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Experience

Roy and Lois Chope Chair Professor in Engineering, The Ohio State University,	Jan. 2020-present
Professor of Electrical and Computer Engineering, The Ohio State University,	Jan. 2020-present
Professor of Computer Science and Engineering, The Ohio State University,	Jan. 2020-present
Professor of Integrated Systems Engineering, The Ohio State University,	Jan. 2020-present
University Distinguished Professor, Electrical Engineering, Penn State University, PA	Jan.-Dec. 2019
Dean's Fellow, Penn State University, PA	Jan. 2017- Dec. 2019
Visiting Professor, Electrical Engineering, Stanford University, CA	Sep. 2016- Jan. 2018
Professor, Electrical Engineering, Penn State University, PA	Jul. 2010-Jan. 2019
Associate Professor, Electrical Engineering, Penn State University, PA	Jul. 2006-Jul. 2010
Visiting Associate Professor, Electrical Engineering, Stanford University, CA	Oct. 2008- Aug. 2009
Assistant Professor, Electrical Engineering, Penn State University, PA	Jan. 2002-Jul. 2006
Assistant Professor, Electrical and Computer Engineering, Lehigh University, PA	Aug. 2000- Dec. 2001
Graduate Research Assistant, WINLAB, Rutgers University, NJ,	Sep. 1993-Aug. 2000
Member of Technical Staff (Summer Internship), LUCENT Technologies, NJ	Jun. 1997- Sep. 1997

Education

PhD , WINLAB, Electrical and Computer Engineering Dept., Rutgers University, NJ	May 2000
MS , WINLAB, Electrical and Computer Engineering Dept., Rutgers University, NJ	Oct. 1994
BS , Electrical and Electronics Engineering Dept., Bogazici University, Istanbul, Turkey	Jun. 1991
BS , Physics Dept., Bogazici University, Istanbul, Turkey	Jun. 1991

Selected Synergistic and Leadership Activities

Professional Community

IEEE Division IX: Director Elect (2023), Division Director (2024-2025) (leading the Division consisting of the following IEEE Societies: Aerospace and Electronic Systems Society; Geoscience and Remote Sensing Society; Information Theory Society; Intelligent Transportation Systems Society; Oceanic Engineering Society; Signal Processing Society; Vehicular Technology Society. membership on IEEE Technical Activities Board, and IEEE Board of Directors; elected by the membership).

IEEE Information Theory Society: President (2020) (preside over the board of governors, leading all organizational activities and society affairs including meetings, outreach, initiatives, presiding over society level award committees, representing the society at the IEEE Technical Activities Board (TAB)).

IEEE Information Theory Society: Past president (2021-present) (nominations and appointments, constitutions and bylaws revisions, board of governors).

IEEE Transactions on Green Communications and Networking: Editor-in-Chief (2022-present), co-sponsored by IEEE Communications Society, IEEE Signal Processing Society and IEEE Vehicular Technology Society (manage/recruit area editors and editors, oversee the review process of papers, build an execute vision of the journal).

IEEE Transactions on Information Theory, Area Editor (2021-present) for the Editorial Area Security and Privacy (work with the Editor-in-Chief, manage associate editors in the area).

IEEE Systems Council: Administrative committee member (2020-present) (governance decisions).

IEEE Information Theory Society: Vice president (2018-2019): 1st Vice president (coordinating the paper award committees), 2nd Vice president (coordinating membership activities).

IEEE Information Theory Society: Treasurer (2012-2014) (manage the budget coordinating activities and allocating resources; several financial initiatives led to significant reduction in expenses freeing funds for outreach and membership development; left the society finances with large reserves and a healthy surplus).

IEEE North American School of Information Theory: Co-founder (2008), Chair (2008, 2009, 2010). This summer school initiative brings together graduate students interested in information theory and senior information theorist in a campus setting, annually in North American universities (IEEE outreach commendation 2014).

External Boards

IEEE Board of Directors: Board member and delegate (Division IX) (2024-2025)

Panel Chair: European Research Council (2023-)

External Advisory Board Member: Electrical and Electronics Engineering Department, Bogazici University (2022-present).

Insitutional

Founder of the interdisciplinary initiative 6G and Beyond at Ohio State (OSU)

Member of the Research Security Governance Board at OSU

Member of the AI Steering Committee at OSU

Featured faculty in a series focusing on thought leaders and their transformative research, presented by the office of advancement and the office of research at OSU

Member of College of Engineering's Women's Faculty Advisory Board to the Dean at OSU

Member of College of Engineering's Strategic Plan Working Group (co-lead for Research Pillar) at OSU

Completed Better Mentoring = Better Science program at OSU

Completed How Bystanders Can Change the Conversation about Social Bias training at OSU

Affiliate Faculty in Sustainability Institute at OSU

Affiliate Faculty in Translational Data Analytics Institute at OSU

Member of community of practice on Responsible Data Science at OSU

Member of advisory committees at the department (ECE, OSU), school (EECS, Penn State) and college (for cyber environments) levels (Penn State)

Founding director of Wireless Communications and Networking Laboratory at Penn State

Diversity Focused

Organizer of Big Ten Women Workshop (BTWW), June 2022 (Chicago, IL): This is an in-person two-day workshop designed and organized by several senior Big Ten women faculty for junior female faculty at our institutions. Activities in 2022 included mentorship events, guided peer discussions, networking events, dean's panel and keynote. Moderator of the dean's panel.

Interviewee, Data Science Women Summer Camp, July 2021, Virtual: This was a week-long summer camp for middle-school students organized by TDAI. My part was an interview the organizer conducted with me about being a woman who does data science, emphasizing the potential impact on the society and the planet, and explaining the importance of math and statistics.

Alumna of High Wire Acts: Changing the Future for Senior Faculty Women in STEM (2019): Leadership Program for Senior Faculty Women in STEM at Penn State: This is a year long program that is designed to prepare senior women faculty for academic administrative and leadership positions. Activities include in-person several cohort workshops from story telling to handling difficult situations, a long term trust circle sub group, various networking events, graduation day (with presentation of personal success stories) and on-going alumna events connecting to new cohorts.

Organizer of Advancement of Women in Engineering (AWE) Workshop, October 2018 (w/ M. Frecker, current head of MNE at Penn State): This was a one-day workshop for all women faculty in engineering and included talks, community building activities and discussions of improving the college climate towards women.

Keynote speaker in women in engineering events: Typical titles "Women in Academia: Being a change agent", "Being a woman in academia: A personal journey", primarily at IEEE events including by Women in Engineering (WiE) and Women in Communications Engineering (WICE).

Awards and Honors

IEEE Communications Society Communication Theory Technical Achievement Award (2020)

IEEE Information Theory Society President (2020)

IEEE Communications Society Best Tutorial Paper Award (2019)

Distinguished Lecturer of IEEE Information Theory Society (2019-2021)

IEEE Information Theory Society Vice President (2019)

IEEE Information Theory Society 2nd Vice President (2018)

IEEE Women In Communications Engineering Outstanding Achievement Award (2018)
Distinguished Lecturer of IEEE Communications Society (2018-2019)
Clarivate Analytics Highly Cited Researcher (2017)
Distinguished Lecturer of IEEE Vehicular Technology Society (2017-2021)
Distinguished Speaker of IEEE Vehicular Technology Society (2021-present)
IEEE Communications Society Marconi Prize Paper Award (2014)
Fellow of IEEE *for contributions to wireless communication theory and wireless information security*
Best Paper Award, Communication Theory, IEEE International Conference on Communications (2010)
DARPA Young Investigator Team Award for ITMANET Program (2006)
National Science Foundation CAREER Award (2003)
Penn State Engineering Alumni Society (PSEAS) Premier Research Award (2014)
Penn State Engineering Alumni Society (PSEAS) Outstanding Research Award (2010)
Leonard A. Doggett Award for Outstanding Writing in Electrical Engineering, Penn State (2014)
P.C. Rossin Endowed Assistant Professorship, Lehigh University (2001)
Graduation Honor List, Bogazici University (1991)

Research Related Statistics

Number of publications: 6 book chapters, 99 journal papers, 249 conference papers.

Citation count: 14991, h-index: 56 (Google Scholar).

Research supervision: Postdoc: 5 previous; PhD: 16 graduated, 7 current; MS: 12 graduated.

Keynotes/Invited Talks/Tutorials (since 2011): 50.

Research Funding: 18 NSF grants, 2 DARPA programs, 1 ARL CTA, 1 NSA, 10 Industrial/other grants.

