

# Elza Erkip

## Education

- 1996 Ph.D. in Electrical Engineering  
Stanford University, Stanford, California
- 1993 M.S. in Electrical Engineering  
Stanford University, Stanford, California
- 1990 B.S. in Electrical and Electronics Engineering  
Middle East Technical University, Ankara, Turkey

## Experience

- 2017-Present Institute Professor, Electrical and Computer Engineering  
New York University Tandon School of Engineering, Brooklyn, NY
- 2011-2017 Professor, Electrical and Computer Engineering  
New York University Tandon School of Engineering, Brooklyn, NY
- 2006-2011 Associate Professor, Electrical and Computer Engineering  
New York University Tandon School of Engineering, Brooklyn, NY
- 2007-2008 Visiting Professor, Electrical Engineering  
Princeton University, Princeton, NJ
- 2000-2006 Assistant Professor, Electrical and Computer Engineering  
New York University Tandon School of Engineering, Brooklyn, NY
- 1998-1999 Faculty Fellow, Electrical and Computer Engineering  
Rice University, Houston, TX
- 1996-1998 Visiting Assistant Professor, Electrical and Computer Engineering  
Rice University, Houston, TX
- 1990-1996 Research Assistant, Electrical Engineering  
Stanford University, Stanford, CA
- 1989-1990 Student Assistant, Electrical and Electronics Engineering  
Middle East Technical University, Ankara, Turkey

## Awards & Honors

- 2022 IEEE Information Theory Society Padovani Lecturer
- 2021 IEEE Communications Society Edwin Howard Armstrong Technical Achievement Award

2018	IEEE Communications Society Communication Theory Technical Committee (CTTC) Technical Achievement Award
2016	IEEE Communications Society Women in Communications Engineering (WICE) Outstanding Achievement Award
2014, 2015	Clarivate Highly Cited Researcher
2012	Elected Member, Science Academy Society of Turkey
2011	IEEE Fellow
2010	The New York Academy of Sciences Blavatnik Awards for Young Scientists, Finalist
2004-2006	Junior Fellow, Othmer Institute for Interdisciplinary Studies, New York University
2001	National Science Foundation CAREER Award
2000	IBM Faculty Partnership Award

### **Best Paper Awards (Journal)**

2019	IEEE Communications Society Best Tutorial Paper Award
2013	IEEE Communications Society Award for Advances in Communication
2004	IEEE Communications Society Stephen O. Rice Prize in the Field of Communication Theory

### **Best Paper Awards (Conference)**

2021	IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC) Student Paper Award (Second Place, co-author)
2007	IEEE International Conference on Communications (ICC) Communications Theory Symposium Paper Award
2007	IEEE International Symposium on Information Theory Student Paper Award (co-author)

### **Best Poster Awards**

2021	IEEE Communication Theory Workshop Poster Award
2019	2019 Tapia Conference ACM Student Research Competition (co-author)
2018	IEEE International Conference on Communications (ICC) N2Women and WICE Workshop Poster Award
2016	IEEE Sarnoff Symposium Poster Award
2016	IEEE Sarnoff Symposium Poster Award (Second Place)

## Research Highlight

Most cited publication of the *IEEE Transactions on Communications* since its inception in 1972:

- A. Sendonaris, E. Erkip and B. Aazhang, "User cooperation diversity-Part I: System description," *IEEE Transactions on Communications*, vol. 51, no. 11, pp. 1927-1938, November 2003.

## Journal Publications

1. J. Robin and E. Erkip, "Non-coherent active device identification for massive random access," *IEEE Transactions on Communications*, vol. 71, no. 10, pp. 5979-5991, Oct. 2023.
2. S. Dutta, A. Khalili, E. Erkip and S. Rangan, "Capacity bounds and spectral constraints for transceivers with finite resolution quantizers," *IEEE Transactions on Communications*, vol. 71, no. 10, pp. 5756-5768, Oct. 2023.
3. B. Clerckx, Y. Mao, E. A. Jorswieck, J. Yuan, D. J. Love, E. Erkip, D. Niyato, "A primer on rate-splitting multiple access: Tutorial, myths, and frequently asked questions," *IEEE Journal on Selected Areas in Communications*, vol. 41, no. 5, pp. 1265-1308, May 2023.
4. S. Shahsavari, F. Shirani, M. A. Khojastepour and E. Erkip, "Opportunistic temporal fair mode selection and user scheduling in full-duplex systems," *IEEE Journal on Selected Areas in Communications*, vol. 40, no. 5, pp. 1632-1651, May 2022.
5. M. Shariatnasab, F. Shirani and E. Erkip, "Fundamental privacy limits in bipartite networks under active attacks," *IEEE Journal on Selected Areas in Communications*, vol. 40, no. 3, pp. 940-954, March 2022.
6. A. Khalili, F. Shirani, E. Erkip and Y. C. Eldar, "MIMO networks with one-bit ADCs: Receiver design and communication strategies," *IEEE Transactions on Communications*, vol. 70, no. 3, pp. 1580-1594, March 2022.
7. M. Yin, A.K.Veldanda, A. Trivedi, J. Zhang, K. Pfeiffer, Y. Hu, S. Garg, E. Erkip, L. Righetti and S. Rangan, "Millimeter wave wireless assisted robot navigation with link state classification," *IEEE Open Journal of the Communications Society*, vol. 3, pp. 493-507, 2022.
8. S. Shahsavari, M. Nosrati, P. Hassanzadeh, A. Ashikhmin, T. L. Marzetta and E. Erkip, "Multi-point coordination in massive MIMO systems with sectorized antennas," *IEEE Transactions on Communications*, vol. 69, no. 11, pp. 7559-7575, November 2021.
9. F. Shirani, S. Garg and E. Erkip, "A concentration of measure approach to correlated graph matching," *IEEE Journal on Selected Areas in Information Theory*, vol. 2, no. 1, pp. 338-351, March 2021.
10. M. A. Kocak, D. Ramirez, E. Erkip and D. E. Shasha, "SafePredict: A meta-algorithm for machine learning that uses refusals to guarantee correctness," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 43, no. 2, pp. 663-678, February 2021.
11. F. Fund, S. Shahsavari, S. S. Panwar and E. Erkip, "A model for joint engineering-economic analysis of cellular systems," *IEEE Wireless Communications Letters*, vol. 10, no. 2, pp. 344-348, February 2021.

12. P. Skrimponis, N. Hosseinzadeh, A. Khalili, E. Erkip, M. Rodwell, J. Buckwalter, and S. Rangan, "Towards energy efficient mobile wireless receivers above 100 GHz," *IEEE Access*, vol. 9, pp. 20704-20716, 2021.
13. P. Hassanzadeh, A. M. Tulino, J. Llorca and E. Erkip, "Rate-distortion-memory trade-offs in heterogeneous caching networks," *IEEE Transactions on Wireless Communications*, vol. 19, no. 5, pp. 3019-3033, May 2020.
14. P. Hassanzadeh, A. M. Tulino, J. Llorca and E. Erkip, "Rate-memory trade-off for caching and delivery of correlated sources," *IEEE Transactions on Information Theory*, vol. 66, no. 4, pp. 2219-2251, April 2020.
15. Q. Yang, P. Hassanzadeh, D. Gündüz and E. Erkip, "Centralized caching and delivery of correlated contents over Gaussian broadcast channels," *IEEE Transactions on Communications*, vol. 68, no. 1, pp. 122-136, January 2020.
16. F. Gómez-Cuba, M. Chowdhury, A. Manolagos, E. Erkip and A. J. Goldsmith, "Capacity scaling in a non-coherent wideband massive SIMO block fading channel," *IEEE Transactions on Wireless Communications*, vol. 18, no. 12, pp. 5691-5704, Dec. 2019.
17. S. Shahsavari, S. A. Hosseini, C. Ng and E. Erkip, "On the optimal two-antenna static beamforming with per-antenna power constraints," *IEEE Signal Processing Letters*, vol. 26, no. 9, pp. 1388 – 1392, September 2019.
18. S. Shahsavari, F. Shirani, E. Erkip, "A general framework for temporal fair user scheduling in NOMA systems," *IEEE Journal of Selected Topics in Signal Processing*, vol. 13, no. 3, pp. 408-422, March 2019.
19. P. Hassanzadeh, A. Tulino, J. Llorca, E. Erkip, "On coding for cache-aided delivery of dynamic correlated content," *IEEE Journal on Selected Areas in Communications*, vol. 36, no. 8, pp. 1666–1681, Aug. 2018.
20. N. V. Shende, O. Gurbuz and E. Erkip, "Half-duplex or full-duplex communications: Degrees of freedom analysis under self-interference," *IEEE Transactions on Wireless Communications*, vol. 17, no. 2, pp. 1081-1093, Feb. 2018.
21. F. Gomez-Cuba, E. Erkip, S. Rangan and F. J. Gonzalez-Castano, "Capacity scaling of cellular networks: Impact of bandwidth, infrastructure density and number of antennas," *IEEE Transactions on Wireless Communications*, vol. 17, no. 1, pp. 652-666, Jan. 2018.
22. F. Rezagah, S. Jalali, E. Erkip, H.V. Poor, "Compression-based compressed sensing," *IEEE Transactions on Information Theory*, vol. 63, no. 10, pp. 6735 – 6752, October 2017.
23. Y. Liu and E. Erkip, "Completion time in two-user channels: An information theoretic perspective," *IEEE Transactions on Information Theory*, vol. 63, no. 5, pp. 3209 – 3223, May 2017.
24. F. Gomez-Cuba, J. Du, M. Medard and E. Erkip, "Unified capacity limit of non-coherent wideband fading channels," *IEEE Transactions on Wireless Communications*, vol. 16, no. 1, pp. 43-57, January 2017.
25. F. Boccardi, H. Shokri-Ghadikolaie, G. Fodor, E. Erkip, C. Fischione, M. Kountouris, P. Popovski and M. Zorzi, "Spectrum pooling in mmWave networks: Opportunities, challenges, and enablers," *IEEE Communications Magazine*, vol. 54, no. 11, pp. 33-39, November 2016.
26. Y. Liu and E. Erkip, "Capacity and rate regions of a class of broadcast interference channels," *IEEE Transactions on Information Theory*, vol. 62, no. 10, pp. 5556-5572, October 2016.

