

Lalitha Sankar

Electrical, Computer, and Energy Engineering

Professor, Goldwater Center, Room 436
Tempe, AZ 85281
USA

Arizona State University

Phone: (480) 965-4953
Email: lsankar@asu.edu
<http://lalithasankar.faculty.asu.edu>

EDUCATION:

Ph.D. in Electrical Engineering, Rutgers University, Piscataway, NJ Oct. 2007
Advisor: **Narayan Mandayam**
Dissertation: *Relay Cooperation in Multiaccess Networks*

M.S. in Electrical Engineering, University of Maryland Baltimore County, Baltimore, MD Aug. 1994

B.Tech. in Engineering Physics, Indian Institute of Technology, Bombay, India May 1992

ACADEMIC/PROFESSIONAL EXPERIENCE:

Professor	Arizona State University, Tempe, AZ
School of ECEE	Aug. 2023–Present
Associate Professor	Arizona State University, Tempe, AZ
School of ECEE	Aug. 2018–2023
Assistant Professor	Arizona State University, Tempe, AZ
School of ECEE	Oct. 2012–Jul. 2018
Associate Research Scholar	Princeton University, Princeton, NJ
Mentor: H. Vincent Poor	Sep. 2010–Sep. 2012
Science and Technology Postdoctoral Fellow	Princeton University, Princeton, NJ
Advisor: H. Vincent Poor	Jun. 2007–Aug. 2010
Graduate Research Assistant	WINLAB, Rutgers University, North Brunswick, NJ
Advisor: Narayan Mandayam	Sep. 2003–May 2007
Senior Member of Technical Staff	AT&T Shannon Labs, Florham Park, NJ
Sep. 1995–Mar. 2002	
Advanced Engineer	Engineering R&D, Polaroid Corporation, Cambridge, MA
Sep. 1994–Aug. 1995	

HONORS AND AWARDS:

Google AI for Social Good Faculty Research Award	Oct 2020
IEEE Information Theory Society Distinguished Lecturer	Jan 2020– Dec 2022
NSF HDR Institute for Data-Intensive Research in Science and Engineering (lead PI)	Oct 2019-Sep 2022
IEEE Senior Member	May 2015
NSF CAREER Award	NSF CCF Program 2014
IEEE Globecom Best Paper Award	2012
Princeton Science and Technology Council Teaching and Research Postdoctoral Fellowship	2007-2010
Electrical Engineering Academic Achievement Award	ECE, Rutgers, 2007

Lalitha Sankar (2 of 15)

NOMINATIONS:

- Nominated by my postdocs for the ASU Graduate College Outstanding Faculty Mentor Award Oct 2021
Nominated by my students for the ASU Graduate College Outstanding Faculty Mentor Award Oct 2020

RESEARCH SUPPORT:

1. **L. Sankar** (PI), A. Nedich (co-PI, ASU ECEE), G. Pedrielli (co-PI, ASU SCAI), and S. Lan (co-PI, ASU SoMMS), “Unifying Information and Optimization-theoretic Approaches for Modeling and Training Generative Adversarial Networks,” **National Science Foundation DMS-2134256**, \$1,100,000, Oct. 2021 - Sep. 2024. (my share: 25%)
2. **L. Sankar** (PI), “Applying Federated Analytics to COVID-19 Contact Tracing, with an On-campus Pilot,” **Google University Grant**, \$150,000, Oct. 2020. (my share: 100%)
3. Y. Weng (PI), L. Lai, **L. Sankar** (member of the three faculty ASU team), “Comprehensive Cybersecurity Technology for Critical Power Infrastructure: AI-Based Centralized Defense and Edge Resilience,” **Binational Industrial Research and Development Foundation (BIRD)**, (this is a consortium of three universities, two in the USA and one in Israel, and nearly 20 industry partners) \$900,000, Nov. 2021. (my share: 30% of ASU’s share of \$3M)
4. **L. Sankar** (PI) and G. Dasarathy (co-PI, ASU), “Alpha Loss: A New Framework for Understanding and Trading Off Computation, Accuracy, and Robustness in Machine Learning,” **National Science Foundation CIF-2007688**, \$499,999, Oct. 2020 - Sep. 2023. (my share: 64%)
5. **L. Sankar** (PI) and G. Dasarathy (co-PI, ASU), “Alpha Loss: A New Framework for Understanding and Trading Off Computation, Accuracy, and Robustness in Machine Learning,” **National Science Foundation CIF-2007688**, \$499,999, Oct. 2020 - Sep. 2023. (my share: 64%)
6. **L. Sankar** (PI) and G. Dasarathy (co-PI, ASU), **Research Experience in Undergraduate Education Supplement for:** “Alpha Loss: A New Framework for Understanding and Trading Off Computation, Accuracy, and Robustness in Machine Learning,” **National Science Foundation CIF-2007688**, \$16,000, Oct. 2021 - Sep. 2023. (my share: 100%)
7. **L. Sankar** (PI), N. Trieu (co-PI, ASU), and M. Zhao (co-PI, ASU), “RAPID: FACT: Federated Analytics for Contact Tracing,” **National Science Foundation COVID-19 RAPID Grants**, \$200,000, Jun. 2020 - May 2021. (my share: 34%)
8. **L. Sankar** (PI), N. Trieu (co-PI, ASU), M. Zhao (co-PI, ASU), **Research Experience in Undergraduate Education Supplement for:** “RAPID: FACT: Federated Analytics for Contact Tracing,” **National Science Foundation COVID-19 RAPID Grants**, \$8,000, Jun. 2020 - May 2021. (my share: 80%)
9. **L. Sankar** (PI) and O. Kosut (co-PI, ASU), NSF Travel Grant for the “2020 IEEE SmartGrid-Communications Conference: Trustworthy Sensing, Communications, Processing, and Analytics for a Sustainable Grid,” **National Science Foundation Conference Travel Grant**, \$8,000, Oct. 2020 - May 2021.
10. D. Jennewein (PI), L. Sankar (Co-PI), James McCabe (Co-PI), Chris Kurtz (Co-PI), B. Munk (Co-PI), “CC* Networking Infrastructure: Science DMZ for Data-enabled Science, Engineering, and Health,” **National Science Foundation Office of Advanced CyberInfrastructure**, \$500,000, Jul. 2020 - Jun 2022. (my share: 0%)
11. **L. Sankar** (PI), O. Kosut (co-PI, ASU), G. Dasarathy (co-PI, ASU), A. Pal (co-PI, ASU), C. Bryan (co-PI, ASU), and L. Xie (co-PI, TAMU), “High-Dimensional Spatio-Temporal Data Science for a Resilient Power Grid: Towards Real-Time Integration of Synchrophasor Data” **National Science**