Research Focus

My research area is in **Networked Systems** broadly defined. The focus is on system level design insights drawn from characterization of fundamental performance limits of such systems. We are generally interested in systems consisting of multiple entities that communicate, learn, network and compute. These can be large systems consisting of entities with heterogeneous capabilities and resources and represent the future vision of the *connected world*. We seek for designs that ensure secure, reliable and sustainable operations. Core research disciplines and tools that we engage include *information theory, optimization, communication theory and signal processing*. We are interested in developing algorithms approaching or achieving optimal design criteria. There are diverse applications of our research in next generation AI, convergent networks (sensing, computing, communications, learning, and control), wired and wireless communication networks of the future, i.e., 6G, distributed intelligence, computing and content delivery networks, and energy-sustainable networks. More specific topics are:

- Next generation communications and networks
 - * Smart radio environments for 6G
 - * AI for wireless communications
 - * Wireless distributed, federated and decentralized learning (Wireless for AI)
 - * Co-design for 6G
 - * Emerging joint communication, sensing and computing paradigms
 - * Age of Information
 - * Semantic Communications and Information Theory
- Green Communications and Learning
 - * Wireless networks with energy harvesting nodes
 - * Energy and signal cooperation in communication networks
 - * Energy harvesting distributed and federated learning
 - * Energy harvesting distributed storage and caching
- Information Security
 - * Information theoretic security and privacy
 - * New models and information theoretic guarantees for powerful adversaries
 - * Game theoretic models for information theoretic security
 - * Integrating information theoretic security to other security mechanisms for the IoT era
 - * Security and privacy in distributed learning and computation
- Content Delivery Networks
 - * Caching security and privacy
 - * Coded caching over noisy channels
 - * Coded caching for heterogenous wireless networks
- Network and Data Science
 - * Responsible data science: robustness against adversaries, foundational privacy, fairness
 - * Fundamental limits of reliable information flow over social communication networks
 - * Learning algorithms with performance guarantees
 - * Distributed and federated learning

Publications

Citation Numbers *Source: Google Scholar*

h-index: 56; i10-index: 189; citations: 14991

Book Chapters

- [6] M. Nafea and A. Yener, “Secrecy of Edge Caching,” *IET Edge Caching for Mobile Networks*, Editors: W. Chen and H. V. Poor, 2022.
- [5] B. Guler and A. Yener, “Influence Propagation in Social Networks with Positive and Negative Relationships,” *Encyclopedia of social network analysis and mining*, Editors: R. Alhajj, and J. Rokne, Springer Publishing Company, 2018.
- [4] S. Leng and A. Yener, “Resource Allocation in BANs for Energy Harvesting Healthcare Monitoring”, *Handbook of Large-Scale Distributed Computing in Smart Healthcare*, Editors: S. Khan, A. Zomaya, A. Abbas, Springer, 2017.
- [3] M. Nafea and A. Yener, “MIMO Wire-tap Channels”, *Information Theoretic Security and Privacy of Information Systems*, Editors: H. Boche, R. Schafer, A. Khisti, H. V. Poor, Cambridge, 2017.
- [2] X. He and A. Yener, “Secrecy and Feedback”, *Physical Layer Security in Wireless Communications*, Editors: X. Zhou, L. Song, Y. Zhang, CRC Press, 2013.
- [1] X. He and A. Yener, “Cooperative Jamming: The Tale of Friendly Interference for Secrecy”, *Securing Wireless Communications at the Physical Layer*, Editors: R. Liu and W. Trappe, Springer, 2009.

Journal Articles

- [99] R. Chou and A. Yener, "The Gaussian Multiple Access Wiretap Channel with Selfish Transmitters: A Coalitional Game Theory Perspective," to be submitted to *IEEE Transactions on Information Theory*, Dec. 2022.
- [98] S. Leng and A. Yener, "Learning to Transmit Fresh Information in Energy Harvesting Networks," *IEEE Transactions on Green Communications and Networking*, to appear, Dec. 2022.
- [97] R. Chou, and A. Yener, "Gaussian Wiretap Channel Models when the Eavesdropper can Arbitrarily Jam," *Entropy, Special Issue Information Theoretic Methods for Future Communication Systems*, 24(11), Nov 2022.
- [96] D. Gunduz, Z. Qin, I. Estella Aguerri, H. S. Dhillon, Z. Yang, A. Yener, K. Wong and C. Chae, "Beyond Transmitting Bits: Context, Semantics, and Task-Oriented Communications," *IEEE Journal on Selected Areas in Communications*, accepted for publication, Nov. 2022.
- [95] V. Renganathan, E. Yurtsever, Q. Ahmed and A. Yener, "Valet attack on privacy: a cybersecurity threat in automotive Bluetooth infotainment systems," *Cybersecurity*, 5(30), Oct. 2022.
- [94] O. Günlü, M. Bloch, R. F. Schaefer and A. Yener, "Secure Integrated Sensing and Communication," *IEEE Journal on Selected Areas in Information Theory*, submitted for publication, Oct. 2022.
- [93] A. Ibrahim, A. Zewail, and A. Yener, "Benefits of Edge Caching with Coded Placement for Asymmetric Networks and Shared Caches," *IEEE Journal on Selected Areas in Information Theory*, 2(4), pp. 1240-1252, Dec. 2021.
- [92] R. Chou, M. Bloch. and A. Yener, "Universal Covertness for Discrete Memoryless Sources," *IEEE Transactions on Information Theory*, 67(8), pp. 5432 – 5442, Aug. 2021.
- [91] M. Bloch, O. Günlü, A. Yener, F. Oggier, H. V. Poor, L. Sankar, and R. F. Schaefer, "An Overview of Information-Theoretic Security: Metrics, Limits and Applications," *IEEE Journal on Selected Areas in Information Theory*, 2(1), pp. 5-22, Mar. 2021.
- [90] M. Nafea and A. Yener, "The Caching Broadcast Channel with a Wire and Cache Tapping Adversary of Type II," *IEEE Journal on Selected Topics in Information Theory*, 2(1), pp. 65-81, Mar. 2021.
- [89] A. Ibrahim, A. Zewail, and A. Yener, "Device-to-Device Coded Caching with Distinct Cache Sizes," *IEEE Transactions on Communications*, 66(5), pp. 2748-2762, May 2020.
- [88] M. Tahmasbi, M. Bloch, and A. Yener, "Learning an Adversary's Actions for Secret Communication," *IEEE Transactions on Information Theory*, 66(3), pp. 1607-1624, Mar. 2020.
- [87] R. Chou, and A. Yener, "Strongly Secure Multiuser Communication and Authentication with Anonymity Constraints," *IEEE Transactions on Information Theory*, 66(1), pp. 572-586, Jan. 2020.
- [86] A. Zewail, and A. Yener, "Device-to-Device Secure Coded Caching," *IEEE Transactions on Information Forensics and Security*, 15(1), pp. 1513-1524, Jan. 2020.
- [85] S. Fong, J. Yang and A. Yener, "Non-Asymptotic Achievable Rates for Gaussian Energy-Harvesting Channels: Best-Effort and Save-and-Transmit," *IEEE Transactions on Information Theory*, 65(11), pp. 7233-7252, Nov. 2019.
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- [83] S. Leng and A. Yener, "Relay-Centric Two-Hop Networks with Asymmetric Wireless Energy Transfer: Stackelberg Games," *IEEE Transactions on Green Communications and Networking*, 3(3), pp. 739-750, Sep. 2019.

- [82] A. Ibrahim, A. Zewail, and A. Yener, "Coded Caching for Heterogeneous Systems: An Optimization Perspective," *IEEE Transactions on Communications*, 67(8), pp. 5321-5335, Aug. 2019.
- [81] M. Nafea and A. Yener, "Generalizing Multiple Access Wiretap and Wiretap II Channel Models: Achievable Rates and Cost of Strong Secrecy," *IEEE Transactions on Information Theory*, 65(8), pp. 5125 - 5143, Aug. 2019.
- [80] R. Chou, and A. Yener, "Secret-Key Generation in Many-to-One Networks: An Integrated Game-Theoretic and Information-Theoretic Approach," *IEEE Transactions on Information Theory*, 65(8), pp. 5144-5159, Aug. 2019.
- [79] S. Leng and A. Yener, "Age of Information Minimization for an Energy Harvesting Cognitive Radio," *IEEE Transactions on Cognitive Communications and Networking*, 5(2), pp. 427-439, Jun. 2019.
- [78] R. Chou, and A. Yener, "Polar Coding for the Multiple Access Wiretap Channel via Rate-Splitting and Cooperative Jamming", *IEEE Transactions on Information Theory*, pp. 7903-7921, 64(12), Dec. 2018.
- [77] B. Guler, A. Yener, and A. Swami, "The Semantic Communication Game," *IEEE Transactions on Cognitive Communications and Networking*, 4(4), pp. 787-802, Dec. 2018.
- [76] B. Guler, D. Gunduz and A. Yener, "Lossy Transmission of Correlated Sources over a Multiple Access Channel: Necessary Conditions and Separation Results," *IEEE Transactions on Information Theory*, 64(9), pp. 6081-6097, Sep. 2018.
- [75] E. MolavianJazi, and A. Yener, "Subset Source Coding," *IEEE Transactions on Information Theory*, 64(9), pp. 5989-6012, Sep. 2018.
- [74] A. Zewail, and A. Yener, "Combination Networks with or without Secrecy Constraints: The Impact of Caching Relays," *IEEE Journal on Selected Areas in Communications*, 36(7), pp. 1-13, Jul. 2018.
- [73] M. Nafea and A. Yener, "A New Wiretap Channel Model and its Strong Secrecy Capacity," *IEEE Transactions on Information Theory*, 64(3), pp. 2077-2092, Mar. 2018.
- [72] B. Varan and A. Yener, "Matching Games for Ad Hoc Networks with Wireless Energy Transfer," *IEEE Transactions on Green Communications and Networking*, 1(4), pp. 503-515, Dec. 2017.
- [71] M. Nafea and A. Yener, "Secure Degrees of Freedom for the MIMO Wire-tap Channel with a Multi-antenna Cooperative Jammer," *IEEE Transactions on Information Theory*, 63(11), pp. 7420-7441, Nov. 2017.
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- [69] A. Zewail and A. Yener, "Multi-Terminal Two-hop Untrusted Relay Networks with Hierarchical Security Guarantees," *IEEE Transactions on Information Forensics and Security*, 12(9), pp. 2052-2066, Sep. 2017.
- [68] K. Tutuncuoglu, O. Ozel, A. Yener and S. Ulukus, "The Binary Energy Harvesting Channel with a Unit-Sized Battery," *IEEE Transactions on Information Theory*, 63(7), pp. 4240-4256, Jul. 2017.
- [67] A. Ibrahim, A. Zewail and A. Yener, "Green Distributed Storage Using Energy Harvesting Nodes," *IEEE Journal on Selected Areas in Communications: Series on Green Communications and Networking*, 34(5), pp. 1590-1603, May 2016.
- [66] B. Varan and A. Yener, "Delay Constrained Energy Harvesting Networks with Limited Energy and Data Storage," *IEEE Journal on Selected Areas in Communications: Series on Green Communications and Networking*, 34(5), pp. 1550-1564, May 2016.