27. R. Joda, F. Lahouti and E. Erkip, "Distortion-power tradeoffs in quasi-stationary source transmission over delay and buffer limited block fading channels," *IEEE Transactions on Wireless Communications*, vol. 15, no. 7, pp. 4505-4520, July 2016.
28. O. Orhan and E. Erkip, "Energy harvesting two-hop communication networks," *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 12, pp. 2658-2670, December 2015.
29. F. Liu, E. Bala, E. Erkip, M. C. Beluri and R. Yang, "Small-cell traffic balancing over licensed and unlicensed bands," *IEEE Transactions on Vehicular Technology*, vol. 64, no. 12, pp. 5850-5865, December 2015.
30. Z. Guo, Y. Wang, E. Erkip, and S. Panwar, "Wireless video multicast with cooperative and incremental transmission of parity packets," *IEEE Transactions on Multimedia*, vol. 17, no. 8, pp. 1335-1346, August 2015.
31. O. Orhan, D. Gündüz and E. Erkip, "Source-channel coding under energy, delay, and buffer constraints," *IEEE Transactions on Wireless Communications*, vol. 14, no. 7, pp. 3836-3849, July 2015.
32. S. Ulukus, A. Yener, E. Erkip, O. Simeone, M. Zorzi, P. Grover, K. Huang, "Energy harvesting wireless communications: A review of recent advances," *IEEE Journal on Selected Areas in Communications*, vol.33, no.3, pp. 360-381, March 2015.
33. O. Orhan, D. Gunduz, and E. Erkip, "Energy harvesting broadband communication systems with processing energy cost," *IEEE Transactions on Wireless Communications*, vol. 13, no. 11, pp. 6095-6107, November 2014.
34. O. Simeone, E. Erkip and S. Shamai, "Full-duplex cloud radio access networks: An information-theoretic viewpoint," *IEEE Wireless Communications Letters*, vol. 3, no. 4, pp. 413-416, August 2014.
35. A. Fouladgar, O. Simeone, and E. Erkip, "Constrained codes for joint energy and information transfer," *IEEE Transactions on Communications*, vol. 62, no. 6, pp. 2121-2131, June 2014.
36. M.R. Akdeniz, Y. Liu, Matthew Samimi, S. Sun, S. Rangan, T.S. Rappaport, and E. Erkip, "Millimeter wave channel modeling and cellular capacity evaluation," *IEEE Journal on Selected Areas in Communications*, vol. 32, no. 6, pp. 1164-1179, June 2014.
37. S. Rangan, T.S. Rapaport, and E. Erkip, "Millimeter-wave cellular wireless networks: Potentials and challenges," *Proceedings of the IEEE*, vol. 102, no. 3, pp. 366-385, March 2014 (*invited paper*).
38. S. Gokturk, O. Gurbuz and E. Erkip, "A cross-layer multi-hop cooperative network architecture for wireless ad hoc networks," *Computer Networks*, vol. 57, no. 18, pp. 4010-4029, December 2013 (*invited paper*).
39. X. Liu and E. Erkip, "Transmission schemes for Gaussian interference channels with transmitter processing energy," *IEEE Transactions on Wireless Communications*, vol. 12, no. 9, pp. 4756-4765, September 2013.
40. X. Liu, O. Simeone, E. Erkip, "Lossy computing of correlated sources with fractional sampling," *IEEE Transactions on Communications*, vol. 61, no. 9, pp. 3685-3696, September 2013.
41. D. Gunduz, E. Erkip, A. Goldsmith and H.V. Poor, "Reliable joint source-channel cooperative transmission over relay networks," *IEEE Transactions on Information Theory*, vol. 59, no. 4, pp. 2442-2458, April 2013.

42. K. Bakanoglu, E. Erkip, O. Simeone and S. Shamai, "Relay channel with orthogonal components and structured interference known at the source," *IEEE Transactions on Communications*, vol. 61, no. 4, pp. 1277-1289, April 2013.
43. C. Nie, P. Liu, T. Korakis, E. Erkip and S. Panwar, "Cooperative relaying in next generation mobile WiMAX networks," *IEEE Transactions on Vehicular Technology*, vol. 62, no. 3, pp. 1399-1405, March 2013.
44. X. Liu, O. Simeone and E. Erkip, "Energy efficient sensing and communication of parallel sources," *IEEE Transactions on Communications*, vol. 60, no. 12, pp. 3826-3835, December 2012.
45. P. Castiglione, O. Simeone, E. Erkip and T. Zemen, "Energy management policies for energy-neutral source-channel coding," *IEEE Transactions on Communications*, vol. 60, no. 9, pp. 2668-2678, September 2012.
46. P. Liu, C. Nie, T. Korakis, E. Erkip, S. Panwar, F. Verde and A. Scaglione, "STiCMAC: A MAC protocol for robust space-time coding in cooperative wireless LANs," *IEEE Transactions on Wireless Communications*, vol. 11, no. 4, pp. 1358-1369, April 2012.
47. O. Sahin, O. Simeone, E. Erkip, "Gaussian interference channel aided by a relay with out-of-band reception and in-band transmission," *IEEE Transactions on Communications*, vol. 59, no. 11, pp. 2976-2981, November 2011.
48. O. Alay, P. Liu, Y. Wang, E. Erkip and S. Panwar, "Cooperative layered video multicast using randomized distributed space-time codes," *IEEE Transactions on Multimedia*, vol. 13, no. 5, pp. 1127-1140, October 2011.
49. M. Yuksel, X. Liu and E. Erkip, "A secure communication game with a relay helping the eavesdropper," *IEEE Transactions on Information Forensics and Security*, vol. 6, no.3, Part 1, pp. 818-830, September 2011.
50. O. Simeone, O. Somekh, E. Erkip, H. V. Poor, S. Shamai, "Robust communication via decentralized processing with unreliable backhaul links," *IEEE Transactions on Information Theory*, vol. 57, no. 7, pp. 4187-4201, July 2011.
51. O. Simeone, E. Erkip, S. Shamai, "On codebook information for interference relay channels with out-of-band relaying," *IEEE Transactions on Information Theory*, vol. 57, no. 5, pp. 2880-2888, May 2011.
52. X. Liu and E. Erkip, "A game-theoretic view of the interference channel: Impact of coordination and bargaining," *IEEE Transactions on Information Theory*, vol. 57, no. 5, pp. 2805-2820, May 2011.
53. O. Sahin, O. Simeone, E. Erkip, "Interference channel with an out-of-band relay," *IEEE Transactions on Information Theory*, vol. 57, no. 5, pp. 2746-2764, May 2011.
54. L. Sankar, X. Shang, E. Erkip and H.V. Poor, "Ergodic fading interference channels: Sum-capacity and separability," *IEEE Transactions on Information Theory*, vol. 57, no. 5, pp. 2605-2626, May 2011.
55. K. Bakanoglu, S. Tomasin and E. Erkip, "Resource allocation for the parallel relay channel with multiple relays," *IEEE Transactions on Wireless Communications*, vol. 10, no. 3, pp. 792-802, March 2011.
56. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff for the multiple-antenna wiretap channel," *IEEE Transactions on Wireless Communications*, vol 10, no. 3, pp. 762-771, March 2011.

57. O. Simeone, E. Erkip and S. Shamai, "Robust transmission and interference management for femtocells with unreliable network access," *IEEE Journal on Selected Areas on Communications*, vol. 28, no. 9, pp. 1469 - 1478, December 2010.
58. F. Verde, T. Korakis, E. Erkip and A. Scaglione, "A simple recruitment scheme of multiple nodes for cooperative MAC," *IEEE Transactions on Communications*, vol. 58, no. 9, pp. 2667 - 2682, September 2010.
59. O. Alay, T. Korakis, Y. Wang, E. Erkip and S. Panwar, "Layered wireless video multicast using relays," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 20, no.8, 1095 - 1109, August 2010.
60. Y. Fan, L. Lai, E. Erkip and H.V. Poor, "Rateless coding for MIMO fading channels: Performance limit and code construction," *IEEE Transactions on Wireless Communications*, vol. 9, no. 4, pp. 1288-1292, April 2010.
61. J. Nayak, E. Tuncel, D. Gunduz and E. Erkip, "Successive refinement of vector sources under individual distortion criteria," *IEEE Transactions on Information Theory*, vol. 56, no. 4, pp. 1769-1781, April 2010.
62. C.T. K. Ng, D. Gunduz, A.J. Goldsmith and E. Erkip, "Optimal power distribution and minimum expected distortion in Gaussian layered broadcast coding with successive refinement," *IEEE Transactions on Information Theory*, vol. 55, no. 10, pp. 5074-5086, November 2009.
63. D. Gunduz, E. Erkip, A. Goldsmith and H. V. Poor, "Source and channel coding for correlated sources over multi-user channels," *IEEE Transactions on Information Theory*, vol.55, no.9, pp. 3927-3946, September 2009.
64. T. Korakis, M. Knox, E. Erkip and S. Panwar, "Cooperative network implementation using open source platforms," *IEEE Communications Magazine*, vol. 47, no. 2, pp. 134-141, February 2009.
65. D. Gunduz and E. Erkip, "Joint source-channel codes for MIMO block fading channels," *IEEE Transactions on Information Theory*, vol. 54, no. 1, pp. 116-134, January 2008.
66. M. Yuksel and E. Erkip, "Multi-antenna cooperative wireless systems: A diversity multiplexing tradeoff perspective," *IEEE Transactions on Information Theory*, vol. 53, no. 10, pp. 3371-3393, October 2007.
67. D. Gunduz and E. Erkip, "Source and channel coding for cooperative relaying," *IEEE Transactions on Information Theory*, vol. 53, no. 10, pp. 3453-3475, October 2007.
68. A. Chakrabarti, E. Erkip, A. Sabharwal and B. Aazhang, "Code designs for cooperative communications," *IEEE Signal Processing Magazine*, vol. 24, no. 5, pp.16-26, September 2007.
69. H.Y. Shutoy, D. Gunduz, E. Erkip and Y. Wang, "Cooperative source and channel coding for wireless multimedia communications," *IEEE Journal on Selected Topics in Signal Processing*, vol. 17, no. 6, pp. 674-685, August 2007.
70. X. Lu, Y. Wang, E. Erkip and D. Goodman, "Total power minimization for multiuser video communications over CDMA networks," *IEEE Transactions on Circuits and Systems: Video Technology*, vol. 17, no. 6, pp. 674-685, June 2007.
71. D. Gunduz and E. Erkip, "Opportunistic cooperation by dynamic resource allocation," *IEEE Transactions on Wireless Communications*, vol. 6, no. 4, pp. 1446-1454, April 2007.