- Foundation Harnessing the Data Revolution: Institute for Data-Intensive Research in Science and Engineering Award OAC-1815361**, \$1,725,000, Oct. 2019 - Sep. 2021, ASU share: \$1,500,000 over 2 years; (my share: ~23%) .
12. **L. Sankar** (PI) and R. Rajagopal (co-PI, Stanford), “Generative Adversarial Privacy: A Data-Drive Approach to Guaranteeing Privacy and Utility” **National Science Foundation Award CIF-1815361**, \$498,213, Oct. 2018 - Sep. 2021, my share: 66%.
 13. **L. Sankar** (PI), O. Kosut (co-PI, ASU), F. P. Calmon (co-PI, Harvard) “Information-theoretic Guarantees on Privacy in the Age of Learning” **National Science Foundation Award CCF-1901243**, \$1,200,000, Jun. 2019 - May 2023, my share of overall: 33% and my share of ASU funds: 50%.
 14. **L. Sankar** (PI), A. Pal (co-PI, ASU), L. Xie (co-PI, TAMU) “Machine Learning Approaches for Real-time Integration of PMU Data” **NSF I/UCRC Power Systems Energy Research Center (PSERC) S-54**, \$220,000, Jul. 2019 – Jun. 2021, my share: \$80K (32%).
 15. A. Pal, (PI), **L. Sankar** (co-PI), and C. DeMarco (co-PI, U. Wisconsin, Madison), “Synchrophasor-Data Analytics for a More Resilient Electric Power System” **NSF I/UCRC Power Systems Energy Research Center (PSERC) S-54**, \$220,000, Aug. 2017 – Jul. 2019, my share: \$70K (32%) .
 16. **L. Sankar** (PI), “**REU Supplement: Privacy-Guaranteed Distributed Interactions in Critical Infrastructure Networks**” **National Science Foundation Faculty Early Career Development (CAREER) Award CCF-1742836**, \$8,000, Jan. 2017 – Dec. 2018.
 17. **L. Sankar** (PI), O. Kosut (co-PI, ASU), M. Govindarasu (co-PI, ISU), “Attack-Resilient and Secure EMS: Design, Algorithms, Operational Protocols, and Evaluation (S-72)” **NSF I/UCRC Power Systems Energy Research Center (PSERC) S-54**, \$220,000, Aug. 2016 – Jul. 2018, **Sankar share: \$80K over 2 years.**
 18. **L. Sankar** (PI), K. Hedman (co-PI), and O. Kosut (co-PI), “A Verifiable Framework for Cyber-Physical Attacks and Countermeasures in a Resilient Electric Power Grid” **National Science Foundation Award CNS-1449080**, \$1,399,999.00, Mar. 2015 - Feb. 2019, **Sankar share: \$333,334 (34%) over 4 years.**
 19. O. Kosut (PI) and **L. Sankar** (co-PI), “A Framework for Low Latency Universal Compression with Privacy Guarantees” **National Science Foundation Award CCF-1422358**, \$498,213.00, Jul. 2014 - Jun. 2017, **Sankar share: \$249,106 (50%) over 3 years.**
 20. L. Sankar (PI), “Privacy-Guaranteed Distributed Interactions in Critical Infrastructure Networks” **National Science Foundation Faculty Early Career Development (CAREER) Award CCF-1350914**, \$455,000, Jan. 2014 - Dec. 2019.
 21. V. Nambodiri (PI), M. Jadliwala (co-PI), V. Aravinthan, and L. Sankar (co-PI), “Towards a Privacy-aware Information-sharing Framework for Advanced Metering Infrastructures” **NSF I/UCRC Power Systems Energy Research Center (PSERC) S-54**, \$290,000, 2013-2015, **Sankar share: \$70K (24%) over 2 years.**
 22. H. V. Poor (PI) and L. Sankar (co-PI), “Privacy and Utility of Databases: An Information-theoretic Approach” **National Science Foundation Award CCF-1016671**, \$335,000, 2010-2013.

PUBLICATIONS:

Underline: Self (last name before 2006: Sankaranarayanan)

(*): Corresponding author

Bold font with underline: ASU PhD student

Bold font: ASU MS student

- (#) ASU Undergraduate Student
 (×) ASU Postdoctoral Researcher (past and present)
 (+): Equal contribution

All citations are as of April 15, 2022

Journal Publications:

1. **N. TagizhBazargani***, G. Dasarathy, **L. Sankar**⁺, and O. Kosut⁺, “A Machine Learning Framework for Event Identification via Modal Analysis of PMU Data,” *IEEE Trans. Power Systems*, accepted for publication, Nov. 2022 (early release).
2. R. Anguluri*[†], **L. Sankar**⁺, and O. Kosut⁺, “Localization and Estimation of Unknown Forced Inputs: A group LASSO approach,” *IEEE Trans. on Network Control*, accepted for publication, Mar. 2023.
3. **A. Arunkumar***, **A. Pinceti**, **L. Sankar**, and C. Bryan, “PMUVis : A large scale platform to assist power system pperators in a smart grid” *IEEE Computer Graphics and Applications*, accepted for publication, Apr. 2022 (early access).
4. **X. Zheng***, **A. Pinceti**, L. Xie and **L. Sankar**, “Cross time-scale synthetic synchrophasor data creation: A generative adversarial nets (GAN)-based approach” *IEEE Journal of Modern Power Systems and Clean Energy*, accepted for publication, Apr. 2022 (early access).
5. **T. Sypherd***, M. Diaz[×], **J. Cava**, G. Dasarathy, P. Kairouz, and **L. Sankar**, “A tunable loss function for robust classification: Calibration, landscape, and generalization” *IEEE Transactions on Information Theory*, accepted for publication, Apr. 2022 (early access).
6. P. Kairouz, **J. Liao**[†], **C. Huang**[†], **M. Vyas**, **M. Welfert***, and **L. Sankar**, “Generating fair universal representations using adversarial models” *IEEE Transactions on Information Forensics and Security*, accepted for publication, Apr. 2022 (early access).
7. R. Anguluri*[×], G. Dasarathy⁺, O. Kosut⁺, and **L. Sankar**⁺, “Grid topology identification with hidden nodes via structured norm minimization,” *IEEE Control Systems Letters*, vol. 6, Jun. 2021.
8. **Z. Chu**, **J. Zhang**, O. Kosut⁺, **L. Sankar**⁺, “N-1 Reliability Makes It Difficult for False Data Injection Attacks to Cause Physical Consequences” *IEEE Transactions on Power Systems*, vol. 26, no. 5, Sep. 2021.
9. H. V. Poor*, M. Bloch, O. Günlü, F. Oggier, **L. Sankar**, R. Schaefer, and A. Yener, ”An Overview of Information-Theoretic Security and Privacy: Metrics, Limits and Applications,” *IEEE Journal on Selected Areas in Information Theory*, vol. 2, no. 1, pp. 3-4, March 2021.
10. S. Asoodeh, **J. Liao**[†], F. P. Calmon⁺, O. Kosut⁺, **L. Sankar**⁺, “Three variants of differential privacy: Lossless conversion and applications,” *IEEE Journal on Selected Areas in Information Theory*, vol. 2, issue 1, Mar. 2021.
11. **A. Pinceti***, **L. Sankar**⁺, and O. Kosut⁺, “Detection and localization of load redistribution attacks on large scale systems,” accepted, *Journal of Modern Power Systems and Clean Energy*, vol. 10, no. 2, Feb. 2021.
12. **Z. Chu***, O. Kosut⁺, and **L. Sankar**⁺, “Detecting Load Redistribution Attacks via Support Vector Models,” accepted, *IET Smart Grid*, vol. 3, no. 5, Oct. 2020.
13. M. Diaz[×], H. Wang, F. P. Calmon⁺, and **L. Sankar**⁺, “On the robustness of information-theoretic privacy measures and mechanisms,” *IEEE Transactions on Information Theory*, vol. 66, no. 4, pp. 1949 - 1978, Apr. 2020.
14. **J. Liao***, O. Kosut, **L. Sankar**, and F. P. Calmon, “Tunable measures for information leakage and applications to privacy-utility tradeoffs,” *IEEE Transactions on Information Theory*, pp.1–24, Sep. 2019.

15. **J. Zhang***, **Z. Chu**, **L. Sankar⁺**, and O. Kosut⁺, “Can attackers with limited information exploit historical data to mount successful false data injection attacks on power systems?,” *IEEE Transactions on Power Systems*, vol. 33, no. 5, Sep. 2018.
16. **K. Kalantari***, **L. Sankar**, and A. D. Sarwate, “The optimal differential privacy mechanism for universal memoryless sources under Hamming distortion,” *IEEE Transactions on Information Forensics and Security*, vol. 13, no. 11, Nov. 2018.
17. **J. Liao***, **L. Sankar**, V. F. Tan, and F. du Pin Calmon, “Hypothesis testing under mutual information privacy constraints in the high privacy regime,” *IEEE Transactions on Information Forensics and Security*, published, vol. 13, no. 4, Apr. 2018.
18. **C. Huang**, P. Kairouz, X. Chen, **L. Sankar***, and R. Rajagopal. “Context-Aware Generative Adversarial Privacy,” *Entropy, Special Issue on Information Theory in Machine Learning*, vol. 19, 658, Dec. 2017.
19. **B. Moraffah** and **L. Sankar***. “Privacy-guaranteed Two-Agent Interactions Using Information-Theoretic Mechanisms,” *IEEE Transactions on Information Forensics and Security*, vol. 12, no. 9, Sep. 2017.
20. O. Kosut* and **L. Sankar**. “Asymptotics and non-asymptotics for universal fixed-to-variable source coding,” *IEEE Transactions on Information Theory*, accepted Mar. 2017.
21. **J. Zhang*** and **L. Sankar**. “Physical System Consequences of Unobservable State-and-Topology Cyber-Physical Attacks,” *IEEE Transactions on Smart Grid*, vol. 7, no. 4, pp. 2016-2025, July 2016.
22. **C. Huang***, **L. Sankar**, and A. Sarwate. “Designing Incentive Schemes for Privacy-Sensitive Users,” *Journal of Confidentiality and Privacy*, issue 1, vol.7, 2015-2016.
23. **J. Liang***, **L. Sankar⁺**, and O. Kosut⁺. “Vulnerability Analysis and Consequences of False Data Injection Attack on Power System State Estimation,” *IEEE Trans. Power Systems*, vol. 31, no. 5, pp. 3864-3872, Sept. 2016.
24. E. V. Belmega*, **L. Sankar**, and H. V. Poor. “Enabling Data Exchange in Interactive State Estimation under Privacy Constraints,” *IEEE Journal Special Topics in Signal Processing (JST-SP), Special Issue on Signal Processing for Privacy*, vol. 9, no. 7, pp. 1285-1297, Oct. 2015.
25. **L. Sankar***, W. Trappe, K. Ramachandran, H. V. Poor, and M. Debbah. “The role of signal processing in meeting privacy challenges: An overview,” *IEEE Signal Processing Magazine, Special Issue on Cyber-Security and Privacy*, issue 5, pp. 95-106, Sep. 2013.
26. R. Tandon*, **L. Sankar**, H. V. Poor. “Lossy discriminatory source coding: Side-information privacy,” *IEEE Transactions on Information Theory*, vol.59, no.9, pp.5665-5677, Sept. 2013.
27. **L. Sankar***, S. Raj Rajagopalan, S. Mohajer, H. V. Poor. “Smart meter privacy: A theoretical framework,” *IEEE Transactions on the Smart Grid*, vol.4, no.2, pp.837-846, Jun. 2013.
28. **L. Sankar***, S. Raj Rajagopalan, and H. V. Poor. “Utility-privacy tradeoffs in databases: An information-theoretic approach,” *IEEE Transactions on Information Forensics and Security*, vol.8, no.6, pp.838-852, Mar. 2013.
29. **L. Sankar***, G. Kramer, and N. B. Mandayam. “Dedicated relay vs. user cooperation in time-duplexed multiaccess networks,” *IEEE J. Commun.*, vol. 6, no. 4, pp. 330-339, Jul. 2011.
30. **L. Sankar***, X. Shang, E. Erkip, and H. V. Poor. “Ergodic fading interference channels: Sum-capacity and separability,” *IEEE Trans. Inform. Theory*, vol 57, no. 5, pp. 2005-2626, May 2011.
31. **L. Sankar***, Y. Liang, N. B. Mandayam, and H. V. Poor. “Opportunistic communications in fading Gaussian multiaccess relay channels,” *IEEE Trans. Inform. Theory*, vol. 57, no. 4, pp. 1911-1931, Apr. 2011.