- [65] B. Varan and A. Yener, "Incentivizing Signal and Energy Cooperation in Wireless Networks," *IEEE Journal on Selected Areas in Communications: Series on Green Communications and Networking*, 33(12), pp. 2554-2566, Dec. 2015.
- [64] K. Tutuncuoglu and A. Yener, "Energy Harvesting Networks with Energy Cooperation: Procrastinating Policies," *IEEE Transactions on Communications*, 63(11), pp. 4525-4538, Nov. 2015.
- [63] A. Yener and S. Ulukus, "Wireless Physical Layer Security: Lessons Learned from Information Theory," *Proceedings of the IEEE*, 103(10), pp. 1814-1825, Oct. 2015.
- [62] K. Tutuncuoglu, B. Varan, and A. Yener, "Throughput Maximization for Two-way Relay Channels with Energy Harvesting Nodes: The Impact of Relaying Strategies," *IEEE Transactions on Communications*, 63(6), pp. 2081-2093, Jun. 2015.
- [61] O. Ozel, K. Tutuncuoglu, S. Ulukus, and A. Yener, "Fundamental Limits of Energy Harvesting Communications," *IEEE Communications Magazine*, 53(4), pp. 126-132, Apr. 2015.
- [60] K. Tutuncuoglu, A. Yener, and S. Ulukus, "Optimum Policies for an Energy Harvesting Transmitter Under Energy Storage Losses," *IEEE Journal on Selected Areas in Communications: Wireless Communications Powered by Energy Harvesting and Wireless Energy Transfer*, 33(3), pp. 467-481, Mar. 2015.
- [59] S. Ulukus, A. Yener, E. Erkip, O. Simeone, M. Zorzi, P. Grover, and K. Huang, "Energy Harvesting Wireless Communications: A Review of Recent Advances," *IEEE Journal on Selected Areas in Communications: Wireless Communications Powered by Energy Harvesting and Wireless Energy Transfer*, 33(3), pp. 360-381, Mar. 2015. (**IEEE Communications Society 2019 Best Tutorial Paper Award**)
- [58] Y. Tian and A. Yener, "Relaying for Multiuser Networks in the Absence of Codebook Information," *IEEE Transactions on Information Theory*, 61(3), pp. 1247-1256, Mar. 2015.
- [57] B. Guler, B. Varan, K. Tutuncuoglu, M. Nafea, A. Zewail, A. Yener, and D. Oceau, "Using Social Sensors for Influence Propagation in Networks with Positive and Negative Relationships," *IEEE Journal of Selected Topics in Signal Processing: Signal Processing for Situational Awareness from Networked Sensors and Social Media*, 9(2), pp. 360-373, Mar. 2015.
- [56] B. Varan and A. Yener, "The Energy Harvesting Multi-Way Relay Channel with Intermittent Data: The Impact of Buffer Sizes," *EURASIP Journal on Wireless Communications and Networking Special Issue on Energy Harvesting Wireless Communications*, 2015(63), pp. 1-15, Mar. 2015.
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- [53] Y. Tian and A. Yener, "Degrees of Freedom for the MIMO Multi-way Relay Channel," *IEEE Transactions on Information Theory*, 60(5), pp. 2495-2511, May. 2014.
- [52] B. Guler and A. Yener, "Uplink Interference Management for Coexisting MIMO Femtocell and Macrocell Networks: An Interference Alignment Approach," *IEEE Transactions on Wireless Communications*, 13(4), pp. 2246-2257, Apr. 2014.
- [51] X. He and A. Yener, "Providing Secrecy With Structured Codes: Tools and Applications to Two-User Gaussian Channels", *IEEE Transactions on Information Theory*, 60(4), pp. 2121-2138, Apr. 2014.
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- [48] M. Li, O. Simeone and A. Yener, "Degraded Broadcast Diamond Channels with Non-Causal State Information at the Source," *IEEE Transactions on Information Theory*, 59(12), pp. 8210-8223, Dec. 2013.
- [47] X. He and A. Yener, "The Role of Feedback in Two-way Secure Communications", *IEEE Transactions on Information Theory*, 59(12), pp. 8115-8130, Dec. 2013.
- [46] G. Xiong, S. Kishore and A. Yener, "Spectrum Sensing in Cognitive Radio Networks: Performance Evaluation and Optimization," *Physical Communication (PHYCOM) Special Issue on Cognitive Radio*, Volume 9, pp. 171-183, December 2013.
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- [43] Y. Tian and A. Yener, "Guiding Blind Transmitters: Degree of Freedom Optimal Interference Alignment Using Relays," *IEEE Transactions on Information Theory*, 59(8), pp. 4819-4832, August 2013.
- [42] X. He, A. Khisti and A. Yener, "MIMO Multiple Access Channel with an Arbitrarily Varying Eavesdropper," *IEEE Transactions on Information Theory*, 59(8), pp. 4733-4745, August 2013.
- [41] M. Li, O. Simeone and A. Yener, "Multiple Access Channels with States Causally Known at Transmitters", *IEEE Transactions on Information Theory*, 59(3), pp. 1394-1404, March 2013.
- [40] X. He and A. Yener, "Strong Secrecy and Reliable Byzantine Detection in the Presence of an Untrusted Relay", *IEEE Transactions on Information Theory*, 59(1), pp. 177-192, January 2013.
- [39] D. Gunduz, A. Yener, A. Goldsmith, and H. V. Poor, "The Multi-way Relay Channel", *IEEE Transactions on Information Theory*, 59(1), pp. 51-63, January 2013.
- [38] I. Stanojev and A. Yener, "Improving Secrecy Rate via Spectrum Leasing for Friendly Jamming," *IEEE Transactions on Wireless Communications*, 12(1), pp. 134-145, January 2013.
- [37] X. He and A. Yener, "End-to-end Secure Multi-hop Communication with Untrusted Relays", *IEEE Transactions on Wireless Communications*, 12(1), pp. 1-11, January 2013.
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- [25] X. He and A. Yener, "Two-hop Secure Communication Using an Untrusted Relay", *EURASIP Journal on Communications and Networking- Special Issue on Physical Layer Security*, vol. 2009, Article ID 305146, 13 pages, 2009. doi:10.1155/2009/305146.
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- [20] A. Yener and S. Serbetli, "Transmitter Optimization for Multiuser MIMO Systems," *IEEE International Symposium on Advances in Wireless Communications, ISWC'02*, Victoria, BC, Canada, September 2002 (Invited Paper).
- [19] S. Ulukus and A. Yener, "Iterative Transmitter and Receiver Optimization for Synchronous CDMA Systems," *IEEE International Symposium on Information Theory, ISIT'02*, Lausanne, Switzerland, June 2002.
- [18] S. Ulukus and A. Yener, "Iterative Joint Optimization of CDMA Signature Sequences and Receiver Filters," *Conference on Information Sciences and Systems, CISS'02*, Princeton, NJ, March 2002.
- [17] P. Spasojevic and A. Yener, "Constrained Slowest Descent Detectors for Multiuser CDMA Systems," *IEEE International Symposium on Information Theory, ISIT'01*, Washington D.C., June 2001.
- [16] P. Spasojevic and A. Yener, "Improved Soft Interference Cancellation for CDMA Systems," *IEEE International Conference on Communications, ICC'01*, Helsinki, Finland, June 2001.
- [15] A. Yener and S. Ulukus, "On the Fading Channel Performance of Temporal-Spatial Filters for CDMA," *IEEE Vehicular Technology Conference, VTC'01*, Rhodes, Greece, May 2001.
- [14] A. Yener, "Nonlinear Programming Based Detectors for Multiuser Systems," *International Conference on Information Technology: Coding and Computing, ITCC'01*, Las Vegas, NV, April 2001, (Invited Paper).
- [13] R. Sinha, A. Yener and R. D. Yates, "Constrained Detection for Noncoherent Nonlinear Multiuser Communications," *34th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, October 2000.
- [12] A. Yener and R. D. Yates, "Acquisition Dependent Random Access for Connectionless CDMA Systems," *IEEE Wireless Communications and Networking Conference, WCNC'00*, Chicago, IL, September 2000 (Invited Paper).
- [11] A. Yener, R. D. Yates and S. Ulukus, "Combined Temporal and Spatial Filter Structures for CDMA Systems," *IEEE Vehicular Technology Conference*, Boston, MA, September 2000.
- [10] A. Yener and R. D. Yates, "Decorrelating Acquisition and Access for Connectionless CDMA," *Symposium for Interference Rejection and Signal Separation, IRSS'00*, Newark, NJ, March 2000.
- [9] A. Yener, R. D. Yates and S. Ulukus, "A Nonlinear Programming Approach to CDMA Multiuser Detection," *33rd Asilomar Conf. on Signals, Systems and Computers*, Pacific Grove, CA, Oct. 1999.
- [8] C. U. Saraydar and A. Yener, "Capacity Enhancement for CDMA Systems Through Adaptive Cell Sectorization," *IEEE Wireless Communications and Networking Conference, WCNC'99*, New Orleans, LA, September 1999.
- [7] A. Yener and R. D. Yates, "Multiuser Access Capacity of Packet Switched CDMA Systems," *IEEE Vehicular Technology Conference, VTC'99*, Houston, TX, May 1999.

- [6] A. Yener, R. D. Yates and S. Ulukus, "Joint Power Control, Multiuser Detection and Beamforming for CDMA Systems," *IEEE Vehicular Technology Conference, VTC'99*, Houston, TX, May 1999.
- [5] A. Yener and R. D. Yates, "Multiuser Access Detection for CDMA Systems," *Conference on Information Sciences and Systems, CISS'98*, Princeton, NJ, March 1998.
- [4] A. Yener, C. Rose and R. D. Yates, "Optimum Power Scheduling for CDMA Access Channels," *IEEE Global Telecommunications Conference, Globecom'97*, Phoenix, AZ, November 1997. Also presented in INFORMS Spring'98 Meeting (Invited Talk), Montreal, Canada, April 1998.
- [3] A. Yener and C. Rose, "Paging Strategies for Highly Mobile Users," *IEEE Vehicular Technology Conference, VTC'96*, Atlanta, GA, April 1996.
- [2] A. Yener and C. Rose, "Local Call Admission Policies for Cellular Networks Using Genetic Algorithms," *Conference on Information Science and Systems, CISS'95*, Baltimore, MD, March 1995.
- [1] A. Yener and C. Rose, "Near-Optimal Call Admission Policies for Cellular Networks Using Genetic Algorithms," *IEEE Wireless'94*, Calgary, Canada, July 1994.