72. P. Liu, Z. Tao, Z. Lin, E. Erkip and S. Panwar, "Cooperative wireless communications: A cross-layer approach," *IEEE Wireless Communications Magazine*, vol. 13, no. 4, pp. 84-92, August 2006 (*invited*).
73. Z. Lin, E. Erkip and A. Stefanov, "Cooperative regions and partner choice in coded cooperative systems," *IEEE Transactions on Communications*, vol. 54, no. 7, pp. 1323-1334, July 2006.
74. A. Stefanov and E. Erkip, "Cooperative space-time coding for wireless networks," *IEEE Transactions on Communications*, vol. 53, no. 11, pp. 1804-1809, November 2005.
75. S. Das, E. Erkip, J. Cavallaro and B. Aazhang, "Low complexity iterative multiuser detection and decoding for real-time applications," *IEEE Transactions on Wireless Communications*, vol. 4, no. 4, pp. 1455-1460, July 2005.
76. A. Stefanov and E. Erkip, "Cooperative coding for wireless networks" *IEEE Transactions on Communications*, vol. 52, no. 9, pp. 1470-1476, September 2004.
77. X. Lu, E. Erkip, Y. Wang and D. Goodman, "Power efficient multimedia communication over wireless channels," *IEEE Journal on Selected Areas on Communications*, vol.21, no. 10, pp.1738-1751, December 2003.
78. A. Sendonaris, E. Erkip and B. Aazhang, "User cooperation diversity-Part I: System description," *IEEE Transactions on Communications*, vol. 51, no. 11, pp. 1927-1938, November 2003.
79. A. Sendonaris, E. Erkip and B. Aazhang, "User cooperation diversity-Part II: Implementation aspects and performance analysis," *IEEE Transactions on Communications*, vol. 51, no. 11, pp. 1939-1948, November 2003.
80. K. K. Mukkavilli, A. Sabharwal, E. Erkip and B. Aazhang, "On beamforming with finite rate feedback in multiple antenna systems," *IEEE Transactions on Information Theory, Special Issue on Space-Time Transmission, Reception, Coding and Signal Design*, vol. 49, no.10, pp. 2562-2579, October 2003.
81. D. Rajan, E. Erkip and B. Aazhang, "Spreading and power allocation for multiple antenna transmission using decorrelating receivers," *IEEE Transactions on Wireless Communications*, vol. 2, no. 3, pp. 436-445, May 2003.
82. E. Erkip and T. Cover, "The efficiency of investment information," *IEEE Transactions on Information Theory*, vol. 44, no. 3, pp. 1026-1040, May 1998.

## Book Chapters

1. P. Hassanzadeh, A. M. Tulino, J. Llorca, E. Erkip, "Scalable delivery of correlated video content over cache-aided broadcast networks," in *Edge Caching for Mobile Networks*, edited by H.V. Poor and W. Chen, IET Telecommunications Series, 2022 (*invited*).
2. D. Gunduz, E. Erkip and H.V. Poor, "Source coding under security constraints," in *Securing Wireless Communications at the Physical Layer*, edited by Wade Trappe and Ruoheng Liu, pp. 173-200, Springer-Verlag, 2010 (*invited*).
3. M. Yuksel and E. Erkip, "Information theoretic limits on cooperative communications," in *Cooperative Communications for Improved Wireless Network Transmission*, edited by Murat Uysal, Chapter 1, pp. 1-28, IGI –Global, 2009 (*invited*).



4. E. Erkip, A. Sendonaris, A. Stefanov and B. Aazhang, "Cooperative communication in wireless systems," in *Advances in Network Information Theory*, edited by Piyush Gupta, Gerhard Kramer and Adriaan J. van Wijngaarden, pp. 303-320, AMS DIMACS Series, 2004 (*invited*).
5. E. Erkip, X. Lu, Y. Wang, D. Goodman, "Total power optimization for wireless multimedia communication," in *System Level Power Optimization for Wireless Multimedia Communication: Power Aware Computing*, edited by R. Karri and D. Goodman, Chapter 1, Kluwer Academic Publishers, 2002.

### Conference Publications (Invited)

1. P. Skrimponis, S. Kang, A. Khalili, W. Lee, Navid Hosseinzadeh, M. Mezzavilla, E. Erkip, M.J.W. Rodwell, J.F. Buckwalter and S. Rangan, "Understanding energy efficiency and interference tolerance in millimeter wave receivers," in *Proceedings of Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, November 2021.
2. M. A. Amir Khojastepour, S. Shahsavari, A. Khalili and E. Erkip, "Multi-user beam alignment for millimeter wave systems in multi-path environments," in *Proceedings of Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, November 2020.
3. F. Shirani, S. Garg and E. Erkip, "Matching graphs with community structure: A concentration of measure approach," in *Proceedings of Allerton Conference on Communication, Control, and Computing*, Allerton, IL, October 2018.
4. F. Shirani, S. Garg and E. Erkip, "Seeded graph matching: Efficient algorithms and theoretical guarantees," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2017.
5. F. Boccardi, H. Shokri, E. Erkip, C. Fischione, G. Fodor, M. Kountoris, P. Popovski, M. Zorzi, "Spectrum access schemes for mmwave networks," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2016.
6. P. Hassanzadeh, A. Tulino, J. Llorca and E. Erkip, "Cache-aided coded multicast for correlated sources," in *Proceedings of International Symposium on Turbo Codes and Iterative Information Processing (ISTC)*, Brest, September 2016.
7. F. Gomez-Cuba, S. Rangan, E. Erkip, J. Gonzales-Castano, "Capacity scaling bounds in wideband cellular networks," in *Proceedings of International Zurich Seminar (IZS)*, Zurich, Switzerland, March 2016.
8. O. Orhan, E. Erkip and S. Rangan, "Low power analog-to-digital conversion in millimeter wave systems: Impact of resolution and bandwidth on performance," in *Proceedings of Information Theory and Applications Workshop*, San Diego, CA, February 2015.
9. F. Rezagah and E. Erkip, "Interactive relay assisted source coding," in *Proceedings of IEEE Global Conference on Information and Signal Processing, Network Theory Symposium*, Austin, Texas, December 2013.
10. S. Goyal, P. Liu, O. Gurbuz, E. Erkip and S. Panwar, "A distributed MAC protocol for full-duplex radio," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2013.
11. X. Liu, O. Simeone and E. Erkip, "Lossy computing of correlated sources," in *Proceedings of IEEE Information Theory Workshop*, Lausanne, Switzerland, September 2012.

