, North Carolina State University 2011
77. Invited Talk, "Cooperative Approaches for Beamforming," ECE Department, Villanova University 2010
78. Plenary Talk, IEEE Workshop on Statistical Signal Processing, Cardiff, UK 2009
79. Invited Talk, "Blind channel estimation in MIMO OFDM systems," ECE Deprtment, University of Delaware 2008
80. Invited Speaker, Symposium on Classical Semi-Classical and Quantum Noise, in honor of David Middleton, Princeton University 2007
81. Invited Talk, "Blind channel estimation in OFDM systems," Arizona State University 2006
82. Tutorial, 3rd Summer School on Emerging Technologies in Biomedicine, Patras, Greece 2006
83. Tutorial, IEEE International Symposium on Signal Processing and Information Technology, Darmstadt, Germany 2003
84. Tutorial, IEEE EMB Summer School, Siena, Italy 1995

FUNDING

1. PI, "VSMART: Vital Sign Monitoring viA Remote Tracking," NSF CCSS, $500,000 for 3 years, awarded in September 2025
2. PI,"MIMO ISAC for High-Rate Communication and Accurate Situational Awareness in High-Mobility Scenarios," NSF CCSS, $360,000 for 3 years, awarded in September 2025
3. PI, "Secure Dual-Function Radar Communication Systems Assisted by Intelligent Reflecting Surfaces," NSF CCSS, $200,000 for 3 years, awarded in July 2023
4. PI, "Novel, Wideband, Low Complexity, Secure, Dual Function Radar Communication Systems, Army Research Office, $480,000 for 3 years, awarded in March 2023
5. PI, Supplement to "MIMO Radar With Sparse Linear Arrays - Theory, Implementation and Applications, " NSF ECCS-CCSS, $50,000, awarded in August 2022

6. PI, "Learning Based Policies for Mobile Relaying," Army Research Office, $375,000 for 3 years, awarded in January 2021

7. PI, "MIMO Radar With Sparse Linear Arrays - Theory, Implementation and Applications, " NSF ECCS-CCSS, $450,000 for 4 years, awarded in September 2020

8. PI, REU Supplement to "Spatiotemporally Varying Channel Map Estimation and Tracking in Wireless Networks," NSF CIF, $16,000 for 6 months, awarded in May 2020

9. Co-PI, "Trustworthy Cyber-Physical Additive Manufacturing with Untrusted Controllers," NSF CPS. Project cost $666,000 for 4 years, awarded in August 2017 (PI: S. Zonouz)

10. PI, "Workshop on Improving the Diversity of Faculty in Electrical and Computer Engineering (iREDEFINE ECE)," NSF EEC. $100,000 for 2 years, awarded on February 1, 2017.

11. PI, "Fellowships for Doctoral Study in Bioelectrical Engineering," U.S. Department of Education, Graduate Assistance in Areas of National Need (GAANN). Total project cost $922,743 for 5 years, awarded in September 2015

12. PI, "Spatiotemporally Varying Channel Map Estimation and Tracking in Wireless Networks," NSF CIF, $500,000 for 5 years, awarded in September 2015

13. PI, "Radar and Communications: Exploring Co-Design in Distributed Scenarios," Raytheon, $50,000 for 6 months, awarded in 2015

14. PI, "A Novel MIMO Radar Approach Based on Sparse Sensing and Matrix Completion," NSF ECCS, $300,000 for 4 years, awarded in 2014

15. Co-PI, "Active Feature Learning and Classifier Training for Object Recognition," General Dynamics under an Army Research Lab Collaborative Technology Alliance (CTA) on Robotics, $125,526 for 1 year, awarded in 2014 (PI: W. Bajwa)

16. PI, "Controlling Teams of Autonomous Mobile Beamformers," NSF CNS, $256,000 for 3 years, awarded in 2013 (Collaborative with Duke University; Duke in the lead; total budget $550K)