32. V. Aggarwal*, L. Sankar, A. R. Calderbank, and H. V. Poor. "Secrecy capacity of a class of orthogonal relay eavesdropper channels," *EURASIP Journal on Wireless Communication and Networking: Special Issue on Wireless Physical Layer Security*, vol. 2009, article ID 494696, 14 pages, 2009.
33. L. Sankar*, N. B. Mandayam, and H. V. Poor. "On the sum-capacity of degraded Gaussian multiaccess relay channels," *IEEE Trans. Information Theory*, vol. 55, no. 12, pp. 5394-5411, Dec. 2009.
34. S Mathur*, L. Sankar, and N. B. Mandayam. "Coalitions in cooperative wireless networks," *IEEE J. Special Areas in Communication, Special Issue on Game Theory in Communication Networks*, vol. 26, no. 7, pp. 1104-1115, Sep. 2008.
35. L. Sankar*, G. Kramer, and N. B. Mandayam. "Offset encoding for multiple-access relay channels," *IEEE Trans. Information Theory, Special Issue on Models, Theory, and Codes for Relaying and Cooperation in Communication Networks*, vol.53, no. 10, pp. 3814-3821, Oct. 2007.

Preprints:

36. A. Pinceti*, L. Sankar⁺, and O. Kosut⁺, "Generation of synthetic multi-resolution time series load data," arXiv:2107.03547, under review, *IEEE Trans. Power Systems*.
37. M. Diaz^{×*}, P. Kairouz, and L. Sankar, "Lower Bounds for the Minimum Mean-Square Error via Neural Network-based Estimation," under review, *IEEE Transactions on Information Theory (ISIT)*, Sep. 2021.

In Preparation:

38. J. Cava, K. Otstot^{#*}, T. Sypherd, C. Xiao⁺, and L. Sankar⁺, "AUGLOSS: A Learning Methodology for Real-World Dataset Corruption," to be submitted to the *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
39. W. Alghamdi*, S. Asoodeh, F. P. Calmon⁺, O. Kosut⁺, L. Sankar⁺, and F. Wei[×], "The Saddle-Point Accountant for Differential Privacy," to be submitted to the *Neural Information Processing Systems Conference (NeurIPS) 2022*, May 2022.

Editorials/Newsletter Articles/Thesis:

40. H. V. Poor*, M. Bloch, O. Günlü, F. Oggier, L. Sankar, R. Schaefer, and A. Yener, "Editorial: Privacy and Security of Information Systems," *IEEE Journal on Selected Areas in Information Theory*, vol. 2, no. 1, pp. 3-4, March 2021, doi: 10.1109/JSAIT.2021.3060161.
41. W. Trappe*, L. Sankar, R. Poovendran, H. Lee, and S. Capkun. "Introduction to the issue on signal and information processing for privacy," *Guest Editorial, IEEE Journal Selected Topics on Signal Processing, Special Issue on Privacy*, vol. 5, no. 7, pp. 1172-1175, Oct. 2015.
42. L. Sankar*, W. Trappe, K. Ramachandran, H. V. Poor, and M. Debbah. "Signal processing for cybersecurity and privacy," *Guest Editorial, IEEE Signal Processing Magazine, Special Issue on Cyber-Security and Privacy*, issue 5, pp. 95-106, Sep. 2013.
43. L. Sankar* and H. V. Poor. "Teaching it to freshman," *IEEE Information Theory Society Newsletter*, Sep. 2008.
44. L. Sankar. "Relay cooperation in multiaccess networks," *Doctoral thesis*, WINLAB, Rutgers University, Oct. 2007.

Conference Papers:

45. **T. Sypherd***, **N. Stromberg***, R. Nock, V. Berisha, and **L. Sankar**, “Smoothly Giving up: Robustness for Simple Models,” in Proc. *Artificial Intelligence and Statistics (AISTATS)*, Apr. 2023.
46. **T. Sypherd***, R. Nock, and **L. Sankar**, “Being properly improper,” in Proc. *International Conference on Machine Learning (ICML 2022)*, Jul. 2022.
47. **W. Alghamdi***, S. Asoodeh, F. P. Calmon⁺, O. Kosut⁺, **L. Sankar**⁺, and F. Wei[×], “Cactus Mechanisms: Optimal Differential Privacy Mechanisms in the Large-Composition Regime,” *IEEE International Symposium on Information Theory (ISIT)*, accepted for presentation and publication, Jun. 2022.
48. R. Anguluri[×], **N. TagizhpourBazagani***, **L. Sankar**⁺, and O. Kosut⁺, “A Complex-LASSO Approach for Localizing Forced Oscillations in Power Systems,” accepted for presentation at the Proc. IEEE Power and Energy Systems General Meeting (PES-GM), Jul. 2022, Denver CO.
49. G. Kurri[×], O. Kosut⁺, and **L. Sankar**⁺, “A Variational Formula for Infinity-Rényi Divergence With Applications to Information Leakage,” *IEEE International Symposium on Information Theory (ISIT)*, accepted for presentation and publication, Jun. 2022.
50. G. Kurri[×], **M. Welfert**, **T. Sypherd**, and **L. Sankar**, “ α -GAN: Convergence and Estimation Guarantees,” *IEEE International Symposium on Information Theory (ISIT)*, accepted for presentation and publication, Jun. 2022.
51. G. Kurri[×], **T. Sypherd**, and **L. Sankar**, “Realizing GANs via a Tunable Loss Function,” *IEEE Information Theory Workshop (ITW)*, virtual conference, Oct. 2021.
52. M. Diaz[×], P. Kairouz, **J. Liao***, and **L. Sankar**, “Neural Network-based Estimation of the MMSE,” *IEEE International Symposium on Information Theory (ISIT)*, virtual conference, Jul. 2021.
53. G. Kurri[×], O. Kosut⁺, and **L. Sankar**⁺, “Evaluating Multiple Guesses by an Adversary via a Tunable Loss Function,” *IEEE International Symposium on Information Theory (ISIT)*, virtual conference, Jul. 2021.
54. **A. Pinceti***, **L. Sankar**⁺, and O. Kosut⁺, “Synthetic Time-Series Load Data via Conditional Generative Adversarial Networks,” Proc. *IEEE Power and Energy Systems General Meeting (PES-GM)*, virtual conference, Jul. 2021 (**Selected to present in session on the best papers of the conference.**)
55. **Z. Chu***, O. Kosut⁺, and **L. Sankar**⁺, “Vulnerability Assessment of Large-scale Power Systems to False Data Injection Attacks,” Proc. *SmartGridCommunications Conference (SGComm)*, virtual conference, Nov. 2020.
56. **A. Pinceti***, O. Kosut⁺, and **L. Sankar**⁺, “Generation of Synthetic Multi-Resolution Time Series Load Data via Generative Adversarial Networks,” Proc. *IEEE Power and Energy Systems General Meeting (PES-GM)*, virtual conference, Aug. 2020, (abstract for poster presentation). **Third Prize - Graduate Student Poster Contest.**
57. S. Asoodeh*, **J. Liao**, F. Calmon⁺, O. Kosut⁺, and **L. Sankar**⁺, “A Better Bound Gives a Hundred Rounds: Enhanced Privacy Guarantees via f -Divergences,” accepted for presentation in *Proceedings IEEE International Symposium Information Theory*, virtual conference, Jun. 2020.
58. **T. Sypherd***, M. Diaz[×], **L. Sankar**, and G. Dasarathy, “The α -loss landscape evolution in logistic models,” in *Proceedings IEEE International Symposium Information Theory*, virtual conference, Jun. 2020.
59. **T. Sypherd***, M. Diaz[×], **L. Sankar**, P. Kairouz, and G. Dasarathy, “A Class of Parameterized Loss Functions for Classification: Optimization Tradeoffs and Robustness Characteristics,” in *Neural Information Processing Conference, Workshop on Information Theory and Machine Learning*, Dec. 2019.

60. **T. Sypherd***, M. Diaz[×], L. Sankar, P. Kairouz, and G. Dasarathy, “A Class of Parameterized Loss Functions for Classification: Optimization Tradeoffs and Robustness Characteristics,” in *Neural Information Processing Conference, Workshop on Machine Learning with Guarantees*, Dec. 2019.
61. **Z. Chu***, **A. Pinceti**, **R. S. Biswas**, O. Kosut⁺, A. Pal⁺, and **L. Sankar⁺**, “Can predictive filters detect gradually ramping false data injection attacks against PMUs?,” *Proc. SmartGridCommunications Conference (SGComm)*, Beijing, China, Oct. 2019.
62. **T. Sypherd***, M. Diaz[×], **L. Sankar**, and P. Kairouz, “A tunable loss function for binary classification,” *Proc. International Symposium on Information Theory (ISIT)*, Paris, France, Jul. 2019.
63. **J. Liao***, **L. Sankar**, O. Kosut, and F. P. Calmon, “Robustness of maximal α -leakage to side information,” *Proc. International Symposium on Information Theory (ISIT)*, Paris, France, Jul. 2019.
64. **A. Pinceti***, O. Kosut⁺, and **L. Sankar⁺**, “Data-driven generation of synthetic load datasets preserving spatio-temporal features,” *Proc. IEEE Power and Energy Systems General Meeting (PES-GM)*, Atlanta, GA, Aug. 2019.
65. **C. Huang**, P. Kairouz, **L. Sankar***, “Generative Adversarial Privacy: A Data-Driven Approach to Information-Theoretic Privacy,” *IEEE Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 2018, *invited*.
66. **C. Huang*** and **L. Sankar**, “Market segmentation of “free” online services,” *Proc. Conference on Decision and Game Theory for Security (GameSec)*, Seattle, WA, Oct. 2018.
67. **J. Liao***, O. Kosut⁺, **L. Sankar⁺**, and F. P. Calmon⁺, “Privacy under hard distortion constraints,” *Proc. Information Theory Workshop*, Guangzhou, China, Nov. 2018.
68. **A. Pinceti***, **L. Sankar⁺**, and O. Kosut⁺, “Load redistribution attack detection using machine learning: A data-driven approach,” *Proc. of IEEE Power and Energy Systems General Meeting*, Portland, Oregon, Aug., 2018. **(Selected to present in session on the best papers of the conference.)**
69. **C. Huang**, P. Kairouz, X. Chen, **L. Sankar**, R. Rajagopal, “Generative Adversarial Privacy,” in *International Conference on Machine Learning (ICML), Workshop on Privacy in Machine Learning and Artificial Intelligence (PiMLAI)*, Jul. 2018.
70. **J. Liao***, O. Kosut⁺, **L. Sankar⁺**, and F. P. Calmon⁺, “A tunable measure for information leakage,” *Proc. International Symposium on Information Theory*, Vail, Colorado, Jul. 2018.
71. H. Wang*, M. Diaz[×], **L. Sankar⁺**, and F. P. Calmon⁺, “The utility cost of robust privacy guarantees,” *Proc. International Symposium on Information Theory*, Vail, Colorado, Jul. 2018.
72. **J. Zhang***, **Z. Chu**, **L. Sankar⁺**, and O. Kosut⁺, “False data injection attacks on phasor measurements that bypass low-rank decomposition,” *IEEE SmartGrid Comm Conference*, accepted, Oct. 2017.
73. **J. Liao***, **L. Sankar**, F. du pin Calmon, and V. Tan. “Hypothesis testing under maximal leakage,” *Proc. International Symposium on Information Theory*, Aachen, Germany, Jul. 2017.
74. **K. Kalantari***, **L. Sankar⁺**, and O. Kosut⁺. “On Information-Theoretic Privacy with General Distortion Cost Functions,” *Proc. International Symposium on Information Theory*, Aachen, Germany, Jul. 2017.
75. **Z. Chu***, **J. Zhang**, O. Kosut⁺, and **L. Sankar⁺**, “Evaluating power system vulnerability to false data injection attacks via scalable optimization,” *IEEE International Conference on Smart Grid Communications (SmartGridComm)*, Sydney, Australia, 2016.
76. **J. Liao***, **L. Sankar**, V. Tan, and F. du pin Calmon, “Hypothesis testing in the high privacy regime,” *54th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Monticello, IL, USA, Sep. 2016.