12. O. Orhan, D. Gunduz and E. Erkip, "Throughput maximization for an energy harvesting system with processing cost," in *Proceedings of IEEE Information Theory Workshop*, Lausanne, Switzerland, September 2012.
13. O. Orhan and E. Erkip, "Energy harvesting two-hop networks: Optimal policies for the multi-energy arrival case," In *Proceedings of IEEE Sarnoff Symposium*, Princeton, New Jersey, March 2012.
14. P. Castiglione, O. Simeone, E. Erkip and T. Zemen, "Energy-harvesting for source-channel coding in cyber-physical systems," in *Proceedings of IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing*, San Juan, Puerto Rico, December 2011.
15. K. Bakanoglu and E. Erkip, "Relay channel with non-causal interference information at the source," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2010.
16. M. Yuksel, X. Liu, E. Erkip, "A secrecy game with an informed jammer relay," in *Proceedings of IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Istanbul, Turkey, September 2010.
17. D. Gunduz, E. Erkip, A. Goldsmith and H.V. Poor, "Cooperative relaying in sensor networks," in *Proceedings of Conference on Cognitive Radio Oriented Wireless Networks and Communications (CROWNCOM)*, Cannes, France, June 2010.
18. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff for MIMO wiretap channels with CSIT," in *Proceedings of European Wireless Conference*, Lucca, Italy, April 2010.
19. M. Knox and E. Erkip, "Implementation of cooperative communications using software defined radios," in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, TX, March 2010.
20. O. Alay, P. Liu, Y. Wang, E. Erkip and S. Panwar, "Error resilient video multicast using randomized distributed space-time codes," in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, TX, March 2010.
21. O. Simeone, E. Erkip and S. Shamai, "Oblivious relaying for primitive interference relay channels," in *Proceedings of International Zurich Seminar on Communications*, Zurich, Switzerland, March 2010.
22. O. Simeone, E. Erkip and S. Shamai, "Achievable rates for multicell systems with femtocells and network MIMO," in *Proceedings of International Zurich Seminar on Communications*, Zurich, Switzerland, March 2010.
23. C. Bilen, E. Erkip and Y. Wang, "Layered video multicast using diversity embedded space-time codes," in *Proceedings of IEEE Sarnoff Symposium*, Princeton, New Jersey, March 2009.
24. O. Simeone, O. Somekh, E. Erkip, H. V. Poor, S. Shamai (Shitz), "A broadcast approach to robust communications over unreliable multi-relay networks," in *Proceedings of Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2009.
25. O. Sahin, E. Erkip, O. Simeone, "Interference channel with a relay: Models, relaying strategies, bounds," in *Proceedings of Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2009.
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117. D. Gunduz, E. Erkip and H.V. Poor, "Secure lossless compression with side information," in *Proceedings of IEEE Information Theory Workshop*, Porto, Portugal, May 2008.
118. O. Alay, T. Korakis, Y. Wang, E. Erkip and S. Panwar, "Layered wireless video multicast using omnidirectional relays," in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Las Vegas, NV, April 2008.
119. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff for the multi-antenna wire-tap channel," in *Proceedings of Conference on Information Sciences and System (CISS)*, Princeton, NJ, March 2008.
120. J. Yang, D. Gunduz, D.R. Brown III, E. Erkip, "Resource allocation for cooperative relaying," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, March 2008.
121. O. Sahin and E. Erkip, "Achievable rates for the Gaussian interference relay channel," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, Washington D.C., November 2007.
122. O. Alay, E. Erkip and Y. Wang, "Cooperative transmission of correlated Gaussian sources," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2007.
123. K. Bakanoglu, D. Gunduz, E. Erkip, "Dynamic resource allocation for the broadband relay channel," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2007.
124. D. Gunduz and E. Erkip, "Interference channel and compound MAC with correlated sources and receiver side information," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Nice, France, June 2007.
125. D. Gunduz, C. T. K. Ng, E. Erkip and A. J. Goldsmith, "Source transmission over relay channel with correlated relay side information," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Nice, France, June 2007.
126. C. T. K. Ng, D. Gunduz, A. J. Goldsmith and E. Erkip, "Minimum expected distortion in Gaussian joint source-channel layered broadcast coding," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Nice, France, June 2007.
127. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff in half-duplex relay systems," in *Proceedings of IEEE ICC Communication Theory Symposium*, June 2007.
128. C. T. K. Ng, D. Gunduz, A. J. Goldsmith and E. Erkip, "Recursive power allocation in Gaussian joint source-channel layered broadcast coding," in *Proceedings of ICC Communication Theory Symposium*, June 2007.
129. D. Gunduz and E. Erkip, "Lossless transmission of correlated sources over a multiple access channel with side information," in *Proceedings of Data Compression Conference*, March 2007.
130. D. Gunduz and E. Erkip, "Correlated sources over an asymmetric multiple access channel with one distortion criterion," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, March 2007.

131. M. Yuksel and E. Erkip, "The relay channel with a wiretapper," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, March 2007.
132. O. Sahin and E. Erkip, "Dynamic resource allocation for multi source-destination relay networks," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, March 2007.
133. Z. Lin, E. Erkip and M. Ghosh, "Rate adaptation for coded cooperative systems," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, San Francisco, December 2006.
134. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff in multiple-antenna relay systems," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Seattle, July 2006.
135. D. Gunduz and E. Erkip, "Distortion exponent of parallel fading channels," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Seattle, July 2006.
136. O. Sahin, E. Erkip and D. Goodman, "Iterative power control for wireless multimedia communications," in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toulouse, France, May 2006.
137. M. Yuksel and E. Erkip, "Diversity-multiplexing tradeoff in cooperative wireless systems," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Princeton University, New Jersey, March 2006.
138. D. Gunduz and E. Erkip, "Distortion exponent of MIMO fading channels," in *Proceedings of IEEE Information Theory Workshop*, Punta del Este, Uruguay, March 2006.
139. Z. Lin and E. Erkip, "Relay search algorithms for coded cooperative systems," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, St. Louis, December 2005.
140. D. Gunduz and E. Erkip, "Source and channel coding for quasi-static fading channels," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2005.
141. D. Gunduz and E. Erkip, "Outage minimization by opportunistic cooperation," in *Proceedings of WirelessCom, Symposium on Information Theory*, Maui, Hawaii, June 2005.
142. Z. Lin, E. Erkip and M. Ghosh, "Adaptive modulation for coded cooperative systems," in *Proceedings of IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC)*, New York City, June 2005.
143. D. Gunduz and E. Erkip, "Opportunistic cooperation and power control strategies for delay-limited capacity," in *Proceedings of Conference on Information Sciences and Systems (CISS)*, Baltimore, March 2005.
144. X. Lu, Y. Wang, E. Erkip and D. Goodman, "Minimize the total power consumption for multiuser video transmission over CDMA wireless network: A two-step approach," in *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Philadelphia, March 2005.
145. Z. Lin, E. Erkip and A. Stefanov, "Cooperative regions for coded cooperative systems," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, Dallas, December 2004.
146. X. Lu, D. Goodman, Y. Wang and E. Erkip, "Complexity-bounded power control in video transmission over a CDMA wireless network," in *Proceedings of IEEE GLOBECOM Wireless Communications, Networks and Systems Symposium*, Dallas, December 2004.

147. Z. Lin, E. Erkip and A. Stefanov, "Exact pairwise error probability for the MIMO block fading channel," in *Proceedings of International Symposium on Information Theory and its Applications*, Parma, Italy, October 2004.
148. Z. Lin, E. Erkip and A. Stefanov, "An asymptotic analysis on the performance of coded cooperation systems," in *Proceedings of IEEE Fall Vehicular Technology Conference*, Los Angeles, September 2004.
149. D. Gunduz and E. Erkip, "Joint source-channel cooperation: Diversity versus spectral efficiency," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Chicago, June 2004.
150. M. Yuksel and E. Erkip, "Diversity gains and clustering in wireless relaying," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Chicago, June 2004.
151. X. Lu, Y. Wang, E. Erkip and D. Goodman, "Power optimization of source encoding and radio transmission in multiuser CDMA systems," in *Proceedings of IEEE ICC Wireless Communications Symposium*, Paris, France, June 2004.
152. M. Yuksel and E. Erkip, "Diversity in relaying protocols with amplify and forward," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, San Francisco, December 2003.
153. Z. Lin, E. Erkip and A. Stefanov, "Simple derivation of exact pairwise error probability for Rayleigh block fading channels," in *Proceedings of Allerton Conference on Communication, Control and Computing*, October 2003.
154. K. K. Mukkavilli, A. Sabharwal, E. Erkip and B. Aazhang, "Beamformer design with feedback rate constraints: Criteria and constructions," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Yokohoma, Japan, July 2003.
155. A. Stefanov and E. Erkip, "Cooperative space-time coding for wireless networks," in *Proceedings of IEEE Information Theory Workshop*, La Sorbonne, Paris, France, April 2003.
156. A. Stefanov and E. Erkip, "On the performance analysis of cooperative space-time coded systems," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, New Orleans, Louisiana, March 2003.
157. K. K. Mukkavilli, A. Sabharwal, E. Erkip and B. Aazhang, "Performance limits on beamforming with finite rate feedback for multiple antenna systems," in *Proceedings of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2002.
158. A. Stefanov and E. Erkip, "Cooperative coding for wireless networks," in *Proceedings of IEEE Conference on Mobile and Wireless Communications Networks*, Stockholm, Sweden, September 2002.
159. X. Lu, Y. Wang and E. Erkip, "Power efficient H.263 video transmission over wireless channels," in *Proceedings of IEEE International Conference on Image Processing*, Rochester, New York, September 2002.
160. A. Stefanov and E. Erkip, "Cooperative information transmission in wireless networks," in *Proceedings of IEEE Asian-European Information Theory Workshop*, Breisach, Germany, June 2002.
161. E. Erkip, Y. Wang, D. Goodman, Y. Wu and X. Lu, "Energy efficient coding and transmission," in *Proceedings of IEEE Spring Vehicular Technology Conference*, Rhodes, Greece, May 2001.
162. S. Das, E. Erkip, J. Cavallaro and B. Aazhang, "Maximum weight basis decoding of convolutional codes," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, San Francisco, California, November 2000.

163. A. Sabharwal, E. Erkip and B. Aazhang, "On preamble and feedback design in block fading channels," in *Proceedings of IEEE International Symposium on Information Theory and Its Applications*, Honolulu, Hawaii, November 2000.
164. D. Rajan, E. Erkip and B. Aazhang, "New spread-spectrum techniques for transmit antenna diversity," in *Proceedings of IEEE GLOBECOM Communication Theory Symposium*, Rio de Janeiro, Brazil, December 1999.
165. S. Das, E. Erkip, J. Cavallaro and B. Aazhang, "Iterative multiuser detection and decoding," in *Proceedings of IEEE GLOBECOM Communications Theory Mini-Conference*, Sydney, Australia, November 1998.
166. E. Erkip and B. Aazhang, "Multiple access schemes over multipath fading channels," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, MIT, August 1998.
167. A. Sendonaris, E. Erkip and B. Aazhang, "Increasing uplink capacity via user cooperation diversity," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, MIT, August 1998.
168. E. Erkip and T. Cover, "The initial efficiency of investment for the general market," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Ulm, Germany, June 1997.
169. E. Erkip and T. Cover, "The relation of description rate and investment growth rate," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Whistler, Canada, September 1995.
170. T. Cover and E. Erkip, "Information efficiency in investment," in *Proceedings of IEEE International Symposium on Information Theory (ISIT)*, Whistler, Canada, September 1995.