17. PI, "Resource Aware MIMO radar," Office of Naval Research, $360,000 for 1.5 years, awarded in 2012

18. PI, "Distributed MIMO radar," Office of Naval Research, $450,000 for 3 years, awarded in 2009

19. PI, "Collision: Friend or Foe?" NSF CNS, $250,000 for 3 years, awarded in July 2009 (Collaborative with University of Pennsylvania; Drexel in the lead; total budget $ 500,000)

20. PI, "Cooperative beamforming for efficient and secure wireless communication," NSF, $200,000 for 3 years, awarded in September 2009 (Collaborative with Princeton, Colorado School of Mines, University of Houston; Drexel in the lead; total budget $800,000)

21. PI, "Cooperative beamforming for efficient and secure wireless communication," NSF, $200,000 for 3 years, awarded in September 2009 (Collaborative with Princeton, Colorado School of Mines, University of Houston; Drexel in the lead; total budget $800,000)

22. PI, "Multicluster ALLIANCES, a cross-layer approach for wireless sensor networks," Office of Naval Research (N00014-07-1-0500), $600,000 (02/14/07-02/13/10)

23. Co-PI, "Research Experiences for Teachers in Areas of Innovative and Novel Technologies in Philadelphia" National Science Foundation (EEC-0601845), $ 450,000 (03/01/06-2/28/09)

24. Co-Pi, "Design of optical equipment and algorithms for detection of metabolomic biomarkers," $78,000, Molecular Biometrics (9/1/07-8/31/08); (PI: E. Papazoglou)

25. PI, "Underwater communications"; Lockheed Martin ATL; $25,000 for 3 months, awarded in 2006

26. PI, REU Supplement to "ALLow Improved Access in the Network via Cooperation and Energy Savings (ALLIANCES)," National Science Foundation (CNS-0435052), $ 12,000 (05/01/06-10/30/06)

27. PI, REU Supplement to "ALLow Improved Access in the Network via Cooperation and Energy Savings (ALLIANCES)," National Science Foundation (CNS-0435052), $ 12,000 (05/01/05-10/30/05)

28. PI, "Energy efficient channel estimation in MIMO systems," Battelle, $15,000 (06/01/05-9/30/05)

29. PI, "Support for K-12 female students to attend ICASSP-2005," National Science Foundation (CCF-0531008) $5,000

30. PI, "ALLow Improved Access in the Network via Cooperation and Energy Savings (ALLIANCES)," National Science Foundation (CNS-0435052), $ 360,000 (09/15/04-08/14/07)

31. PI, "Interference suppression in high-speed communications," Office of Naval Research (N00014-03-1-0123), $ 225,000 (12/01/02-11/30/05)

32. Subcontract to Villanova University, "Curriculum for smart communications," National Science Foundation (EEC-0203459), $ 429,992 (08/1/02-7/30/05)

33. PI, "Employing wireless LAN standards for communication between TOC vehicles," Army Communications and Electronics Command (CECOM), $ 760,000 (04/01/02-03/30/03)

34. PI, "Employing blind source separation ideas for battlefield surveillance," Office of Naval Research (N00014-02-1-0137), $ 225,000 (12/01/01-11/30/04)

35. PI, "Application of emerging wireless LAN technologies and methodologies to tactical mobile battlespaces," Army Communications and Electronics Command (CECOM), DAAB07-01-9-L504, $ 850,000 (04/01/01-03/02)

36. Co-PI, "Subterranean Communications," US Army Communications and Electronics Command (CECOM), $600,000 (04/01/03-03/30/04)

37. PI, "Equipment to support the development of wireless networks for delivery of multimedia services," National Science Foundation, $60,000 (1999-2002)

38. PI, "Modeling the ultrasound backscattered signal using alpha-stable distributions," National Institute of Health (5 P01 CA52823-09), $346,519 (07/01/98-06/30/02)

39. PI, "Multimedia Signal Processing Laboratory," National Science Foundation," DUE-9751588, $100,000 (7/1/97-6/30/99)

40. PI, "Research Experience for Undergraduates (REU)," National Science Foundation, supplement to MIP-9553227, $4,000, 1996