Selected Invited Talks, Keynotes and Tutorials (since 2011)

- [50] "The Role of Wireless Communications in 6G Revolution: Connecting Human and Artificial Intelligence," **Keynote**, IEEE Communication Theory Workshop (CTW), Marbella, Spain, October 2022.
- [49] "Selected Topics in 6G," **Invited Lectures**, 2022 Joint Telematics Group/IEEE Information Theory Society Summer School on Signal Processing, Communications and Networks, virtual, June 2022.
- [48] "Semantic Communication Theory: Past, Present and 6G," **Keynote**, IEEE International Conference on Communications (ICC), Semantic Communications Workshop, virtual, May 2022.
- [47] "6G for Information Security and Information Security for 6G," **Invited Talk**, IEEE Technical Committee on Cognitive Networks (TCCN) Monthly Seminar, virtual, March 2022.
- [46] "6G: The Era of the Edge," **Distinguished Seminar**, Bilkent University, virtual, February 2022.
- [45] "Information Security for the 6G Connected Future," **Distinguished Colloquium**, University of Illinois Urbana-Champaign ECE Distinguished Colloquium Series, online, April 2021.
- [44] "Security for and by Caching Networks," **Keynote**, IEEE International Workshop on Privacy and Security for Information Systems (WPS) 2020, Online, July 2020.
- [43] "Information Security for the Connected World," **Invited Talk**, ESE Seminar, University of Pennsylvania, Philadelphia, PA, October 2019.
- [42] "Information Security for the All-Connected World," **Plenary**, Information Theory Workshop, Visby, Sweden, August 2019.
- [41] "Information Security for the Connected World," **Distinguished Seminar**, The Ohio State University, Columbus, OH, April 2019.
- [40] "What can Machine Learning Do for Communications?," **Invited Talk**, NYU Data Science Center, New York, NY, January 2019.
- [39] "Recent Advances in Cache-Aided Wireless Networks," **Invited Talk**, University of Virginia, Charlottesville, VA, January 2019.
- [38] "Recent Advances in Cache-Aided Wireless Networks," **IEEE Communications Society Distinguished Lecture**, University of Utah, Salt Lake City, UT, December 2018.

- [37] “Recent Advances in Cache-Aided Wireless Networks,” **Invited Talk**, Sun Yat-sen University Coding and Information Theory Workshop, Guangzhou, China, November 2018.
- [36] “Foundations of Energy Harvesting and Energy Cooperating Wireless Networks,” **Keynote**, The Fifth International Workshop on Next Generation Green Wireless Networks (Next-GWiN 2018), Sheffield, England, September 2018.
- [35] “Women in Engineering Academia: A lunch discussion,” **IEEE WiE Keynote**, IEEE VTC Fall, Chicago, IL, August 2018.
- [34] “Towards Design Principles of Next Generation Networked Systems: Information Security and Energy Sustainability,” **Physics and Theory Colloquium**, Los Alamos National Laboratory, Los Alamos, NM, July 2018.
- [33] “Foundations of Energy Harvesting and Energy Cooperating Wireless Networks,” **IEEE Vehicular Technology Society Distinguished Lecture Tour**, Imperial College, London; King’s College, London; Trinity College, Dublin; University of Edinburgh, Edinburgh, July 2018.
- [32] “Recent Advances in Cache-Aided Wireless Networks,” **Keynote**, 22nd International ITG Workshop on Smart Antennas (WSA 2018), Bochum, Germany, March 2018.
- [31] “Energy Harvesting and Energy Cooperating Wireless Networks: A New Frontier for Communication Theory and Information Theory,” **Invited Talk**, Systems Seminar, California Institute of Technology, Pasadena, CA, November 2017.
- [30] “Foundations of Energy Harvesting Communications,” **Invited Lecture**, 10th Annual School of Information Theory GeorgiaTech, June 2017.
- [29] “Foundations of Energy Harvesting and Energy Cooperating Wireless Networks,” **Keynote**, WiOpt 2017 GREENNET Workshop, Paris, France, May 2017.
- [28] “Foundations of Energy Harvesting Wireless Communications,” **Keynote**, IEEE Wireless Communications and Networking Conference, WCNC’17 Workshop on Energy Harvesting and Remotely Powered Wireless Communications for IoT, San Francisco, CA, March 2017.
- [27] “Energy Harvesting Wireless Networks: A New Frontier for Communication Theory and Information Theory,” **Invited Talk**, Institute for Pure and Applied Mathematics, Emerging Wireless Networks Workshop, University of California Los Angeles, CA, February 2017.
- [26] “Energy Harvesting Wireless Networks: A New Frontier for Communication Theory and Information Theory,” **Invited Talk**, Massachusetts Institute of Technology, Cambridge MA, September 2016.
- [25] “Energy Harvesting Wireless Networks: A New Frontier for Communication Theory and Information Theory,” **Invited Talk**, Ecole Polytechnique Federale de Lausanne, Switzerland, July 2016.
- [24] “Energy Harvesting Wireless Networks: A New Frontier for Communication Theory and Information Theory,” **Invited Talk**, Technical University of Delft, Netherlands, July 2016.
- [23] “Energy Harvesting and Remotely Powered Wireless Networks,” **Tutorial**, IEEE International Symposium on Information Theory, ISIT’16, July 2016, Barcelona.
- [22] “Information Theoretic Security,” **Invited Lecture**, 9th Annual North American School of Information Theory, Duke University, Durham, NC, June 2016.
- [21] “Towards Design Principles of Next Generation Networked Systems: Information Security and Energy Sustainability,” **Distinguished Lecture**, Bradley Distinguished Lecture Series, Virginia Tech, Blacksburg, VA, April 2016.
- [20] “MIMO Wiretap Channel with a Cooperative Jammer,” **Invited Talk**, Mathematical Tools of Information Theoretic Security Workshop, Huawei Technologies/Supelec, Paris, France, September 2015.

- [19] "Security by the Physical Layer: A Promising Direction for Next Generation Wireless Network Design," **Invited Lecture**, Gray Communications Advances in Information Theory Workshop, London Probability Seminar, Imperial College, London, England, June 2015.
- [18] "Energy Harvesting Wireless Communications," **Tutorial**, IEEE International Conference on Communications, ICC'15, London, England, June 2015.
- [17] "Energy Harvesting Wireless Communication Networks," **Invited Talk**, Department Colloquium, Electrical Engineering and Computer Science Department, Syracuse University, Syracuse, NY, April 2015.
- [16] "Design Principles for Energy Harvesting Wireless Communication Networks," **Invited Talk**, Analytical Tools for Next Generation Heterogeneous Wireless Networks Workshop, Macquarie University, Sydney, Australia, June 2014.
- [15] "Security by the Physical Layer: A Promising Direction for Next Generation Wireless Network Design," **Keynote**, ICC 2014 Workshop on Physical Layer Security, Sydney, Australia, June 2014.
- [14] "Energy Harvesting Wireless Communications," **Tutorial**, IEEE Wireless Communications and Networking Conference, WCNC'14, Istanbul, Turkey, April 2014.
- [13] "Energy Harvesting Wireless Communication Networks," **Invited Talk**, ISL Colloquium, Electrical Engineering Department, Stanford University, Stanford, CA, March 2014.
- [12] "Energy Harvesting Wireless Communications," **Tutorial**, IEEE Global Communications Conference, Globecom'13, Atlanta, GA, December 2013.
- [11] "Wireless Networks and Information Security: Models and Metrics," **Invited Talk**, Workshop on Multi spectrum metrics for Cyber Defense, MIT, Cambridge, MA, October 2013.
- [10] "Two-way Green Cooperative Networking with Energy Harvesting," **Invited Talk**, IEEE Communication Theory Workshop, Phuket, Thailand, June 2013.
- [9] "Energy Harvesting Wireless Networks," **Invited Talk**, Wireless Communications and Economics Workshop, Chinese University of Hong Kong, Hong Kong, June 2013.
- [8] "Energy Harvesting Wireless Communications," **Tutorial**, IEEE International Conference on Communications, ICC'13, Budapest, Hungary, June 2013.
- [7] "Green Wireless Communications," **Tutorial**, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC'12, Sydney, Australia, September 2012.
- [6] "Green Wireless Networking with Energy Harvesting Nodes," **Invited Talk**, Workshop on Methodological Foundations of Green Radio, Paris, France June 2012.
- [5] "Multiuser Wireless Secrecy: Lessons Learned from Information Theory," **Invited Talk**, Supelec, France, June 2012.
- [4] "Secrecy: Benefits of Interaction," **Invited Talk**, Banff International Research Station (BIRS) Workshop on Interactive Information Theory, Banff, Canada, January 2012.
- [3] "Interference, Structured Random Codes and Secrecy," **Invited Talk**, Banff International Research Station (BIRS) Workshop on Algebraic Structure in Information Theory, Banff, Canada, August 2011.
- [2] "Energy Efficiency of Future Networks," **Invited Lecture**, Wireless Information Theory Summer School, Oulu, Finland, July 2011.
- [1] "Cooperation, Interference and Secrecy: Lessons Learned from Information Theory," **Keynote**, ICC 2011 Workshop on Physical Layer Security, Kyoto, Japan, June 2011.