## Patents

1. C. Nie, P. Liu, T. Korakis, E. Erkip and S. Panwar, "CoopMAX: A cooperative MAC with randomized distributed space time coding for an IEEE 802.16 network," US 8,792,367, July 29, 2014.
2. E. Erkip, P. Liu, C. Nie and S. Panwar, "Robust cooperative relaying in a wireless LAN: Cross-layer design and performance analysis," US 8,611,271, December 17, 2013.
3. E. Erkip, P. Liu, T. Korakis, and S. Panwar, "Spatial multiplexing gain for a distributed cooperative communications system using randomized coding," US 8,509,288, August 13, 2013.
4. Z. Lin, M. Ghosh and E. Erkip, "Adaptive modulation for coded cooperative systems," US 8,451,768, May 28, 2013.
5. E. Erkip, T. Korakis, P. Liu, S. Panwar and A. Scaglione, "Cooperative MAC for rate adaptive randomized distributed space-time coding," US 8,228,836, July 24, 2012.
6. O. Alay, E. Erkip, T. Korakis, E. Erkip, S. Panwar and Y. Wang "Video multicast, such as layered video multicast for example, using relay devices defined by a channel quality parameter hierarchy," US 8,179,848, May 15, 2012.

## Keynotes and Plenary Talks

1. Title TBD, *National Conference on Communications (NCC)*, Indian Institute of Technology Madras, Chennai, India, March 2024.
2. "A Communications Perspective on Digital Privacy," *Digitalize in Stockholm 2022*, Stockholm, Sweden, October 2022.

3. “Energy Efficiency in mmWave and Beyond: Perspectives from Signal Processing, Information Theory and RF Design,” *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Lucca, Italy, September 2021.
4. “Can Information Theory Guide Design and Practice of mmNets?” *ACM Workshop on Millimeter-Wave Networks and Sensing Systems (mmNets)*, London, UK, September 2020.
5. “An Information Theoretic Framework for Web Privacy,” *IEEE International Conference on Computing, Networking and Communications (ICNC)*, Honolulu, HI, February 2019.
6. “Cooperative Wireless Networking: Theoretical Foundations and 5G Applications,” *IEEE Sarnoff Symposium*, Newark, NJ, September 2016.
7. “From 3T to 5G: Theory and Practice of Cooperation in Wireless Networks,” *IEEE International Symposium on Information Theory (ISIT)*, Barcelona, Spain, July 2016.

### **Invited Short Courses, Tutorials and Guest Lectures**

1. “An Information Theoretic Perspective on Database and Graph Matching,” Padovani Lecture (in tutorial format) in *IEEE North American School of Information Theory*, UCLA, Los Angeles, CA, August 2022.
2. “A Communications Theory Perspective on Web Privacy,” tutorial in *IEEE GLOBECOM*, Hawaii, December 2019 (with S. Garg, F. Shirani).
3. “A Communications Theory Perspective on Web Privacy,” tutorial in *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Istanbul, Turkey, September 2019 (with S. Garg, F. Shirani).
4. “An Information Theoretic Perspective on Web Privacy,” tutorial in *East Asian School of Information Theory and Communication*, Taipei City, Taiwan, August 2018.
5. “From Sensors to Video: Information Theoretic Foundations of Source Communication over Wireless Channels,” tutorial in *IEEE Australian School of Information Theory*, Melbourne, Australia, January 2016.
6. “Information Theoretic Foundations of Cooperation in Multiuser Networks,” tutorial in *IEEE North American School of Information Theory*, Cornell, NY, June 2012.
7. “Shannon’s Information Theory and Investment,” guest lecture in freshman course *FRS174: The Information Revolution*, Princeton University, Princeton, NJ, November 2010.
8. “Cooperative Joint Source and Channel Coding,” three-day short course in University of Oulu, Center for Wireless Communications, Oulu, Finland, August 2010 (with B. Aazhang).
9. “Cooperative Communications,” tutorial in *IEEE International Symposium on Information Theory*, Austin, TX, June 2010 (with A. Nosratinia).
10. “Shannon’s Information Theory and Investment,” guest lecture in freshman course *FRS174: The Information Revolution*, Princeton University, Princeton, NJ, April 2009.



## Invited Conference Presentations

1. “Scalar compression methods for binary hypothesis testing,” *Conference on Information Sciences and Systems (CISS)*, Baltimore, MD, March 2023 (presented by F. Carpi).
2. “An information theoretic perspective on low resolution quantization in mmWave communications,” *IEEE Information Theory Workshop*, Riva del Garda, Italy, April 2021.
3. “From 5G to Facebook: Understanding and engineering networks” *New York Academy of Sciences Blavatnik Science Symposium*, New York, NY, July 2019.
4. “A communication theorist’s perspective in graph matching,” IEEE Communications Society Communication Theory Technical Committee (CTTC) Technical Achievement Award Lecture, *IEEE Communication Theory Workshop*, Selfoss, Iceland, May 2019.
5. “Dear Hedy, how does my phone work?” Introduction to the movie *Bombshell: The Hedy Lamarr Story*, in *New York State Psychological Association Division of Women’s Issues Conference, Braking Barriers: Women in Science and Technology*, October 2018.
6. “Social network de-anonymization based on group memberships: An information theoretic approach,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2018.
7. “An economic perspective on spectrum and infrastructure sharing in millimeter wave cellular networks,” in *IEEE Communication Theory Workshop*, Fiji, June 2017.
8. “Caching correlated sources: Bounds on the rate-memory trade-off,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2017.
9. “Anonymity in social networks: Fundamental bounds and connections to community detection,” in *Nexus of Information Theory and Computer Science Program*, Institut Henri Poincare, Paris, France, March 2016.
10. “Social network de-anonymization for graphs with community structure.” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2016.
11. “Interactive source coding with reconstruction constraints,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2013.
12. “Energy-efficient sensing and communication in multihop channels,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2012.
13. “Energy efficient wireless communication: Impact of energy harvesting and processing energy,” in *Third International Workshop on Green Wireless (W-GREEN 2011)*, held in conjunction with *IEEE PIMRC*, Toronto, Canada, September 2011.
14. “Relaying in the presence of an external interferer,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2011.
15. “A game-theoretic perspective of the interference channel: Impact of coordination and bargaining,” in *IEEE Communication Theory Workshop*, Cancun, Mexico, May 2010.
16. “Gaussian interference channel with an out-of-band relay,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2010.
17. “Oblivious and out-of-band relaying for interference networks,” in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, February 2010.

18. "Cooperative interference management: The role of cognitive relaying," in *IEEE Communication Theory Workshop*, St. Croix, U.S. Virgin Islands, May 2008.
19. "Secure source compression with side information," in *Information Theory and Applications Workshop*, UCSD, San Diego, CA, January 2008.
20. "Can virtual MIMO mimic a multi-antenna system: Diversity-multiplexing tradeoff for wireless relay networks," in *IEEE Communication Theory Workshop*, Park City, Utah, June 2005.
21. "Diversity-multiplexing tradeoff for cooperative systems: Characterization and impact on joint source-channel coding," *MSRI Workshop on Mathematics of Relaying and Cooperation in Communication Networks*, Berkeley, CA, April 2006.
22. "Data compression with side information," in *Center for Telecommunications Workshop Empirical Bounds on Data Compression*, Stanford University, California, September 1995.

### Other Conference Presentations

1. "Estimation of cellular and genetic diversity," in *Joint Statistical Meetings*, Vancouver, Canada, August 2010.
2. "Total power optimization for wireless multimedia communication," in *IEEE Workshop on Integrated Management of Power Aware Communications, Computing and Networking (IMPACCT 2002)*, held in conjunction with *IEEE ICC*, New York, New York, May 2002.
3. "Infinitesimal Bayesian robustness via Kullback-Leibler distance," in *Valencia International Meeting on Bayesian Statistics*, Alcossebre, Spain, May 1998.

### Invited Seminars

1. Title TBD, *Distinguished Mercer Lecture*, Rensselaer Polytechnic Institute (RPI), Rochester, NY, January 2024.
2. "Distributed Compression in the Era of Machine Learning," *Distinguished Lecture at the Electrical and Computer Engineering Department at UCSB*, Santa Barbara, CA, December 2023.
3. "Distributed Compression in the Era of Machine Learning," *Harvard Electrical Engineering Seminar Series*, Harvard, MA, November 2023.
4. "Energy Efficiency in 6G: Perspectives from Information Theory, Machine Learning and RF Design" *Zhejiang University Graduate International Workshop on Toward 6G with Intelligent Communications, Sensing and Computing*, November 2022.
5. "Beam Alignment for Next Generation Wireless Networks" *IEEE Communications Society WICE Talk Series*, IEEE-ComSoc Delhi Section Chapter, India, January 2022.
6. "A Communications Perspective on Digital Privacy," *Grace Hopper Lecture*, University of Pennsylvania, November 2021.
7. "An Information Theoretic Perspective on Wireless and Social Networking," Princeton University, Princeton, NY, June 2021.
8. "A Communications Perspective on Graph Matching," *MIT-Harvard CINCS/Hamilton Institute Seminar*, October 2020.