41. PI, "Research Experience for Undergraduates (REU)," National Science Foundation, supplement to CMS-9319829, $4,000, 1995

42. Co-PI, "Development of an Industrial Control Research Facility Using Honeywell's TDC-3000 System," National Science Foundation, ECS-9512363, $100,000, (10/1/95-9/30/98)

43. PI, "Signal reconstruction and applications to communications, ultrasound image processing and earthquake engineering." **Presidential Faculty Fellow Award,** National Science Foundation, MIP-9553227, $500,000 (12/1995-12/2000)

44. PI, "Development of New Methods for Resolution Improvement of Ultrasound Images and Tissue Characterization," The Whitaker Foundation, $210,000 (9/1/95-8/30/98)

45. PI, "Site Response Analysis: Blind Deconvolution of Seismic Signals and Site Response Characteristics Using Data Fusion and Higher-Order Cepstra Operations," National Science Foundation, CMS-9319829, $80,000 (5/94-10/95)

46. Co-PI, "Development of Methods for Improved Breast Imaging with Ultrasound," U.S. Army, Medical Research and Development Command, DAMD17-94-J-4362, $120,000 (7/94-8/96)

UNDERGRADUATE STUDENT SUPERVISION

At Rutgers University: Theresa Lye (REU support), Shivani Sethi, D, Kumar (REU support), Fares Elkhouli (REU support), Maliha Yeasmin (REU support), Raymond Lee.

At Drexel University: F. Prihoda (REU support), E. Garbarine (REU support), M. Uva, K. Daciek, M. Uva, S. Roy, S, Oymak, T. Lakins (REU support).

GRADUATE/POSTGRADUATE STUDENT SUPERVISION

Current students

1. Zhihao Tao (Ph.D. student), "Security of Integrated Sensing Communication systems". Expected to graduate in 2026.
2. Kailong Wang (Ph.D. student), "Wideband communication systems for 6G". Expected to graduate in 2027.

Ph.D. Theses Completed

1. Spilios Evmorfos (Ph.D. student), "Deep Generative Modeling for Sensor Selection Problems in Wireless Systems," January 2025 (currently with Meta).
2. Zhaoyi Xu, "Dual function radar-communication systems," December 2023 (currently with NXP).
3. Yi Han, "Malware detection via side channel analysis," December 2021 (co-advised with S. Zonouz).
4. Anastasios Dimas, "Reinforcement leaning for mobile beamforming," December 2020.
5. Ahmed Al Hilli, "EEG-based brain imaging," May 2019 (currently faculty at Al-Furat Al-Awsat Technical University, Iraq).
6. Shaogang Wang (Ph.D. student), "SAR based on the Sparse Fourier Transform," May 2019 (currently with Aurora).
7. Dionysis Kalogerias "Mobile beamforming," April 2017 (currently Assistant Professor at Yale University).
8. Bo Li, "Co-existence of MIMO Radars and communication systems," September 2016 (currently with Qualcomm). **Recipient of the 2018 Robert T. Hill Memorial Award for best Ph.D. dissertation in an IEEE Aerospace and Electronics Systems Society filed of interest.**
9. Shunqiao Sun, "Sparse sensing based MIMO Radars," September 2015 (currently Assistant Professor at ECE of University of Alabama). **Recipient of the 2016 Robert T. Hill Memorial Award for best Ph.D. dissertation in an IEEE Aerospace and Electronics Systems Society filed of interest.**
10. Yupeng Liu, "Cooperative beamforming in wireless communication networks," September 2012 (currently with Nokia Bell Labs).
11. Xin Liu, "Multi-user separation for wireless communications," June 2011 (currently with Broadcom).
12. Yao Yu, "Distributed MIMO radar systems," June 2011 (currently with Qualcomm).
13. Lun Dong, "Cross-layer cooperative approaches for wireless networks, September 2008 (currently with Apple Inc.)