Funded Research Grants

NSF

- SII Planning: Escaping Gravity: The End of Gs (8/2020-5/2022), NSF-AST (**PI** with co-PIs M. Medard (MIT), T. Javidi (UCSD), J. Johnson (OSU), D. Starobinski (BU)).
- NSF AI Institute for Future Edge Networks and Distributed Intelligence, (10/2021-9/2026), NSF-CNS, (PI: N. Shroff (OSU)).
- Coded Caching for Heterogeneous and Energy Harvesting Systems (9/2017-8/2022), NSF-CCF, (**Sole PI**).
- Game-theoretic Approaches to Energy Cooperation (9/2017-2/2021), NSF-ECCS, (**Sole PI**).
- Rechargeable Networks with Energy Cooperation (10/2015-10/2019), NSF-CNS, (**PI**, with S. Ulukus, UMD).
- Incentive Compatible Security (10/2013-10/2018), NSF-SaTC, (**PI**, with R. Berry, Northwestern and S. Ulukus, UMD).
- Foundations of Energy Harvesting Wireless Communications (7/2014-7/2018), NSF-CCF, (**PI**, with S. Ulukus, UMD).
- Realizing the Vision of Information-Theoretic Security for Wireless Communications (09/2013-09/2017), NSF-CCF, (**PI**, with M. Bloch, Georgia Tech.).
- Optimizing Communications with Harvested Energy in Energy Starved Environments: A Tailored Fit for Healthcare Monitoring (01/2016-09/2016), NSF-ERC Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST), (Penn State PI S. Troiller-McKinstry).
- Support for North American School for Information Theory (05/2014-05/2015), NSF-CIF, (**PI**).
- Interactive Security (05/2010-05/2015), NSF-CCF, (**PI**, with S. Ulukus, UMD and K. Ramchandran, UC Berkeley).
- Rechargeable Networks (03/2010-02/2015), NSF-CNS, (**PI**, with S. Ulukus, UMD and R. Yates, Rutgers).
- Cognition, Collaboration, and Competition in Hybrid Wireless Networks (09/2007-06/2012), NSF-CNS, (**Sole PI**, with S. Kishore Lehigh).
- Secure Capacity of Wireless Networks (09/2007-08/2011), NSF-Cybertrust, (**PI**, with S. Ulukus, ECE, UMD).
- Multi-tier Hybrid Wireless Networks (10/2006-09/2008), NSF-CNS, (**PI**, with S. Kishore, Lehigh).
- Multiuser Wireless Security (07/2005-06/2010), NSF-CCF, (**PI**, with S. Ulukus, ECE, UMD).
- Exploratory Research in Relay Networks of Agile Radios (04/2005-09/2006), NSF-CNS, (**co-PI**, with PI T. La Porta, CSE, PSU).
- CAREER: Signal Processing for Multiuser Multiantenna Wireless Communications (02/2003-01/2010), NSF-CCR, (**Sole PI**).

DoD/Federal

- HAVARO: Hardware-assisted vulnerability analysis and resilience optimization (09/2022-09/24), **National Security Agency**, (**co-PI**, PI: C. Yagemann)
- Quality-of-Information-Aware Networks for Tactical Applications (QUANTA) (10/2009-09/2019), **US Army Research Laboratory**: Network Science Collaborative Science Alliance (CTA), Communication Network Center, (**co-PI**, PI:T. La Porta).
- Rethinking Mobile Ad Hoc Networks: A Non-equilibrium Information Theory (11/2006-5/2011), **DARPA ITMANET**: Information Theory for Mobile Ad Hoc Networks Program (Team: D. Katabi, MIT; R. Berry, D. Guo, Northwestern; M . Haenggi, Notre Dame; **A. Yener, PSU**; S. Jafar, University of California Irvine; N. Jindal, Minnesota; M. Neely, USC; J. Andrews (PI), R. Heath, S. Shakkottai, UT Austin; S. Weber, Drexel).
- *Control Over Network Coding for Enhanced Radio Transmission Optimization* (07/2006-12/2007), **DARPA CBMANET**: Control Based Mobile Ad Hoc Networks Program (**co-PI**, with PI T. La Porta, CSE, PSU. Other PIs/co-PIs of *CONCERTO* team: G. Lauer, R. Ghanadan, BAE Systems; M. Effros, T. Ho, CalTech; P. Francis, Z. Haas, Cornell; M. Medard, A. Ozdaglar, MIT; M. Steenstrup, Stow Research; R. Koetter, UIUC; J. Kurose, D. Towsley, UMass).
- Enabling Logistics with Portable and Wireless Technology (07/2003-08/2004), **USMC** (Team: D.Hall, S. Puroo, I. Petrick, School of IST, PSU; S. Kumara, N. Gautam, T. Kim, Industrial Engineering, PSU; Z. Rado, PTI, PSU; R. Gray, Penn State Erie; **A. Yener, EE, PSU**, A. Garga, ARL).

Industry&State

- Federated Learning with Edge Dynamics (09/2022-12/2023), **Cisco Research**, (**co-PI**, with PI X. Zhang.)
- Security Assurance for Vehicular Systems (09//2020-09/2021), **Honda R&D Americas, Inc.** (**co-PI**, with PI Q. Ahmed).
- Networking and Security Research Center Designation (01/2007-07/2008), **Ben Franklin Technology Partners**, (**co-PI**, with PI T. La Porta, co-PIs R. Acharya, G. Cao, T. Jaeger, P. McDaniel).
- Sustainable Wireless Networks (01/2007-10/2007), **Raytheon** (via Networking and Security Research Center, PSU), (**co-PI** with T. Jeager and T. La Porta, CSE, PSU).
- Technology RoadMap for 3G and Beyond (05/2006-12/2006), **Raytheon** (via Networking and Security Research Center, PSU), (**co-PI** with T. La Porta, CSE, PSU).
- Clustering for Wireless Ad Hoc Networks: A Joint Physical Layer, Multiple Access, and Routing Perspective (07/2005-06/2006), **Pennsylvania Infrastructure Technology Alliance**, (**co-PI**, with PI S. Kishore, ECE, Lehigh).
- Design of Efficient RFID Systems (01/2005-12/2005), **Pittsburgh Digital Greenhouse** (The Tech Collaborative) , (**PI**).
- Lifetime Optimization of Ad Hoc Sensor Networks (06/2005-12/2005), **Telcordia** (via Networking and Security Research Center, PSU), (**PI**, with G. Cao, T. La Porta, CSE, PSU).

- Center of Excellence in Wireless Communications and Networking at Lehigh University (05/2001-05/2003), **AT&T Foundation**, (**PI** with R. Blum, T. Boult, J. Hwang, EECS, Lehigh).
- Advances in Wireless Networking (Lehigh University) (09/2001-09/2002), **PADCOM** and **Ben Franklin Technology Partners**, (**co-PI**, with PI T. Boult, EECS, Lehigh).

Professional Activities

Elected/Appointed Positions

Director Elect, IEEE Division IX, 2023 (Elected in IEEE General Election, Oct. 2022).

Senior Past President, IEEE Information Theory Society, 2022.

Member, IEEE Technical Activities Board (TAB) Nominations and Appointments Committee (elected by the TAB from society and council presidents), 2022-present.

Junior Past President, IEEE Information Theory Society, 2021.

President, IEEE Information Theory Society, 2020.

Vice President, IEEE Information Theory Society, 2019.

Second Vice President, IEEE Information Theory Society, 2018.

Member of the Board of Governors, IEEE Information Theory Society, 2015-2017 and 2018-2020 (Elected by the membership for two consecutive terms).

Treasurer, Member of the Board of Governors, IEEE Information Theory Society, 2012-2014 (Appointed).

Member, IEEE Systems Council AdCom, 2020-present.

Member, IEEE Fellow Strategic Planning Committee (FSPC), 2021.

Member, IEEE Fellow Committee, 2018-2020.

Chair, IEEE Richard W. Hamming Medal Committee, 2019-2021 (Member 2017-2019, Past Chair, 2022).

Chair, Shannon Award Selection Committee, IEEE Information Theory Society, 2020 (Member, 2019).

Chair, Wyner Award Selection Committee, IEEE Information Theory Society, 2020 (Member, 2021).

Chair, Awards Committee, IEEE Information Theory Society, 2019.

Chair, Membership Committee, IEEE Information Theory Society, 2018.

Chair, Information Theory School Sub-committee, IEEE Information Theory Society, 2014-2017.

Chair, Student Committee, IEEE Information Theory Society, 2007-2011.

Member, Best Paper Awards Committee, Globecom 2022, IEEE Communications Society, 2022.

Member, Editor-in-Chief Selection Committee, Best Readings, IEEE Communications Society, 2022.

Member, Ad-Hoc Committee for Assessment of IEEE Transactions on Molecular, Biological and Multi-scale Communications, IEEE Communications Society, 2022.

Member, Cover Award Selection Committee, IEEE Information Theory Society, 2019.

Member, IEEE Ad Hoc Committee on Society Finances, IEEE Information Theory Society, 2018-2020.

Member, Conference Committee, IEEE Information Theory Society, 2019, 2020.

Member, IEEE Ad Hoc Committee on Best Practices for Society/Technical Council Fellow Evaluating Committees, 2018.

Editorial Advisory Board Member, IEEE Transactions on Wireless Communications, 2011-2013.

Editorships

Editor-in-Chief, IEEE Transactions on Green Communication and Networking, 2022-Present.

Area Editor for Security and Privacy, IEEE Transactions on Information Theory, 2021-Present.

Senior Editor, IEEE Journal on Selected Areas in Information Theory (JSAIT), 2019-Present.

Senior Editor, IEEE Journal on Selected Areas in Communications (JSAC), 2016-Present.

Associate Editor, IEEE Transactions on Mobile Computing, Jan. 2016-Nov. 2018.

Editor, IEEE Transactions on Communications, 2009-2012.

Editor, IEEE Transactions on Wireless Communications, 2001-2010.

Guest Editor, IEEE Journal on Selected Areas in Information Theory, Special Issue on The Role of Freshness and Semantic Measures in the Transmission of Information for Next Generation Networks, 2023.