9. "From 5G to Facebook: Understanding and Engineering Networks," *TEDx Scarsdale*, New York, August 2020.
10. "A Communications Perspective on Graph Matching," *Rice University Wireless Distinguished Seminar Series*, Houston, TX, July 2020.
11. "An Information Theoretic Framework for Web Privacy," Telecom Paris Tech, Paris, France, January 2019.
12. "An Information Theoretic Framework for Web Privacy," Bell Labs, Murray Hill, October 2018.
13. "An Information Theoretic Framework for Web Privacy," National Chiao Tung University, Taipei, Taiwan, August 2018.
14. "From Shannon to 5G: Theory and Practice of Cooperative Wireless Networking" Air Force Research Lab, Rome, NY, December 2016.
15. "From Shannon to 5G: Theory and Practice of Cooperative Wireless Networking", Rutgers University, New Brunswick, NJ, December 2016.
16. "From Shannon to 5G: Theory and Practice of Cooperative Wireless Networking," University of Michigan, Ann Arbor, Michigan, November 2016.
17. "Energy Efficiency in Delay-Constrained Sensing and Communication," Imperial College, London, UK, April 2013.
18. "Energy Efficient Wireless Communication: Impact of Energy Harvesting and Processing Energy," MIT Weeks Seminar Series, Boston, MA, September 2012.
19. "Energy Efficient Wireless Communication: Impact of Energy Harvesting and Processing Energy," InterDigital Communications, Melville, NY, May 2012.
20. "Energy Efficient Wireless Communication: Impact of Energy Harvesting and Processing Energy," University of Padova, Italy, April 2012.
21. "Robust Cross-Layer Design for Cooperative Wireless Networks," Alcatel-Lucent Bell Labs, Crawford Hill, NJ, April 2011.
22. "Robust Cross-Layer Design for Cooperative Wireless Networks," Technicolor Research Center, Paris, France, April 2011.
23. "A Game-Theoretic View of the Interference Channel: Impact of Coordination and Bargaining," Telecom ParisTech, Paris, France, April 2011.
24. "Cooperative Wireless Networking: From Theory to Practice," Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Barcelona, Spain, April 2010.
25. "Cooperative Wireless Networking: From Theory to Practice," TOBB University of Economics and Technology, Ankara, Turkey, December 2009.
26. "Cooperative Networking and Interference Management," Alcatel-Lucent Bell Labs, Murray Hill, NJ, December 2009.
27. "Cooperative Wireless Networking: From Theory to Practice," Syracuse University, Syracuse, NY, November 2009.

28. "Cooperative Wireless Networking: From Theory to Practice," NEC Labs, Princeton, NJ, June 2009 (with S. Panwar).
29. "Cooperative Wireless Networking: From Theory to Practice," Alcatel-Lucent Bell Labs, Crawford Hill, NJ, June 2009 (with S. Panwar).
30. "Cooperative Wireless Networking: From Theory to Practice," InterDigital Communications, Melville, NY, June 2009.
31. "Cooperative Wireless Networking: From Theory to Practice, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil, April 2009.
32. "Cooperative Wireless Networking: From Theory to Practice," Columbia University, New York, NY, November 2008.
33. "Cooperative Wireless Networking: From Theory to Practice," Qualcomm/Flarion Technologies, NJ, February 2008.
34. "Cooperative Wireless Networking: From Theory to Practice," Stanford University, CA, February 2008.
35. "Cooperative Wireless Networking: From Theory to Practice," University of California, Berkeley, CA, February 2008.
36. "Cooperative Wireless Networking: From Theory to Practice," Princeton University, NJ, November 2007.
37. "Cooperative Wireless Networking: From Theory to Practice," Penn State University, PA, October 2007.
38. "Cooperative Wireless Networking," InterDigital Communications, Melville, NY, January 2007.
39. "Cooperative Communications," BAE Systems, NJ, November 2006.
40. "Diversity versus Multiplexing: Tradeoff for Virtual MIMO and Effect on Joint Source-Channel Coding," WINLAB, Rutgers University, New Jersey, January 2006.
41. "Channel Coding and Partner Selection for Cooperative Systems," Philips Research, Briarcliff, New York, November 2004.
42. "User Cooperation in Wireless Communications," Cornell University, School of Electrical and Computer Engineering Colloquium, Ithaca, New York, January 2004.
43. "Cooperative Communication in Wireless Networks," Symbol Technologies, New York, October 2003.
44. "Cooperative Communication in Wireless Networks," Philips Research, Briarcliff, New York, October 2003.
45. "Cooperative Communication in Wireless Networks," Lucent Technologies Bell Labs, Mathematical Sciences Center, Murray Hill, New Jersey, March 2003.
46. "Computationally Efficient Multiuser Detection and Decoding," Georgia Institute of Technology, School of Electrical and Computer Engineering, Atlanta, Georgia, March 1999.

47. “On Fading and Multiuser Aspects of Wireless Communications,” Bilkent University Electrical-Electronics Engineering Department, Ankara, Turkey, December 1998.
48. “Information Theoretic Aspects of Wireless Communications,” Visual Communications Group, Texas Instruments Inc., Houston, Texas, March 1997.
49. “The Efficiency of Information in Investment,” IBM Almaden Research Center, San Jose, California, August 1996.

## Invited Panels

1. “The Role of Information Theory in 6G,” organizer and moderator, *IEEE Communications Society Communication Theory Workshop*, Hualien, Taiwan, July 2023.
2. “Transcending Layers: Crossing the Divide Between Lower and Upper,” panelist, *The Sally Floyd Channel*, Sponsored by NSF NeTS-Virtual Organization, January 2022.
3. “Information and Communications Technology: Key Challenges for the Next Decade,” panelist, *Marconi Society Symposium The Decade of Digital Inclusion*, October 2021.
4. “Waiting for 5G: Powering the Future?” panelist, *Economist Tenth Innovation Summit*, Chicago, IL, March 2020.
5. “Views on 6G Networks of the 2030’s,” panelist, *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) Executive Panel*, Istanbul, Turkey, September 2019.
6. “Large Sensor Networks,” moderator, *Kavli Futures Symposium: Sensing the City*, New York University Tandon School of Engineering, Brooklyn, NY, April 2018.
7. “Massive MIMO Technology for 5G (6 GHz–100 GHz),” panelist, *Brooklyn 5G Summit*, New York University Tandon School of Engineering, Brooklyn, NY, April 2015.

## Professional Activities

### ○ Technical Society

#### *IEEE Level*

- **Chair**, IEEE Hamming Medal Committee, 2023-present.
- **Chair**, IEEE Technical Activities Board, Award Subcommittee, 2022-2023.
- **Chair**, IEEE Awards Board, Diversity Subcommittee, 2020-2021.
- **Chair**, IEEE Medals Council, 2020-2021.
- **Chair**, IEEE Bell Medal Committee, 2019-2020.
- **Vice-Chair**, IEEE Medals Council, 2018-2019.
  
- **Member**, IEEE Hamming Medal Committee, 2022-2023.
- **Member**, IEEE Awards Board, 2020-2022.
- **Member**, IEEE Ad Hoc Committee on Top-Level Medals & Awards, 2022.
- **Member**, IEEE Board of Directors Diversity and Inclusion Committee, 2021-2022.
- **Member**, IEEE Technical Activities Board Diversity and Inclusion Committee, 2020-2021.
- **Member**, IEEE Awards Board Operating Committee, 2020-2021.
- **Member**, IEEE Founders Medal Committee, 2018-2020.
- **Member**, IEEE Bell Medal Committee, 2016-2018.

*IEEE Information Theory Society*

- **Senior Past President**, IEEE Information Theory Society, 2020.
- **Chair**, IEEE Information Theory Society Nominations and Appointments Committee, 2020.
- **Chair**, IEEE Information Theory Society Constitution and Bylaws Committee, 2020.
- **Vice President**, IEEE Information Theory Society Publications Committee, 2020.
- **Junior Past President**, IEEE Information Theory Society, 2019.
- **Chair (founding)**, IEEE Information Theory Society Diversity and Inclusion Committee, 2018-2019.
- **President**, IEEE Information Theory Society, 2018.
- **Chair**, IEEE Information Theory Society Claude E. Shannon Award Selection Committee, 2018.
- **Chair**, IEEE Information Theory Society Aaron D. Wyner Distinguished Service Award Selection Committee, 2018.
- **Chair**, IEEE Information Theory Society Paper Awards Committee, 2017.
- **Chair**, IEEE Information Theory Society Thomas M. Cover Dissertation Award Committee, 2017.
- **Chair**, IEEE Information Theory Society Ad-hoc Committee on New Publications, 2017.
- **First Vice President**, IEEE Information Theory Society, 2017.
- **Second Vice President**, IEEE Information Theory Society, 2016.
- **Chair**, IEEE Information Theory Society Membership Committee, 2016.
- **Chair**, IEEE Information Theory Society Conference Committee, 2013- 2015.
- **Chair**, IEEE Information Theory Society Student and Outreach Committee, 2012-2013.
- **Member**, IEEE Information Theory Society Nominations and Appointments Committee, 2019, 2021-present.
- **Member**, IEEE Information Theory Society Magazine Steering Committee, 2019-2022.
- **Member**, IEEE Information Theory Society Aaron D. Wyner Distinguished Service Award Selection Committee, 2019.
- **Member**, IEEE Information Theory Society Constitution and Bylaws Committee, 2019.
- **Member**, IEEE Information Theory Society External Nominations Committee, 2018.
- **Member**, IEEE Information Theory Society Online Committee, 2017-2018.
- **Member**, IEEE Information Theory Society Publications Committee, 2016- 2018.
- **Member**, IEEE Information Theory Society Conference Committee, 2011- 2013, 2016-2018.
- **Member**, IEEE Information Theory Society Claude E. Shannon Award Selection Committee, 2016-2017.
- **Member**, IEEE Information Theory Society James L. Massey Research and Teaching Award for Young Scholars Selection Committee, 2016.
- **Member**, IEEE Information Theory Society Schools Subcommittee, 2016.
- **Member**, IEEE Information Theory Society Student and Outreach Committee, 2013-2014, 2016.
- **Member**, IEEE Information Theory Society Board of Governors, 2012- 2020.
- **Member**, IEEE Information Theory Society Paper Awards Committee, 2010-2011, 2016.

*IEEE Communications Society*

- **Vice-Chair**, IEEE Communications Society Communication Theory Technical Committee (CTTC), 2023-2024.
- **Member**, IEEE Communications Society Communication Theory Technical Committee (CTTC) Awards Committee, 2021-2022.
- **Member**, IEEE GLOBECOM Best Paper Selection Committee, 2022.
- **Member**, IEEE International Conference on Communications (ICC) Best Paper Selection Committee, 2022.
- **Member**, IEEE Communications Society Young Professionals Awards Committee, 2021.
- **Member**, IEEE Communications Society Communication Theory Technical Committee (CTTC) Nominations and Election Committee, 2019-2020.