14. Yuanning Yu, "Blind identification is possibly underdetermined MIMO systems," August 2007 (currently with Qualcomm).
15. Yu Jie, "Modeling of wireline and wireless high-speed traffic," June 2005 (currently with Qualcomm).
16. Sarod Yatawatta, "Blind channel estimation in MIMO OFDM systems," Graduated in December 2004 (currently Research Scientist at Netherlands Institute for Radio Astronomy).
17. Rui Lin, "Interference modeling in High-speed networks," September 2004.
18. Ivan Bradaric, "Blind MIMO system estimation based on second-order statistics," June 2002 (currently with The Johns Hopkins University Applied Physics Laboratory).
19. Xueshi Yang, "Study of impulsive and long-range dependent phenomena in communication networks," January 2002 (currently member of executive team of Silicon Mobility Technology, China)
20. Binning Chen, "Blind MIMO System Estimation," August 2001 (currently with Qualcomm).
21. Haralambos Pozidis, "Blind equalization for communication signals," September 1998 (currently with IBM Research, Zurich, Switzerland).
22. Udantha Abeyratne, "Improving the resolution of ultrasound images via deconvolution," June 1996 (currently Professor at The University of Queensland, Australia).

Visiting Students

1. Julia Sistermanns, Technical University of Munich (PhD Candidate 2026).
2. Silvia Moura, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano (PhD Candidate, 2023). Currently, Assistant Professor at Politecnico di Milano.
3. Lingxiang Li, School of Electronic Engineering, University of Electronic Science and Technology of China (PhD Candidate, 2016). Currently Associate Professor at UESTC China.
4. Ioannis Christoudis, International Hellenic University, Thessaloniki, Greece (Undergraduate student, 2019)
5. Yikai Wang, School of Electronic Engineering, University of Electronic Science and Technology of China. (PhD Candidate, 2016)

Post-Doctoral Students

1. Yikai Li (2024). Currently Assistant Professor at Minnesota State University Mankato.
2. Andey Garnaev (2017-2018)
3. Jiangyuan Li (2009-2013)
4. Yao Yu (2012-2014)
5. Hana Godrich (2010-2011)
6. Xueshi Yang (2001-2002)
7. Alper Kutay (1988-2000)
8. Ivan Bradaric (2002-2003)

M.S. Theses Completed

1. Guanjie Huang, "Co-Prime Arrays with Compressive Sampling," September 2015.

2. Frank Prihoda, "Collision resolution is random access networks - a hardware implementation," 2006.
3. Hailong Yang "Cooperation based protocols for wireless networks," June 2006.
4. Turev Acar, "Blind source separation," June 2004.
5. Vasileios Nasis, "Ultrasound imaging for breast tissue characterization," June 2004.
6. Sonal Ganddhi, "Performance analysis of a network with IEEE 802.11a nodes," June 2004.
7. Chunrui Pei, "Comparative study of channel estimation methods in OFDM systems," June 2003.
8. Riddhi Dattani, "Real testing of Channel estimation methods for OFDM systems," June 2003.
9. Xueshi Yang, "Modeling of high-speed network traffic," June 2001.
10. G. Vishwanathan, "Tissue attenuation estimation based on ultrasound images," 1999.
11. Chris Dafis, "Signal processing for power quality control," June 1998.
12. Yin Jijun, "$1/f$ signals and their relationship to alpha-stable processes," June 1998.
13. Fieldi Chan (BS/MS student), "Speaker identification," June 1997.
14. Ray Wang, "Modeling of tissue response using fractional order statistics," June 1997.
15. Christopher Wendt, "Modeling of acoustic reverberation using wavelet decomposition," June 1996.
16. Burak Onal, "Cyclic statistics based speech segmentation and pitch estimation," June 1996.
17. Suresh Subramaniam, "Cepstrum-based deconvolution for speech dereverberation," June 1995.