77. **K. Kalantari***, O. Kosut⁺, and **L. Sankar**⁺, “On the Fine asymptotics of information theoretic privacy,” *54th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Monticello, IL, USA, Sep. 2016.
78. **J. Zhang***, **Z. Chu**, **L. Sankar**⁺, and O. Kosut⁺, “False data injection attacks on power system state estimation with limited information,” *Proc. of IEEE Power and Energy Systems General Meeting*, Boston, USA, Jul., 2016.
79. **K. Kalantari***, **L. Sankar**, and A. D. Sarwate, “Optimal differential privacy mechanisms under Hamming distortion for structured source classes,” *Proc. of IEEE International Symposium on Information Theory*, Barcelona, Spain, Jul., 2016.
80. **C. Huang*** and **L. Sankar**, “Incentive mechanisms for privacy-sensitive electricity consumers with alternative energy sources,” *Proc. of 50th Annual Conference on Information Sciences and Systems*, Princeton, NJ, Jul. 9-14, 2016.
81. **C. Huang***, **L. Sankar**, and A. Sarwate. “Incentive Schemes for privacy-sensitive consumers,” *Proc. 6th Intl. Conference on Decision and Game Theory for Security (GameSec 2015)*, London, UK, November 4-5, 2015.
82. **J. Zhang***, **L. Sankar**, and K. W. Hedman. “Implications of cyber attacks on distributed power system operations,” *Proc. CIGRE Grid of the Future*, Houston, TX, Oct. 2015.
83. **J. Hu***, **L. Sankar** and D. J. Mir, ”Cluster-and-connect: A more realistic model for the electric power network topology,” *IEEE International Conference on Smart Grid Communications (Smart-GridComm)*, Miami, FL, USA, Nov. 2015, pp. 85-90.
84. **J. Hu***, **L. Sankar** and D. J. Mir, ”Cluster-and-Connect: An algorithmic approach to generating synthetic electric power network graphs,” *2015 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Monticello, IL, USA, 2015, pp. 223-230.
85. **B. Moraffah** and **L. Sankar***, ”Information-theoretic private interactive mechanism,” *2015 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, Monticello, IL, USA, 2015, pp. 911-918.
86. **J. Zhang*** and **L. Sankar**. “Implementation of unobservable state-preserving topology attacks,” *IEEE North American Power Symposium (NAPS)*, Charlotte, NC, pp. 1-6, May 2015.
87. A. D. Sarwate* and **L. Sankar**. “A rate-distortion perspective on local differential privacy,” *Proc. of 52nd Annual Allerton Conference on Communication, Control and Computing*, Monticello, IL, Sep., 2014.
88. **J. Liang***, O. Kosut⁺ and **L. Sankar**⁺. “Cyber attacks on AC state estimation: Unobservability and physical consequences,” *Proc. of IEEE Power and Energy Systems General Meeting*, National Harbor, MD, 2014, pp. 1-5, Jul. 2014.
89. O. Kosut* and **L. Sankar**. “New results on third-order coding rate for universal fixed-to-variable source coding,” *Proc. of IEEE International Symposium on Information Theory*, Honolulu, HI, Jul. 2014, pp. 2689-2693.
90. **L. Sankar***. “Competitive Privacy: Distributed computation with privacy guarantees,” *Proc. of 1st IEEE Global Conference on Signal and Information Processing*, Austin, TX, Dec., 2013.
91. O. Kosut* and **L. Sankar**. “Universal fixed-to-variable source coding in the finite blocklength regime,” *Proc. of IEEE International Symposium on Information Theory*, Istanbul, Turkey, Jul., 2013.
92. E.V. Belmega*, **L. Sankar** and H. V. Poor, “Repeated games for privacy-aware distributed state estimation in interconnected networks,” *IEEE International Conf. on NETWORK Games, COntrol and Optimization (NETGCOOP)*, Avignon, France, Nov. 2012.