*Other*

- **Member**, Marconi Foundation Young Scholar Selection Committee, 2018-present.
- **Member**, Advisory Board, Engineer Girls of Turkey, 2019-present.

○ **Journal**

- **Guest Editor**, IEEE Journal on Selected Areas in Information Theory, Special Issue on Sensing: Fundamental Limits and Modern Applications, 2023.
- **Guest Editor**, IEEE Journal on Selected Areas in Communications, Special Issue on Rate Splitting for Future Wireless Networks, 2023.
- **Lead Guest Editor**, IEEE Journal on Selected Areas in Information Theory, Special Issue on Information Theoretic Foundations of Future Communication Systems, 2022.
- **Guest Editor**, IEEE Journal on Selected Areas in Information Theory, Special Issue on Beyond Errors and Erasures: Coding for Data Management and Delivery in Networks, 2021.
- **Senior Editor**, IEEE Signal Processing Magazine, 2018-2020.
- **Guest Editor**, IEEE Journal on Selected Areas in Communications, Special Issue on Wireless Communications Powered by Energy Harvesting and Wireless Energy Transfer, 2015.
- **Associate Editor** for Shannon Theory, IEEE Transactions on Information Theory, January 2009-December 2011.
- **Associate Editor** for Cooperative Diversity, IEEE Transactions on Communications, January 2006-December 2008.
- **Publications Editor**, IEEE Transactions on Information Theory, January 2006-December 2008.
- **Guest Editor**, IEEE Signal Processing Magazine, Special Issue on Signal Processing for Multiterminal Communication Systems, August 2007.

○ **Conference**

- **Technical Program Chair**, IEEE Communication Theory Workshop, May 2024.
- **Technical Program Chair**, NYU WIRELESS Workshop “Re-inventing the Physical Layer,” 2021-present.
- **Lead Technical Program Committee Chair**, IEEE Communications Society ICC Communication Theory Symposium, 2021.
- **Technical Area Chair**, “MIMO Communications and Signal Processing” track, Asilomar Conference on Signals, Systems, and Computers, California, 2017.
- **Technical Program Chair**, IEEE Wireless Communications and Networking Conference (WCNC), 2017.
- **General Chair**, IEEE International Symposium on Information Theory, 2013.
- **Technical Program Chair**, IEEE ICC Workshop on Realizing Advanced Video Optimized Wireless Networks, 2012.
- **Program and Applications Chair**, Information Theory Summer School, 2011.
- **Technical Program Chair**, IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2011.
- **Technical Program Chair**, IEEE GLOBECOM Communication Theory Symposium, 2009.
- **Publications Chair**, IEEE Information Theory Workshop, Taormina, 2009.
- **Organizer and Chair**, Workshop in Honor of David Goodman, NYU Tandon School of Engineering, Brooklyn, New York, 2009.
- **Organizer and Chair**, Malignant Spaghetti: Wireless Technologies in Hospital Health Care Workshop, NYU Tandon School of Engineering, Brooklyn, New York, 2008.
- **Technical Area Chair** for the “MIMO Communications and Signal Processing” track, Asilomar Conference on Signals, Systems, and Computers, California, 2007.
- **Technical Program Chair**, IEEE Communication Theory Workshop, Dorado, Puerto Rico, May 2006.

- **Organizer and Chair**, WICAT Workshop on Cooperative Communications, NYU Polytechnic School of Engineering, Brooklyn, New York, October 2005.
- **Session Organizer:**
  - “Building Inclusion into Digital Tech R&D,” *Marconi Society Symposium The Decade of Digital Inclusion*, October 2021.
  - “Cooperative Interference Management,” *IEEE Communication Theory Workshop*, Curacao, May 2014.
  - “Cooperative Networking,” *IEEE Information Theory Workshop*, Zurich, Switzerland, September 2012.
  - “Cooperative Media Communication,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, TX, March 2010.
  - “Wireless Communication,” *International Zurich Seminar*, Zurich, Switzerland, March 2010.
  - “Cooperative Communications,” *Conference on Information Sciences and Systems (CISS)*, Princeton, New Jersey, March 2008.
  - “Cooperative Communications,” *IEEE Information Theory Workshop*, Lake Tahoe, California, 2007.
- **Technical Program Committee Member:**
  - IEEE Information Theory Symposium, 2023.
  - IEEE Information Theory Symposium, 2022.
  - Marconi Society Symposium, The Decade of Digital Inclusion, 2021.
  - IEEE Information Theory Symposium, 2020.
  - IEEE Information Theory Symposium, 2019.
  - IEEE CNS Workshop on Physical-layer Methods for Security and Privacy in 5G and the IoT, 2019.
  - IEEE GLOBECOM, Communication Theory Symposium, 2019.
  - IEEE ICC, Communication Theory Symposium, 2019.
  - IEEE Information Theory Symposium, 2018.
  - IEEE Information Theory Workshop, 2018.
  - IEEE International Symposium on Information Theory and its Applications (ISITA), 2018.
  - IEEE Information Theory Symposium, 2017.
  - IEEE ICC, Communication Theory Symposium, 2017.
  - IEEE Information Theory Symposium, 2016.
  - IEEE International Symposium on Information Theory and its Applications (ISITA), 2016.
  - IEEE GLOBECOM, Communication Theory Symposium, 2016.
  - IEEE Information Theory Symposium, 2015.
  - IEEE Information Theory Symposium, 2014.
  - IEEE International Symposium on Information Theory and its Applications (ISITA), 2014.
  - IEEE BlackSeaCom, 2013.
  - IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2013.
  - IEEE ICC, Workshop on Green Broadband Access: Energy Efficient Wireless and Wired Network Solutions, 2013.
  - IEEE International Conference on Computing, Management & Telecommunications, 2013.
  - IEEE International Symposium on Information Theory and its Applications (ISITA), 2012.
  - IEEE Information Theory Workshop, 2012.
  - IEEE Information Theory Symposium, 2012.
  - IEEE ICC, Communication Theory Symposium, 2012.
  - IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2012.
  - IEEE Sinyal İşleme ve İletişim Uygulamaları (SIU) Kurultayı, Turkey, 2012.
  - IEEE GLOBECOM, Workshop on Physical Layer Security, 2011.



- International Symposium on Wireless Communication Systems, 2011.
- IEEE Information Theory Symposium, 2011.
- IEEE ICC Workshop on Heterogeneous Networks (HETnet), 2011.
- IEEE ICC Workshop on Physical Layer Security, 2011.
- IEEE Information Theory Symposium, 2010.
- IEEE ICC, Wireless Communications Symposium, 2010.
- IEEE WCNC, Physical Layer, 2010.
- IEEE Information Theory Symposium, 2009.
- IEEE GLOBECOM, Communication Theory Symposium, 2008.
- IEEE ICC, Communication Theory Symposium, 2008.
- IEEE GLOBECOM, Communication Theory Symposium, 2007.
- IEEE Information Theory Workshop, Lake Tahoe, California, 2007.
- IEEE Information Theory Workshop, Bergen, Norway, 2007.
- IEEE Information Theory Symposium, 2007.
- IEEE International Workshop on Wireless Networks: Communication, Cooperation and Competition, 2007.
- IEEE GLOBECOM, Communication Theory Symposium, 2006.
- IEEE ICC, Wireless Communications Symposium, 2006.
- IEEE WCNC, 2006.
- IEEE GLOBECOM, Wireless Communications Symposium, 2005.
- IEEE Fall Vehicular Technology Conference (VTC), 2005.
- IEEE WirelessCom, Symposium on Information Theory, 2005.
- IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC) 2005.
- IEEE Wireless Communications and Networking Conference (WCNC), 2005.
- IEEE GLOBECOM, 2004.
- IEEE International Symposium on Information Theory, 2001.

#### ○ NYU Service

- **Chair**, Department of Electrical and Computer Engineering Tenure and Promotions Committee, 2023-present.
- **Chair**, Department of Electrical and Computer Engineering Graduate Academics Committee, 2021-2022.
- **Chair**, NYU Abu Dhabi Ad-hoc Tenure and Promotions Committee, 2021-2022.
- **Chair**, Department of Electrical and Computer Engineering Graduate Committee, 2020-2021.
- **Chair**, Department of Electrical and Computer Engineering Faculty Search Committee (to determine hiring areas), 2021.
- **Chair**, NYU Abu Dhabi Faculty Search Committee (Wireless Area), 2021.
- **Chair**, NYU Tandon School of Engineering Tenure and Promotions Committee, 2017-2019.
- **Member**, NYU Tandon School of Engineering Tenure and Promotions Committee, 2014-2015, 2016-2017, 2019-2020, 2022, 2023-present.
- **Member**, Department of Electrical and Computer Engineering Faculty Search Committee, 2021-2022.
- **Member**, Department of Electrical and Computer Engineering Diversity, Equity and Inclusion Committee, 2020-2022.
- **Member**, Department of Electrical and Computer Engineering Tenure and Promotions Committee, 2014-2020.
- **Member**, NYU Center for Data Science Steering Committee, 2017-2022.
- **Member**, NYU Doctoral Affairs Committee, 2019-2022.
- **Member**, NYU Doctoral Affairs Sub-Committee on Mentoring Guidelines, 2020.
- **Member**, NYU Abu Dhabi Ad-hoc Tenure and Promotions Committee, 2020.

- **Member**, NYU Tandon Honors and Awards Committee, 2020.
- **Member**, Department of Electrical and Computer Engineering Retreat Committee, 2017-2018.
- **Member**, NYU Tandon School of Engineering Dean Search Committee, 2017-2018.
- **Member**, NYU Center for Data Science Director Search Committee, 2017-2018.