TEACHING

Undergraduate Teaching

- Discrete Math
- Principles of Wireless Communications
- Digital Signal Processing
- Spectrum Estimation
- Array Processing
- Linear System Theory
- Speech Processing

Graduate Teaching

- Optimum Signal Processing
- Digital Signals and Filters
- Digital Communications
- Detection and Estimation Theory
- Probability and Stochastic Variables

PROFESSIONAL ACTIVITIES

- Panelist, IEEE TE&I Panel on "Integration of Sensing and Communication with Physical AI," IEEE International Conference on Communications — 2026
- Chair, Integrated Sensing and Communications (ISAC) Symposium at IEEE International Conference on Communications — 2026
- Scientific Committee member, Swedish Excellence Center at Linköping – Lund in Information Technology (ELLIIT) Focus Period 2026, themed "Wireless Sensing Technologies for Emerging Applications" — 2026
- Panelist, IEEE Panel on "Future 6G Base Station for Communications, Sensing and Positioning," IEEE International Conference on Communications — 2025

  FUTURE 6G BASE STATION FOR COMMUNICATIONS, SENSING AND POSITIONING
- Guest Editor, IEEE JSTSP Special Issue on Advancing Signal Processing Algorithms for Fluid Antenna Systems — 2025
- Guest Editor, IEEE Transactions on Cognitive Communications and Networking, special issue on Smart Environment Engineering for Integrated Sensing and Communication — 2025
- Steering Committee Member, IEEE GlobeCom Workshop on Delay-Doppler Communications, Sensing and their Integration — 2025
- Co-organizer, IEEE Transactions on Cognitive Communications and Networking, special issue on "Smart Environment Engineering for Integrated Sensing and Communication" — 2024
- Co-organizer, IEEE Signal Processing Magazine, Special Issue on Signal Processing for the Integrated Sensing and Communication Revolution — 2024
- Honorary Chair, NIST/IEEE Conference on Computational Imaging Using Synthetic 2024 Apertures (CISA) — 2024
- Guest Co-Editor, Special Issue on Signal Processing for the Integrated Sensing and Communications Revolution, IEEE Signal Processing Magazine — 2023
- Keynote Speaker, Workshop on Integrated Sensing and Communications, IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP), K s, Greece — 2023
- Member of Governing Council, University of Peloponnese, Greece — 2022-present
- Plenary Speaker, IEEE Sensor Array and Multichannel (SAM) Signal Processing Workshop, Trondheim, Norway — 2022
- Panel Organizer, ECEDHA Summit Panel on 5G and Future Wireless Technologies — 2021
- Founding Leadership Team, Emerging Technology Initiative (ETI) on Integrated Sensing and Communication (ISAC), IEEE Communications Society — 2021
- Expert Evaluator, Research Assessment Exercise of KTH Royal Institute of Technology — 2021
- Chair, Scientific Advisory Board of Aalto University School of Electrical Engineering — 2021
- Guest Editor, IEEE Journal of Selected Topics in Signal Processing Special Issue on Detection, Estimation, Localization and Sensing Aided by Metasurfaces — 2021
- Guest Editor, IEEE Journal of Selected Topics in Signal Processing Special Issue on Joint Communication and Radar Sensing for Emerging Applications — 2021
- President-Elect, IEEE Signal Processing Society — 2020-2021