Guest Editor, IEEE Journal on Selected Areas in Information Theory (JSAIT), Special Issue on Information Security and Privacy, 2021.

Guest Editor, IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Wireless Communications Powered by Energy Harvesting and Wireless Energy Transfer, 2015.

Guest Editor, IEEE Transactions on Information Forensics and Security, Special Issue on Using the Physical Layer for Securing the Next Generation of Communication Systems, 2011.

Conference Chair Positions

General Chair, Third North American School of Information Theory, Los Angeles, CA, August 2010.

General Chair, Second North American School of Information Theory, Evanston, IL, August 2009.

Organizer and General Chair, First School of Information Theory, University Park, PA, June 2008.

Technical Program Committee (TPC) Chair, IEEE International Symposium on Information Theory (ISIT'22), Helsinki, Finland, July 2022.

TPC Chair, *Communication Theory Symposium*, IEEE International Conference on Communications (ICC'09), Dresden, Germany, June 2009.

TPC Chair, *Communication Track*, 42nd Asilomar Conference on Signals, Systems and Computers, Pacific Grove, October 2008.

TPC Co-chair, *Communication Theory Symposium*, IEEE International Conference on Communications (ICC'18), Kansas City, MO, May 2018.

TPC Co-chair, *Green Networks (GREENNET) Workshop*, 14th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt'16), Tempe, AZ, May 2016.

TPC Co-chair, *2nd Workshop on Green Broadband access: energy efficient wireless and wired network solutions*, IEEE Global Telecommunications Conference 2014, Austin, TX, December 2014.

TPC Co-chair, *PHY and Fundamentals Track*, IEEE Wireless communications and Networking Conference (WCNC'14), Istanbul, Turkey, April 2014.

TPC Co-chair, *Workshop on Energy Harvesting and Green Wireless Communications*, IEEE Global Signal and Information Processing Conference (GlobalSIP'13), Austin, TX, Dec. 2013.

TPC Co-chair, *Workshop on Green Broadband access: energy efficient wireless and wired network solutions*, IEEE International Conference on Communications (ICC'13), Budapest, Hungary, June 2013.

TPC Co-chair, *Cognitive Radio and Spectrum Sensing Track*, IEEE Vehicular Technology Conference (VTC'12-Spring), Yokohama, Japan, May 2012.

TPC Co-chair, *Track 2: MAC and Cross-Layer Design*, 21st Annual IEEE International Symposium on Personal Radio and Mobile Communications (PIMRC'10), Istanbul, Turkey, September 2010.

TPC Co-chair, *Wireless Communications Symposium*, IEEE International Conference on Communications (ICC'08), Beijing, China, May 2008.

TPC Co-chair, *Communications and Networking Track*, 39th Asilomar Conference on Signals, Systems and Computers, Pacific Grove, Pacific Grove, November 2005.

TPC Co-chair, *Symposium on Information Theory*, IEEE WirelessCom 2005, Maui, HI, June 2005.

Faculty Co-Chair, *Wireless of the Students, by the Students, for the Students workshop (3S)*, to be held in conjunction with WiOpt'11, Princeton, NJ, May 2011.

Recent Results Chair, IEEE International Symposium on Information Theory (ISIT'13), Istanbul, Turkey, July 2013.

Tutorial Chair, IEEE International Symposium on Information Theory (ISIT'12), Boston, MA, June 2012.

Publications Co-chair, IEEE International Symposium on Information Theory (ISIT'11), St. Petersburg, Russia, July 2011.

Conference Technical Program Committee Membership

Technical Program Committee (TPC) Member, IEEE International Symposium on Information Theory, ISIT'23, Taipei, Taiwan, June 2023.

TPC member, IEEE Information Theory Workshop, ITW'23, Saint-Malo, France, April 2023.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference, Madrid, Spain, December 2021.

TPC Member, IEEE International Symposium on Information Theory, ISIT'21, online, July 2021.

- TPC) Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference, Taiwan, December 2020.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'20, online, June 2020.
- TPC Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference, Hawaii, December 2019.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'19, Paris, France, July 2019.
- TPC member**, *Communication Theory Symposium*, IEEE International Conference on Communications, Shanghai, China, May 2019.
- TPC member**, IEEE Information Theory Workshop, ITW'18, Guangzhou, China, November 2018.
- TPC member**, IEEE International Symposium on Information Theory, ISIT'18, Vail, CO, June 2018.
- TPC Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2017, Singapore, December 2017.
- TPC member**, IEEE International Symposium on Information Theory, ISIT'17, Aachen, Germany, June 2017.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2018, Kansas City, MO, May 2018.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2017, Paris, France, May 2017.
- TPC Member**, 15th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'17, Paris, France, May 2017.
- TPC Member**, ACM MobiHoc, Chennai, India, March 2017.
- TPC Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2016, Washington D.C., December 2016.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'16, Barcelona July 2016.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2016, Kuala Lumpur, Malaysia, May 2016.
- TPC Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2015, San Diego, CA, December 2015.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'15, Hong Kong June 2015.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2015, London, England, June 2015.
- TPC Member**, 13th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'15, Mumbai, India, May 2015.
- TPC Member**, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2014, Austin, TX, December 2014.
- TPC Member**, *Signal Processing for Communications Symposium*, IEEE Global Telecommunications Conference 2014, Austin, TX, December 2014.

- TPC Member**, *Energy Efficiency and Energy Harvesting Related Signal Processing and Communications*, IEEE Global Conference on Signal and Information Processing, Atlanta, GA, December 2014.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'14, Honolulu, HI, July 2014.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2014, Sydney, Australia, June 2014.
- TPC Member**, *Ad Hoc and Sensor Networks Symposium*, IEEE International Conference on Communications 2014, Sydney, Australia, June 2014.
- TPC Member**, 12th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'14, Hammamet, Tunisia, May 2014.
- TPC Member**, IEEE Military Communications Conference, Baltimore, MD, November 2013.
- TPC Member**, IEEE Conference on Communications and Network Security, CNS'13, Washington, D.C., October 2013.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'13, Istanbul, July 2013.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2012, Budapest, Hungary, June 2013.
- TPC Member**, 11th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'13, Tsukuba Science City, Japan, May 2013.
- TPC Member**, IEEE Military Communications Conference, Orlando, FL, November 2012.
- TPC Member**, IEEE Information Theory Workshop, ITW'12, Lausanne, Switzerland, September 2012.
- TPC Member**, IEEE Ninth International Symposium on Wireless Communication Systems, ISWCS'12, Paris, France, August 2012.
- TPC Member**, IEEE International Symposium on Information Theory, ISIT'12, Boston, MA July 2012.
- TPC Member**, *Communication Theory Symposium*, IEEE International Conference on Communications 2012, Ottawa, Canada, June 2012.
- TPC Member**, *Wireless Communications Symposium*, IEEE International Conference on Communications 2012, Ottawa, Canada, June 2012.
- TPC Member**, *Ad Hoc and Sensor Networks Symposium*, IEEE International Conference on Communications 2012, Ottawa, Canada, June 2012.
- TPC Member**, 10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'12, Paderborn, Germany, May 2012.
- TPC Member**, IEEE Fourth International Workshop on Computational Advances in Multi-Sensor Adaptive Processing, CAMSAP 2011, San Juan, Puerto Rico, December 2011.
- TPC Member**, *Wireless Communications Symposium*, IEEE Global Telecommunications Conference 2011, Houston, TX, December 2011.
- TPC Member**, IEEE Eighth International Symposium on Wireless Communication Systems, ISWCS'11, Aachen, Germany, November 2011.
- TPC Member**, *Symposium on Architectures and Models for the Smart Grid*, IEEE Second International Conference on Smart Grid Communications 2011, Brussels, Belgium, October 2011.

TPC Member, 22nd Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC'11, Toronto, Canada, September 2011.

TPC Member, *Communication Theory Symposium*, IEEE International Conference on Communications 2011, Kyoto, Japan, June 2011.

TPC Member, *Wireless Communications Symposium*, IEEE International Conference on Communications 2011, Kyoto, Japan, June 2011.

TPC Member, 9th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks, WiOpt'11, Princeton, NJ, May 2011.

TPC Member, *Wireless Communications Symposium*, IEEE Global Telecommunications Conference 2010, Miami, FL, December 2010.

TPC Member, IEEE International Symposium on Information Theory, ISIT'10, Austin, TX, June 2010.

TPC Member, *Wireless Communications Symposium*, IEEE International Conference on Communications 2010, Cape Town, South Africa, May 2010.

TPC Member, *Communication Theory Symposium*, IEEE International Conference on Communications 2010, Cape Town, South Africa, May 2010.

TPC Member, *Wireless Communications Symposium*, IEEE Global Telecommunications Conference 2009, Honolulu, HI, December 2009.

TPC Member, *Ad Hoc and Sensor Networks Track*, IEEE Vehicular Technology Conference, VTC'09-Fall, Anchorage, AK, September 2009.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2008, New Orleans, LA, November 2008.

TPC Member, Conference on Information Theory and Statistical Learning (ITSL'08), Las Vegas, NV, June 2008.

TPC Member, IEEE Information Theory Workshop (ITW), Porto, Portugal, May 2008.

TPC Member, IEEE Wireless Communications and Networking Conference, Las Vegas, NV, March 2008.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2007, Washington D.C., November 2007.

TPC Member, IEEE Vehicular Technology Conference, Baltimore, MD, September 2007.

TPC Member, International Conference on Computer Communications and Networks, Communication and Information Theory Symposium, Honolulu, HI, August 2007.

TPC Member, IEEE Wireless Communications and Networking Conference, Hong Kong, March 2007.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2006, San Francisco, CA, November 2006.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2005, St.Louis, MO, December 2005.

TPC Member, *Communication Theory Symposium*, IEEE International Conference on Communications, Seoul, Korea, May 2005.

TPC Member, ACM SIGCOMM 2005 Asia Workshop, Beijing, China, April 2005.