## Teaching

### ○ Graduate Courses

- Information Theory
- Multi-User Communications
- Network Information Theory
- Principles of Digital Communications: Modulation and Coding
- Probability and Stochastic Processes
- Special Topics in Information Theory
- Selected Topics in Wireless Communications, Advances in the Physical Layer

### ○ Undergraduate Courses

- Introduction to Probability
- Fundamentals of Communication Theory
- Introduction to Signals
- Principles of Analog and Digital Communications

## Mentoring

### ○ Researchers

- Parisa Hassanzadeh, Post-Doctoral Fellow, 2019.  
Currently with JP Morgan AI Research.
- Shirin Jalali, Faculty Fellow, 2013-2014.  
Currently with Rutgers University.
- David Ramirez, Post-Doctoral Fellow, 2017-2018.  
Currently with DOCOMO Innovations.
- Farhad Shirani (co-advised with Siddharth Garg), Research Assistant Professor, 2017-2020.  
Currently with Florida International University.

### ○ Ph.D. Students (Current)

- Ozan Aygun
- Serhat Bakirtas
- Fabrizio Carpi (co-advised with Siddharth Garg)
  - *Global Student Program 2022 Outstanding Innovation Award*, Bell Labs, 2022.
  - *The Dante Youla Award For Graduate Research Excellence*, NYU ECE Department, 2022.
  - *David C. and Cecilia M. Chang Education Award for Graduate Teaching Excellence*, NYU ECE Department, 2021.
  - *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC) Student Paper Award (Second Place)*, 2021
  - *IEEE Communication Theory Workshop Poster Award*, 2021.

- Ezgi Ozyilkan
    - *ICML Neural Compression Workshop Best Reviewer Award*, 2023.
  - Jyotish Robin
  - Kubilay Ulger
  - Ozlem Yilmaz
- **Ph.D. Students (Former)**
- Ozgu Alay (co-advised with Yao Wang), Ph.D. NYU Tandon School of Engineering, 2010.  
*Thesis*: Cooperative Layered Wireless Video Multicast.  
Currently with University of Oslo, Norway.
  - Kagan Bakanoglu, Ph.D. NYU Tandon School of Engineering, 2012.  
*Thesis*: Resource Allocation and Interference Mitigation for Cooperative Networks.  
Currently with i2x, Berlin, Germany.
  - Deniz Gunduz, Ph.D. NYU Tandon School of Engineering, 2007.  
*Thesis*: Source and Channel Coding for Wireless Networks.  
Currently with Imperial College, London, UK.
    - *Alexander Hessel Award* for the best Ph.D. dissertation in the ECE Department, 2008.
    - *IEEE International Symposium on Information Theory Student Paper Award*, 2007.
    - *Richard Rosenthal Award*, awarded to the highest-ranking student in the ECE Department Ph.D. Qualifying Exam, 2003.
  - Parisa Hassanzadeh, Ph.D. NYU Tandon School of Engineering, 2019.  
*Thesis*: Scalable Delivery of Dynamic Correlated Content in Cache-aided Broadcast Networks.  
Currently with JP Morgan AI Research, NY.
    - *2019 Tapia Conference ACM Student Research Competition Poster Award*, 2019.
    - *David Goodman Research Award*, NYU ECE Department, 2019.
    - *NYU Tandon Graduate School Representative at graduation*, awarded for having the highest GPA in the graduating class, 2019.
    - *IEEE International Conference on Communications (ICC) N2Women and WICE Workshop Best Poster Award*, 2018.
    - *IEEE Sarnoff Symposium Poster Award, Second Place*, 2016.
  - Abbas Khalili, Ph.D. NYU Tandon School of Engineering, 2022.  
*Thesis*: Communication with Low Resolution Quantization and Beam Alignment for Next Generation Wireless Networks.  
Currently with Samsung, CA.
    - *Dr. Li Annual ECE Publication Award*, 2023.
  - Anil Kocak, Ph.D. NYU Tandon School of Engineering, 2017.  
*Thesis*: Reliable Online Prediction with Refuse Option.  
Currently with Broad Institute of MIT and Harvard, MA.
    - *Richard Rosenthal Award*, awarded to the highest-ranking student in the ECE Department Ph.D. Qualifying Exam, 2012.
  - Zinan Lin, Ph.D. NYU Tandon School of Engineering, 2006.  
*Thesis*: Coded Cooperation: Partner Choice and Rate Adaptation.  
Currently with Apple, CA.
  - Feilu Liu, Ph.D. NYU Tandon School of Engineering, 2012.  
*Thesis*: Small Cell Wireless Communications Over Licensed and Unlicensed Bands.  
Currently with Qualcomm, CA.

- Xi Liu, Ph.D. NYU Tandon School of Engineering, 2013.  
*Thesis:* Fairness, Security and Energy Efficiency in Interference and Sensor Networks.  
Currently with Interactive Brokers, CT.
- Yuanpeng Liu, Ph.D. NYU Tandon School of Engineering, 2013.  
*Thesis:* Information Theoretic Perspective for Rate and Delay in Interference Limited Wireless Networks.  
Currently with Goldman Sachs, NY.
- Oner Orhan, Ph.D. NYU Tandon School of Engineering, 2016.  
*Thesis:* Energy Neutral and Low Power Wireless Communications.  
Currently with Apple, CA.
- Farideh Rezagah, Ph.D. NYU Tandon School of Engineering, 2016.  
*Thesis:* From Source Acquisition to Interactive Computation.  
Currently with Goldman Sachs, NY.
- Shahram Shahsavari, Ph.D. NYU Tandon School of Engineering, 2019.  
*Thesis:* Access, Resource Allocation, and Performance Analysis in Next Generation Wireless Networks.  
Currently with Huawei Research, Canada.
  - *IEEE Sarnoff Symposium Poster Award*, 2016.
- Onur Sahin: Ph.D. NYU Tandon School of Engineering, 2009.  
*Thesis:* Relaying in Interference Limited Networks: Models, Bounds and Strategies.  
Currently with Apple, CA.
- Melda Yuksel: Ph.D. NYU Tandon School of Engineering, 2007.  
*Thesis:* Reliability, Rate and Security in Cooperative Networks.  
Currently with Middle East Technical University, Turkey.
  - *IEEE International Conference on Communications (ICC) Communications Theory Symposium Best Paper Award*, 2007.
  - *Richard Rosenthal Award*, awarded to the highest-ranking student in the ECE Department Ph.D. Qualifying Exam, 2002.

#### ○ **Masters Students**

- Yasin Kadioglu, M.S. NYU Tandon School of Engineering, 2014.  
Ph.D. Imperial College, UK.  
Currently Machine Learning Engineer, Ankara, Turkey.
- Abbas Khalili, M.S. NYU Tandon School of Engineering, 2018.  
Ph.D. New York University.  
Currently with Samsung, CA.
- Nirmal Shende, M.S. NYU Tandon School of Engineering, 2013.  
Ph.D. Cornell University.  
Currently with Marvell Technology, CA.

#### ○ **Undergraduate Students**

- Wenbo He, NYU Tandon School of Engineering, January 2010-June 2011.  
Ph.D. Boston University.  
Currently with Mathworks, MA.

- Songze Li, NYU Tandon School of Engineering, January 2010-June 2011.  
Ph.D. University of Southern California.  
Current with The Hong Kong University of Science and Technology.
- Xinran Yang, NYU Tandon School of Engineering, June 2020-December 2020.  
Currently Ph.D. student at UCLA.

#### ○ Undergraduate Summer Interns

- Soumyadeep Datta, B.S. Student, Indian Institute of Technology, Kharagpur, India, May 2018-July 2018.  
Currently Ph.D. student at IIT Kanpur and NYU.
- Damla Dimlioglu, B.S. Student, Middle East Technical University, Turkey, August 2011-September 2011.  
Currently Ph.D. student at Cornell University.
- Umay Geyikci, B.S. Student, Middle East Technical University, Turkey, June 2016-September 2016.  
Currently with Google, Germany.
- Ekin Yagmur Gonen, B.S. Student, Middle East Technical University, Turkey, August 2011-September 2011.  
Currently with Apple, CA.
- Mert Kayaalp, B.S. Student, Koc University, Turkey, July 2018-September 2018.  
Currently Ph.D. student at EPFL, Switzerland.
- Cezmi Mutlu, B.S. Student, Middle East Technical University, Turkey, June 2016-September 2016.  
Currently Ph.D. student at Stanford University.
- Eyyup Tasci, B.S. Student, Bogazici University, Turkey, June 2023-September 2023.

#### ○ Faculty Visitors

- Torbjorn Ekman, Professor, Norwegian University for Science and Technology, Trondheim, Norway, August 2011-August 2012.
- Ozgur Gurbuz, Professor, Sabanci University, Istanbul, Turkey, September 2012-January 2013.
- Angel Lozano, Professor, Universitat Pompeu Fabra, Barcelona, Spain, Fall 2018.
- Ibrahim Tekin, Professor, Sabanci University, Istanbul, Turkey, February 2010-June 2010.
- Stefano Tomasin, Associate Professor, University of Padova, Italy, September 2007-December 2007.

#### ○ Ph.D. Student Visitors

- Trung Duong, Ph.D. Student, Blekinge Institute of Technology, Sweden, September 2009-December 2009.  
Currently with Memorial University, Canada.
- Sarper Gokturk, Ph.D. Student, Sabanci University, Turkey, April 2010-October 2010.  
Currently with Airties, Turkey.
- Felipe Gomez-Cuba, Ph.D. Student, University of Vigo, Spain, September 2013-March 2014.  
Currently with University of Vigo, Spain.

- Roghayeh Joda, Ph.D. Student, University of Tehran, Iran, June 2011-January 2012.  
Currently with Ericsson, Canada.
- Italia Mauriello, Ph.D. Student, University of Naples, Italy, June 2022-November 2022.
- Nitish Mital, Ph.D. Student, Imperial College, U.K., May 2018-September 2018.  
Currently with the Alan Turing Institute, UK.
- Qianqian Yang, Ph.D. Student, Imperial College, U.K., November 2017-April 2018.  
Currently with Zhejiang University.