- Panel Organizer, ECEDHA Summit on 5G and Future Wireless Technologies 2021
- Keynote Speaker, 12th Conference of Electrical and Computer Engineering Students, Aristotle University of Thessaloniki, Greece 2021
- Chair, IEEE Signal Processing Society PROGRESS (workshop, focusing on increasing the diversity of faculty interested in signal processing and related fields around the world); held during 2021 IEEE ICASSP 2021
- Member, IEEE Fourier Award Committee 2020-2021
- Chair, IEEE Signal Processing Society PROGRESS (workshop, focusing on increasing the diversity of faculty interested in signal processing and related fields around the world); held during 2020 IEEE ICIP 2020
- Special Session Organizer, IEEE Radar Conference, "Multi-Function Spectral System Co-Design," IEEE Radar Conference 2020, Florence, Italy 2020
- Special Sessions co-Chair, IEEE Int. Conference on Acoustics Speech and Signal Processing (ICASSP), Barcelona Spain 2020
- Member, Advisory Board, Lehigh University 2019-2024
- Member-at-Large, IEEE Signal Processing Society Board of Governors 2018-2020
- Member, IEEE Jack S. Kilby Signal Medal Committee 2018-2019
- General co-Chair, IEEE Workshop on Signal Processing Advances in Wireles Communications (SPAWC), Kalamata, Greece 2018
- General Chair, iREDEFINE Workshop, (focused on increasing the number of women and under-represented minorities in the faculty of ECE Departments), Monterey CA 2018
- General Chair, iREDEFINE Workshop, (focused on increasing the number of women and under-represented minorities in the faculty of ECE Departments), Miramar Beach, Florida 2017
- Special Session Organizer and Chair, "Sparse sensing in radar systems," Int. Workshop on Compressed Sensing Theory and its Application to Radar, Sonar and Remote Sensing (CoSeRa), Aachen, Germany 2016
- Special Session Organizer and Chair, "Mobility Controlled Networked Communication Systems," IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP), Shanghai, China 2016
- Technical Program Committee, IEEE 9th Sensor Array and Multichannel (SAM) Signal Processing Workshop 2016
- National Academies (National Research Council) Technical Review Board for Army Research Labs 2016
- Special Session Organizer and Chair,"Spectrum Sharing between radar and communication systems," Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA 2016
- Editorial Board, IEEE Signal Processing Magazine 2015-2017
- Technical Program Committee, IEEE Int. Workshop on Computational Advances in Multi-sensor Adaptive Processing (CAMSAP) 2015
- Conference Chair, ECEDHA Annual Conference and ECExpo Hilton Head, NC 2015
- Technical Program Committee, IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB) 2015
- ECE Department Heads Association (ECEDHA) President 2015

- ECE Department Heads Association (ECEDHA) Vice President 2014
- Member, IEEE Publication Services and Products Board, Strategic Planning Committee 2014
- Member of IEEE Signal Processing Society Big Data Special Interest Group 2014-2019
- Technical Program Committee, IEEE Sensor Array and Multichannel Signal Processing (SAM) Workshop, La Coruna, Spain 2014
- Technical Program Committee, Globecom, Signal Processing for Communications Symposium Austin TX 2014
- Technical Program Committee, IEEE Vehicular Technology Conference (VTC), Vancouver BC, Canada 2014
- Special Session Organizer and Chair, 'Compressive Methods in Radar," Asilomar Conference on Signal Systems and Computers, Monterey CA 2014
- Technical Program Committee, IEEE Int. Workshop on Computational Advances in Multi-sensor Adaptive Processing (CAMSAP), Saint Martin, French Caribbean 2013
- Special Session Organizer and Chair,"MIMO Radar and Waveform Diversity," IEEE Int. Conference on Acoustics Speech and Signal Processing, Vancouver, Canada 2013
- Member, IEEE Technical Committee Sensor Array and Multichannel (SAM) 2012-2018
- Editor-In-Chief, IEEE Transactions on Signal Processing 2009-2011
- Member of IEEE Technical Committee Signal Processing Theory and Methods (SPTM) 2008-2011
- Special Session Organizer and Chair, "Earth Observation," IEEE Int. Conference on Acoustics Speech and Signal Processing (ICASSP), Honolulu, HI 2007
- Technical Program Committee, SPIE symposium Fluctuations and Noise (FaN-2007) on Noise and Fluctuations in Photonics, Quantum Optics and Communications, Florence Italy 2007
- VP Conferences, IEEE Signal Processing Society, Member of Board of Governors 2006-2008
- Technical Program Committee, International Conference on Computing in the Global Information Technology (ICCGI), Bucharest, Romania 2006
- Technical Program Committee, International Conference on Signal Processing and Multimedia Applications (SIGMAP), Setubal, Portugal 2006
- Session Chair, "System Identification," IEEE International Conference on Acoustics Speech and Signal Processing, (ICASSP), Toulouze, France 2006
- Technical Committee, IEEE Workshop on Signal Processing Advances in Wireless Communications 2005
- General Chair, IEEE International Conference on Acoustics Speech and Signal Processing, ICASSP, Philadelphia PA 2005
- Session Organizer and Chair, "MIMO Systems," Military Communications Conference (MILCOM), Atlantic City, NJ 2005
- Editorial Board, IEEE Signal Processing Magazine 2005-2007
- Session Chair, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC), New York, NY 2005
- Member-at-Large, IEEE Signal Processing Society Board of Governors 2004-2005