TPC Member, *General Conference*, IEEE Global Telecommunications Conference 2004, Dallas, TX, November 2004.

TPC Member, IEEE Vehicular Technology Conference, Los Angeles, CA, September 2004.

TPC Member, *Wireless Networking Symposium*, IEEE International Conference on Communications, Paris, France, June 2004.

TPC Member, IEEE Vehicular Technology Conference, Genova, Italy, May 2004.

TPC Member, *Wireless Communications Symposium*, IEEE Global Telecommunications Conference 2003, San Francisco, CA, November 2003.

TPC Member, IEEE Vehicular Technology Conference, Orlando, FL, September 2003.

TPC Member, *Communication Theory Symposium*, IEEE International Conference on Communications, Anchorage, AK, May 2003.

TPC Member, *Advanced Signal Processing for Communications Symposium*, IEEE International Conference on Communications, Anchorage, AK, May 2003.

TPC Member, *Communication Theory Symposium*, IEEE Global Telecommunications Conference 2002, Taipei, Taiwan, November 2002.

TPC Member, IEEE Vehicular Technology Conference, Vancouver, Canada, September 2002.

TPC Member, *Advanced Wireless Communications Systems Symposium*, IEEE International Conference on Communications, New York, NY, April 2002.

Selected Activities as Session or Panel Chair/Organizer

IEEE International Workshop on Signal Processing Advances in Wireless Communications SPAWC'22, **Special Session Organizer**: Intelligence and processing at the edge for next generation networks, Oulu, Finland, July 2022.

IEEE Communication Theory Workshop, CTW'15, **Session Organizer**: Energy Harvesting Communications, Dana Point, CA, May 2015.

Asilomar Conference on Signals, Systems and Computers, **Invited session organizer**: Green Radio, Pacific Grove, CA, November 2012.

IEEE Fourth International Workshop on Computational Advances in Multi-Sensor Adaptive Processing, CAMSAP'11, **Special Session Organizer**: Energy Harvesting Wireless Networks, San Juan, Puerto Rico, December 2011.

IEEE Communication Theory Workshop, **Session Organizer**: Security, Sitges, Spain, June 2011.

47th Annual Allerton Conference on Communication, Control and Computing, **Invited session organizer**: Information Security, Monticello, IL, September 2009.

Organizer and Chair, *Panel on Cooperative Communication for Future Wireless Systems*, IEEE Wireless Communications and Networking Conference, WCNC'07, Hong Kong, March 2007.

Asilomar Conference on Signals, Systems and Computers, **Invited session organizer**: Network Information Theory, Pacific Grove, CA, November 2007.

Asilomar Conference on Signals, Systems and Computers, **Invited session organizer**: Adaptive Communication Systems, Pacific Grove, CA, November 2003.

Chapter Chair, IEEE Lehigh Valley Signal Processing Society, 2001.

Research Supervision

Current Doctoral Students

- Truman Welling (ECE): Security (Start date: 08/2022)
- Emrekan Kutay (ECE): Semantic Communications (Start date: 08/2022)
- Xue Zheng (ECE): Distributed Machine Learning (Start date: 01/2022)
- Kevin Chen (ECE): TBD (Start date: 01/2022)
- Caroline Shin (CSE): Fair Machine Learning (Start date: 07/2020)
- Ece Bingol (ECE): Age of Information (Start date: 08/2019)
- Jiayu Mao (ECE): Smart Radio Environments and AI for 6G (Start date: 08/2019)

Undergraduate Honor Thesis Student

- Daniel Szoke (CSE): Robust Federated Learning Against Model-Poisoning Attacks (Start date: 01/2022)

Previous Postdoctoral Researchers

- Remi A. Chou (PhD, Georgia Tech 2015): 9/2015-8/2017 (Assistant Professor, Wichita State University)
- Shirin Saeedi Bidokhti (PhD, EPFL 2012): 4/2017-9/2017 (Assistant Professor, University of Pennsylvania)
- Ebrahim MolavianJazi (PhD, Notre Dame 2014): 8/2014-8/2016 (Samsung Research)
- Igor Stanojev (PhD, Politecnico di Milano and NJIT 2010): 11/2010-8/2012 (Associate Professor, University of Wisconsin, Platteville)
- Satashu Goel (PhD, Carnegie Mellon 2009): 07/2009-10/2010 (Qualcomm)

Graduated Doctoral Students

- Shiyang Vicky Leng **PhD, 05/2020**: Energy and Data Management in Energy-Sustainable Networks (Samsung)
- Ahmed Zewail **PhD, 08/2019** : Secrecy Guarantees in Emerging Networks (Qualcomm)
- Abdelrahman Ibrahim **PhD, 08/2019** : Data Storage and Energy Management in Emerging Networks (Qualcomm)
- Mohamed Nafea **PhD, 12/2018**: Information Theoretic Security Guarantees Against More Capable Adversaries (Postdoc, Georgia Tech.) (Assistant Professor, Detroit Mercy)
- Burak Varan **PhD, 08/2017**: Energy and Signal Cooperation in Competitive Wireless Networks with Energy Harvesting (Amazon, Cupertino, CA)

- Basak Guler **PhD, 08/2017**: Interaction, Communication and Computation in Information and Social Networks (Postdoc, University of Southern California, Los Angeles, CA) (Assistant Professor UC Riverside)
- Kaya Tutuncuoglu **PhD, 08/2015**: Energy Harvesting Wireless Networks: Transmission Policies and Coding Schemes (Facebook, Menlo Park, CA)
- Ye Tian **PhD, 05/2013** : Interference and Cooperation in Wireless Networks (Broadcom, Santa Clara, CA)
- Min (Michael) Li, **PhD, 08/2012**: Information Theoretic Limits of Interactive Multi-user Communication Channels (Postdoc, University of Newcastle, Callaghan, Australia) (Assistant Professor at Zhejiang University)
- Ertugrul Ciftcioglu, **PhD, 08/2012**: Wireless Relay Networks with Stochastic Arrivals (Research Associate, IBM/ARL, Adelphi MD) (Qualcomm)
- Xiang He, **PhD, 08/2010**: Cooperation and Information Theoretic Security in Wireless Networks (Microsoft, Seattle, WA)
- Min Chen, **PhD, 09/2009**: Resource Management for Wireless Ad Hoc Networks (Microsoft, Seattle, WA)
- Ender Tekin, **PhD, 08/2008**: Information Theoretic Secrecy for Some Multiuser Wireless Communication Channels (Research Faculty, Waisman Center, University of Wisconsin, Madison, WI)
- Kyounghwan Lee, **PhD, 12/2007**: Cognitive Hybrid Wireless Relay Networks (Sprint, VA) (Ford, MI)
- Changyoon Oh, **PhD, 08/2005**: Resource Allocation Techniques for Improved Performance of Multiuser Systems (Associate Professor, Inha Technical College, Korea)
- Semih Serbetli, **PhD, 08/2005**: Efficient Transmit Strategies for Multiuser Multiple Antenna Systems (Senior Research Scientist, Nexp, Eindhoven, The Netherlands)

Graduated M.S. and B.S. Students

- Derek Duan (Thesis) 08/2021: Group Key Agreement Schemes for Platooning with a Dynamic Lead (University of Florida)
- Malak Shah, MS (Paper) 05/2020: Age of Information for Networks with Stochastic Arrivals (Hughes Networks)
- Poojitha Kale, MS (Thesis) 05/2019: Study of Transfer Entropy on Epileptic EEG Signals (co-advised)
- Basak Guler, MS (Thesis) 08/2012: Interference Management for Femtocell Networks (PhD student, see graduated PhDs)
- Chien-Jen Huang, MS (Paper), 12/2007: Multiuser Competition in Cognitive Radio
- Lauren Huie, MS (Thesis), 08/2007: Joint Temporal Power Scheduling and Estimator Optimization for Sensor Networks (Air Force Research Lab, Rome, NY)
- Sungmin Bae, MS (Paper), 12/2005: The Listing Protocol for the RFID Reader Collision Problem
- Sandeep Bethanabhotla, MS (Thesis), 12/2005: Transmission Strategies for Lifetime Maximization of Sensor Networks (Broadcom, Irvine, CA)
- Girish Khandelwal, MS (Thesis), 08/2005: Efficient Design of Dense and Time Constrained RFID Systems (Qualcomm, San Diego, CA)

- Atul Divakaran, MS (Paper), 09/2003: An Adaptive Channel Allocation Strategy for Wireless Multimedia QoS (T-Mobile)
- Onder Filiz, MS (Thesis), 07/2003: Rank Constrained Temporal-Spatial Receivers for CDMA Systems (Turkcell, Istanbul, Turkey)
- Battal Ozdemir, MS (Paper), 05/2003: Adaptive Probing Based Medium Access Control for Ad-Hoc Networks (Sabanci University and Tubitak, Istanbul, Turkey)
- Michael Wang, BS (Honor's Thesis), 05/11: MIMO Ad Hoc Networks (PhD, Princeton)
- Mikhail Lisovich, BS (Honor's Thesis), 05/2006: Capacity Scaling Laws in Ad-Hoc Networks (PhD, Cornell)
- Chip McArtor, BS (Honor's Thesis), 05/2005: Lifetime Optimization of Sensor Networks: A Network Layer Approach

Previous Long-Term Visiting Professors

- Insoo Koo, Associate Professor, University of Ulsan, South Korea (01/2012-12/2012).
- Tae-Jin Lee, Associate Professor, Sungkyunkwan University Suwon, South Korea (08/2007-08/2008).
- Yeonho Chung, Associate Professor, Pukyong National University, Busan, South Korea (09/2006-08/2007).

Research Evaluation Activities

Panelist, National Science Foundation (NSF) CCF, NeTS, ECCS, SaTC, CCR, FMF, ITR, 2001-2020.

Panelist, European Research Council (ERC) Scientific Assessment of Projects, 2022.

Panelist, European Research Council (ERC) Advanced Grant, 2017, 2019, 2021.