93. L. Sankar*, S. Kar and H. V. Poor, "Competitive privacy in the smart grid," *IEEE Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 2012 *invited*.
94. E. V. Belmega*, L. Sankar, H. V. Poor, and M. Debbah. "Pricing mechanisms for distributed state estimation," submitted to *IEEE International Symposium on Communications, Control, and Signal Processing 2012*, Oct. 2011.
95. E. Glennon*, L. Sankar, and H. V. Poor. "Twitter vs. printed English: An information-theoretic comparison," submitted to *IEEE ICASSP 2012*, Aug. 2011.
96. R. Tandon*, L. Sankar, and H. V. Poor. "Discriminate lossy source coding: Side-information privacy," *Proc. of IEEE Global Communications Conference*, Houston, TX, Dec. 5-9, 2011.
97. S. R. Rajagopalan, L. Sankar*, S. Mohajer, and H. V. Poor. "Smart meter privacy: A utility-privacy tradeoff framework," *Proc. of the 2nd IEEE International Conference on Smart Grid Communications*, Brussels, Belgium, Oct. 17-20, 2011.
98. L. Sankar*, S. Kar, R. Tandon, and H. V. Poor. "Competitive privacy in the smart grid: An information-theoretic approach," *Proc. of the 2nd IEEE International Conference on Smart Grid Communications*, Brussels, Belgium, Oct. 17-20, 2011.
99. R. Tandon*, L. Sankar, and H. V. Poor. "Multi-user privacy: The Gray-Wyner system and the generalized common information," *Proc. of IEEE International Symposium on Information Theory*, St. Petersburg, Russia, Aug. 1-5, 2011.
100. H. V. Poor*, L. Sankar, and S. R. Rajagopalan. "Secure source coding and privacy-utility tradeoffs in databases," *Proc. of the 6th Joint Workshop on Coding and Communications*, San Stefano Belbo, Italy, Oct. 17-19, 2010.
101. L. Sankar*, S. R. Rajagopalan, and H. V. Poor. "An information-theoretic approach to privacy," *Proc. of the 48th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 29 - Oct. 1, 2010.
102. L. Sankar*, S. R. Rajagopalan, and H. V. Poor. "A theory of utility and privacy of data sources," *Proc. of IEEE International Symposium on Information Theory*, Austin, TX, Jun. 13-18 2010.
103. L. Sankar*, S. R. Rajagopalan, and H. V. Poor. "Utility and privacy of data sources: Can Shannon help conceal and reveal information," *Proc. of the 4th Annual Information Theory and Applications Workshop*, La Jolla, CA, Jan. 31 - Feb. 5, 2010 (*invited*).
104. L. Sankar*, E. Erkip, and H. V. Poor. "A general coding scheme for two-user fading interference channels," arxiv.org:1001:2786 Jan. 2010.
105. A. Chong, L. Sankar, and H. V. Poor. "Frequency of occurrence and information entropy of American Sign Language," arxiv.org:0912:1768 Dec. 2009.
106. L. Sankar*, J. Vondrack, and H. V. Poor. "K-user ergodic interference channels: the ergodic very strong case," *Proc. of the 47th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 30 - Oct. 2, 2009.
107. V. Aggarwal*, L. Sankar, A. R. Calderbank, and H. V. Poor. "Ergodic layered erasure one-sided interference channels," *Proc. of the Information Theory Workshop*, Taormina, Italy, Oct. 11-16, 2009.
108. V. Aggarwal*, L. Sankar, A. R. Calderbank, and H. V. Poor. "Secrecy capacity of a class of orthogonal relay eavesdropper channels," *Proc. of IEEE International Symposium on Information Theory*, Seoul, South Korea, Jun. 28-Jul. 3, 2009.
109. V. Aggarwal*, L. Sankar, A. R. Calderbank, and H. V. Poor. "Secrecy capacity of a class of orthogonal relay eavesdropper channels," *Proc. of the 3rd Annual Information Theory and Applications Workshop*, La Jolla, CA, Feb. 8-13, 2009 (*invited*).

110. L. Sankar^{*}, X. Shang, E. Erkip and H. V. Poor. "Ergodic fading two-user interference channels: is separability optimal", *Proc. of the 46th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 23-26, 2008. (**Google Citation: 42**)
111. L. Sankar^{*}, E. Erkip and H. V. Poor. "Sum-capacity of ergodic fading interference and compound multiaccess channels," *Proc. of IEEE International Symposium on Information Theory*, Toronto, CA, Jul. 7-11 2008.
112. S. Mathur^{*}, L. Sankar, and N. B. Mandayam. "Coalitions in cooperative wireless networks," *Proc. of the 2nd Annual Information Theory and Applications Workshop*, La Jolla, CA, Jan. 28-Feb 1, 2008 (*invited*).
113. L. Sankar^{*}, G. Kramer and N. B. Mandayam. "User vs. relay cooperation in multiaccess networks," *Proc. of 45th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 26-28, 2007.
114. L. Sankar^{*}, Y. Liang, H. V. Poor, and N. B. Mandayam. "Opportunistic communications in an orthogonal multiaccess relay channel," *Proc. of IEEE International Symposium on Information Theory*, Jun. 24-29, 2007.
115. L. Sankar^{*}, G. Kramer and N. B. Mandayam. "Sum-capacity of degraded Gaussian multiple-access relay channels," *Proc. of the 1st Annual Information Theory and Applications Workshop*, La Jolla, CA, Jan. 29-Feb 2, 2008 (*invited*).
116. S. Mathur^{*}, L. Sankaranarayanan, and N. B. Mandayam. "Coalitional games in cooperative radio networks," *Proc. of 40th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, Oct. 29-Nov. 1, 2006.
117. S. Mathur^{*}, L. Sankaranarayanan, and N. B. Mandayam. "Coalitional games in Gaussian interference channels," *Proc. of IEEE International Symposium on Information Theory*, Seattle, WA, Jul. 9-14, 2006. (**Google Citation: 43**)
118. S. Mathur^{*}, L. Sankaranarayanan, and N. B. Mandayam. "Coalitional games in receiver cooperation for spectrum sharing," *Proc. of 40th Annual Conference on Information Sciences and Systems*, Princeton, NJ, Jul. 9-14, 2006.
119. L. Sankaranarayanan^{*}, G. Kramer, and N. B. Mandayam. "Cooperative diversity in wireless networks: a geometry-inclusive analysis," *Proc. of 43rd Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 28-30, 2005.
120. L. Sankaranarayanan^{*}, G. Kramer, and N. B. Mandayam. "Cooperation vs. hierarchy: an information-theoretic comparison," *Proc. of IEEE International Symposium on Information Theory*, Sep. 4-9, 2005.
121. L. Sankaranarayanan^{*}, G. Kramer, and N. B. Mandayam. "Hierarchical wireless networks: capacity theorems and cooperative strategies using the multiple-access relay channel model," *Proc. of 38th Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 7-10, 2004.
122. L. Sankaranarayanan^{*}, G. Kramer, and N. B. Mandayam. "Hierarchical sensor networks: capacity theorems and cooperative strategies using the multiple-access relay channel model," *Proc. of 1st IEEE Conference on Sensor Networks (SECON)* Pacific Grove, CA, Oct. 4-7, 2004. (**Google Citation: 119**)
123. L. Sankaranarayanan^{*}, G. Kramer, and N. B. Mandayam. "Capacity theorems for the multiple-access relay channel," *Proc. of 42nd Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Sep. 29-Oct. 1 2004. (**Google Citation: 112**)
124. R. Erving and L. Sankaranarayanan. "Combining channel codes for data rate maximization in DMT-based DSL systems," *Proc. of 36th Annual Conference on Information Sciences and Systems*, Princeton, NJ, March 20-22, 2002.