- Session Chair, Annual Conference on Information Systems and Sciences (CISS), Princeton University — 2004
- Session Chair, Annual Conference on Information Systems and Sciences (CISS), Princeton University — 2004
- Session Chair, IEEE Intern. Conf. in Acoustics Speech and Signal Processing, (ICASSP), Montreal, Canada — 2004
- Editorial Board, EURASIP Journal on Wireless Communications and Networking — 2003-2008
- Guest Editor, IEEE Transactions on Signal Processing, special issue on Signal Processing in Networking — 2003
- Guest Editor, IEEE Signal Processing Magazine, special issue on Signal Processing for Networking — 2002
- Session Chair, Intern. Conf. in Acoustics Speech and Signal Processing (ICASSP), Orlando — 2002
- Technical Committee, IEEE International Symposium on Signal Processing and Information Technology, Marakech, Morocoo — 2002
- Technical Committee, Nonlinear Signal and Image Processing Conf., Willmington, Delaware — 2001
- Session Chair, Intern. Conf. in Acoustics Speech and Signal Processing, (ICASSP), Salt Lake, UT — 2001
- Associate Editor, IEEE Transactions on Signal Processing — 2001-2006
- Technical Committee, Session organizer and chair, IEEE WCNC, Chicago, IL — 2000
- Technical Committee, Session Organizer and Chair, IEEE Workshop on Statistical Signal and Array Processing, Poconos PA — 2000
- Member of IEEE Technical Committee Signal Processing Theory and Methods (SPTM) — 2000-2005
- Member of IEEE Technical Committee Signal Processing Theory and Methods (SPTM) — 2000-2005
- Publications Chair, IEEE Signal Processing Workshop on Higher-Order Statistics, Israel — 2009
- Session Chair, IEEE Signal Processing Workshop on Higher-Order Statistics, Israel — 1999
- Session Organizer and Chair, "MIMO system identification," Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA — 1999
- Associate Editor, IEEE Signal Processing Letters — 1998-2001
- Session Organizer and Chair, IEEE International Symposium on Time-Frequency and Time-Scale Analysis, Pittsburgh PA — 1998
- Publications Chair, IEEE Signal Processing Workshop on Higher-Order Statistics, Banff, Canada — 1997
- Publications Chair, IEEE Signal Processing Workshop on Higher-Order Statistics, Banff, Canada — 1997
- Session Chair, IEEE Signal Processing Workshop on Higher-Order Statistics, Banff, Canada — 1997
- Publicity Chair, All day seminar, Recent Trends in Adaptive Filtering; Sponsored by IEEE Philadelphia Section, Philadelphia PA — 1995

- Session Organizer and Chair, SPIE, First International Symposium on Technologies and Systems for Voice, Video, and Data Communications, Philadelphia PA — 1995
- Proceedings Chair, IEEE International Symposium on Time-Frequency and Time-Scale Analysis — 1994
- Session Organizer and Chair, "Higher-order spectra and applications," Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA — 1993
- Associate Editor, IEEE Transactions on Signal Processing — 1993-1995
- Track Co-organizer, IEEE Engineering in Medicine and Biology Society Int. Conference, Philadelphia PA — 1993
- Track Co-organizer, IEEE Engineering in Medicine and Biology Society Int. Conference, Philadelphia PA — 1993
- Proceedings Chair, IEEE International Symposium on Time-Frequency and Time-Scale Analysis — 1993