Visitor/Panel Member for Research Assessment Exercise, KTH, Sweden, 2021.

Panelist, Swedish Research Council, 2016.

Number of promotion/tenure evaluations > 40

Reviewer

IEEE Transactions on Information Theory

IEEE Transactions on Communications

IEEE Transactions on Wireless Communications

IEEE Journal on Selected Areas in Communications

IEEE Transactions on Signal Processing

IEEE Transactions on Vehicular Technology

IEEE/ACM Transactions on Networking

IEEE Communications Letters

IEEE Transactions on Circuits and Systems I

EURASIP Journal on Wireless Communications and Networking

ISIT, ITW, ICC, GLOBECOM, WCNC, PIMRC, INFOCOM, Percom, MOBICOM, VTC

PhD Thesis Committee Membership

- Dissertation Committee Member: J. Tang, 2022, Ohio State, Advisor: A. Gupta
- Dissertation Committee Member: M. Hussein, 2020, Penn State, Advisor: V. Cadambe
- Dissertation Committee Member: B. Wang, 2019, Penn State, Advisor: J. Yang
- Opponent: Rong Du, KTH Royal Institute of Technology, 2018, Advisor: C. Fischione
- External Committee Member: Amal Hyadi, KAUST, 2017, Advisor: M.S. Alouini
- Dissertation First Opponent: Zhijie Ren, TU Delft, 2016, Advisors: M. Gastpar and J. Weber
- Dissertation Referee: Shashank Vatedka, Indian Institute of Science, 2016, Advisor: N. Kashyap
- Dissertation Committee Member: Michael Lin, 2015, Penn State, Advisor: T. LaPorta
- External examiner: Rajitha Senanayake, University of Melbourne, 2015, Advisor: J. Evans
- Dissertation Committee Member: Sakib Chowhury, 2014, Penn State, Advisor: M. Kavehrad
- Dissertation Committee Member: Srikar Tati, 2014, Penn State, Advisor: T. LaPorta
- Dissertation Committee Member: Qinghua Li, 2013, Penn State, Advisor: G. Cao
- Dissertation Committee Member: Gang Xiong, 2011, Lehigh University, Advisor: S. Kishore
- Dissertation Committee Member: Raju Kumar, 2010, Advisor: T. LaPorta
- Dissertation Committee Member: Jack Chuang, 2008, Advisor: R. Narayanan
- Dissertation Committee Member: Gyoughwan Kim, 2008, Carnegie Mellon, Advisor: R. Negi
- Dissertation Committee Member: Patrick Traynor, 2008, Advisor: P. McDaniel
- Dissertation Committee Member: Sangwoo Lee, 2007, Advisor: M. Kavehrad
- Dissertation Committee Member: Ozcan Ozturk, 2007, Advisor: M. Kandemir
- Dissertation Committee Member: Jaesheung Shin, 2007, Advisor: T. La Porta
- Dissertation Committee Member: Matthew Pirretti, 2006, Advisor: N. Vijaykrishnan
- Dissertation Committee Member: Hendra Saputra, 2005, Advisor: M. Kandemir
- Dissertation Committee Member: Wensheng Zhang, 2005, Advisor: G. Cao
- Dissertation Committee Member: Liangzhong Yin, 2004, Advisor: G. Cao
- Dissertation Committee Member: Hao Zhu, 2004, Penn State, Advisor: G. Cao
- Dissertation Committee Member: Byungtae Kang, 2004, Penn State, Advisor: J. Irwin
- Dissertation External Committee Member: Rajnish Sinha, Rutgers, 2003, Advisor: R. Yates
- Dissertation Committee Member: Xiang Gao, Lehigh University, 2002, Advisor: T. Boulton
- External examiner: L. G. F. Trichard, Univ. of Sydney, 2002, Advisors: J. Evans and I. Collings

Teaching

Ohio State, ECE 6001: Probability and Random Variables

Semesters taught: Autumn 2022

Enrollment: 70

Description: Graduate level core covering probability, random variables and processes.

Ohio State, ECE 7003: Wireless Communication Theory

Semesters taught: Autumn 2021

Enrollment: 9

Description: Graduate level wireless foundations, revised to include 5G and 6G topics by Prof. Yener.

Ohio State, ECE 7005: Information Theory

Semesters taught: Spring 2021

Enrollment: 17

Description: Graduate level information theory.

Penn State, EE 360: Communication Systems

Semesters taught: Spring 2003, Spring 2008, Fall 2012, Spring 2014, Spring 2019

Enrollment: 32, 23, 43, 35, 46

Description: Junior level communications course emphasizing analog/digital modulation techniques. Revised to include contemporary material in Spring 2019 by Prof. Yener.

Penn State, EE 497A: Fundamentals of Wireless Communications

Semesters taught: Spring 2004, Spring 2005, Spring 2007, Spring 2010

Enrollment: 35, 17, 13, 11

Description: Senior level wireless communications. Introduced and developed by Prof. Yener.

Penn State, EE 497B: Probability and Random Processes for Electrical and Computer Engineers

Semesters taught: Spring 2016

Enrollment: 22

Description: Junior/senior level statistics elective, in house version.

Penn State, EE 560: Stochastic Processes and Estimation

Semesters taught: Fall 2006, Fall 2010, Fall 2018

Enrollment: 57, 39, 26

Description: Graduate level probability, random variables and random processes. Core course for the PhD candidacy exam for the following sub-areas of the Signals and Systems Area: Communications, Networking, Signal Processing, Image Processing.

Penn State, EE 561: Information Theory

Semesters taught: Fall 2007, Fall 2009, Spring 2011, Spring 2015, Spring 2018

Enrollment: 15, 17, 12, 9, 10

Description: Graduate level information theory.

Penn State, EE 562: Detection and Estimation Theory

Semester taught: Fall 2002

Enrollment: 10

Description: Graduate level detection and estimation theory.

Penn State, EE 568: Digital Communications-I

Semesters taught: Fall 2003, Fall 2004, Fall 2005

Enrollment: 21, 18, 11

Description: Graduate level digital communications.

Penn State, EE 569: Digital Communications-II

Semesters taught: Spring 2012

Enrollment: 5

Description: Advanced graduate level digital communications.

Penn State, EE 597C: Emerging Topics in Networked Systems

Semester taught: Fall 2013, Fall 2019

Enrollment: 5, 5

Description: Graduate level (advanced); heavy research component. Developed by Prof. Yener.

Penn State, EE 597E: Multiuser Wireless Communications

Semester taught: Spring 2006

Enrollment: 17

Description: Graduate level (advanced); heavy research component. Developed by Prof. Yener.

Penn State, EE 597J: Spread Spectrum Communications

Semester taught: Spring 2002

Enrollment: 25

Description: Graduate level course emphasizing the principles and performance of spread spectrum based communication systems.

Lehigh, ECE 341: Fundamentals of Wireless Communications

Semester taught: Fall 2000

Enrollment: 16

Description: Senior/First-year graduate course. Developed by Prof. Yener. Course taught as ECE 350 & ECE 450 (Special Topics) in Fall 2000, subsequently named ECE 341 as a permanent course.

Lehigh, ECE 450: Code Division Multiple Access Systems

Semester taught: Spring 2001

Enrollment: 11

Description: Advanced graduate course emphasizing physical layer techniques for CDMA systems.

University Service

Ohio State

College Promotion and Tenure Committee, Co-chair, College of Engineering (2022-present)

Research Security Governance Board, Member in Leadership, University level (2020-present)

Strategic Plan Working Group, Pillar 3: Shape our research activities to optimize collaborative discovery at the edges and intersections of disciplines, Member and co-lead, College of Engineering (2022-present)

College Promotion and Tenure Committee, Member, College of Engineering (2021)
College Research Committee, Member, College of Engineering (2020-present)
Women Faculty Advisory Board to the Dean, Member, College of Engineering (2021-present)
Advisory Committee, Member, ECE Department (2020-present)
Personnel Committee, Member, ECE Department (2020-present)
Graduate Committee, Member, ECE Department (2020-2022)

Penn State

Tenure and Promotion Committee of the School of EECS, Chair (2019)
Tenure and Promotion Committee of the School of EECS, Member (2018-2019)
School of EECS Strategic Planning Committee, Member (2015-2018) (2018-2019)
Advancement of Women in Engineering (AWE) Workshop Organizer, College of Engineering (2018)
EE Department Search Committee in Communications and Networking, Chair (2017-2018) (2018-2019)
College of Engineering Strategic Thrust Research Teams (STaRT), Leader for Cyber Environments (2017)
Graduate Council, Penn State, College of Engineering, Representative (alternate) (2017-2019)
College of Engineering Strategic Thrust Working Group on cyber-environments, Member (2016)
School of EECS Head Search Committee, Member (2015-2016)
EE Department Search Committee, Member (2015-2016)
EE Department Search Committee, Member (2014-2015)
Networked Systems Faculty Position Search Committee, Member (2013-2014)
Cyber-Physical Systems Faculty Position Search Committee, Member (2012-2013)
School of EECS study committee, Member (2011)
EE Department SysAdmin Search Committee, Member (2011)
Administrative Review Committee of Civil Engineering Dept. Head, College of Engineering, Member (2010-2011)
EE Department Head Search Committee, Member (2010-2011)
Sabbatical Review Committee for College of Engineering, Member then Chair (2009-2010)
EE Department AA Search Committee, Member (2009-2010)
Coordinator of PhD Candidacy Exam for Signals and Systems (2009-2011)
Strategic Planning Task Force on Information Technologies and Cyber Infrastructure, College of Engineering, Member (2007-2008)

Organizer of the Signals and Systems Area Seminars, EE Department (2006-2007)

Graduate Council, Member alternate (elected), College of Engineering (2004-2006)

Colloquium Organizing Committee, EE Department , Member (2003-2006)

Undergraduate Curriculum Committee, EE Department, Member (2002-2012)

Last updated, Nov 10, 2022.