125. J. M. Morris, S. Balasubramanian, M. Guo, and L. Sankaranarayanan*. “A detection algorithm for gaseous pollutants using signal processing techniques on FTIR interferograms,” *Proc. of SPIE*, Washington, DC, Nov. 9-11, 1994.

Patents:

1. R. Erving and L. Sankaranarayanan. *Efficient reduced complexity windowed time domain equalizer for discrete multitone-based DSL modem*, U.S. patent no. 7248648, Jul. 2007. (**Google Citation: 8**)
2. R. Erving and L. Sankaranarayanan. *Multi-frequency data transmission channel power allocation*, U.S. patent no. 7139323, Jul. 2006.
3. L. Sankaranarayanan and R. Sonalkar. *Method and apparatus for allocating data for transmission via discrete multiple tones*, U.S. patent no. 6134274, Oct. 2000. (**Google Citation: 34**)

TUTORIALS, PRESENTATIONS AND POSTERS (INCLUDING INVITED) 2019–PRESENT

TUTORIALS and WORKSHOPS

1. L. Sankar, “Tunable loss functions for robust and reliable machine learning,” three-hour tutorial presented at the Information Theory Workshop, Nov. 2022, Mumbai, India.
2. L. Sankar, “Bridging information theory and machine learning: A loss function perspective,” three-hour tutorial presented at the first East Asian School of Information Theory, Aug. 2021.
3. F. P. Calmon, P. Kairouz, L. Sankar, and A. Wagner, “Privacy and Fairness in Data Science: An Information-theoretic Perspective,” tutorial presented at the IEEE International Symposium on Information Theory, Paris, France, Jul. 2019
4. L. Sankar, Tutorial on Information-Theoretic Methods for Privacy, at the Simons Institute for the Theory of Computing, as a part of program on Data Privacy, Berkeley, California, Mar. 2019.

INVITED PRESENTATIONS: 2020– present

1. **α -loss: A Tunable Loss Function for Robust Classification: Calibration, Landscape, and Generalization**
Fall Colloquium, Electrical and Systems Sciences, University of Pennsylvania, (Oct. 2021)
2. **α -loss: A Tunable Loss Function for Robust Classification: Calibration, Landscape, and Generalization**
CINS/Hamilton Institute Seminar, Massachusetts Institute of Technology, (Oct. 2021)
3. **Reliable, Responsible, and Rigorous Machine Learning: A Loss Function Perspective**
Workshop on Information-theoretic Methods for Reliable, Responsible, and Rigorous Machine Learning, Intl. Conference on Machine Learning, (Jul. 2021)
4. **A Better Bound Gives a Hundred Rounds: Enhanced Privacy Guarantees via f -Divergences**
Workshop on Distributed and Private Machine Learning, Intl. Conference on Learning Representations, (May 2021)
5. **α -loss: A Tunable Loss Function for Robust Classification: Calibration, Landscape, and Generalization**
Mathematical Institute for Data Science (MINDS) Seminar, Johns Hopkins University, (Mar. 2021)
6. **Data-driven Resilience against Cyberattacks**
2021 IEEE International Forum on Smart Grid for Smart Cities, Virtual Forum, (Mar. 2021)
7. **α -loss: A Tunable Class of Loss Functions for Robust Learning**
INFORMS Invited Session on the Theory of Neural Networks and Causal Inference, (Nov. 2020)

8. **Data-driven Resilience against Cyberattacks that Exploit the Cyber-physical Interdependence of Power Systems**
IEEE PES Task Force on Cyber-Physical Interdependence for Power System Operation and Control , (Sep. 2020)
9. **Real-time Integration of Synchrophasors in the Electric Grid: An HDR I-DIRSE Data Science Perspective**
Forging Connections between Machine Learning, Data Science, & Power Systems Research, National Science Foundation, (Mar. 2020)
10. **Alpha-loss: A Tunable Class of Loss Functions for Robust Learning**
Research Colloquium, University of Washington, (Jun. 2020)
11. **Real-time Integration of Synchrophasors in the Electric Grid: The Big Data Challenge**
2020 NSF Harnessing the Data Revolution (HDR) PI Meeting, virtual (Apr. 2020)
12. **Alpha-loss: A Tunable Class of Loss Functions for Robust Learning**
Session on Theoretical Foundations of Learning, Bombay Information Theory Seminar, Mumbai India (Jan. 2020)
13. **Alpha-loss: A Tunable Class of Loss Functions for Robust Learning**
Information Sciences Seminar Series, Indian Institute of Technology, Chennai, India (Jan. 2020)

MENTORING, ADVISEES, DISSERTATION COMMITTEES:

Current PhD Students:

- ◇ Atefeh Gilani (jointly with Prof. Oliver Kosut)
- ◇ Monica Welfert
- ◇ Nathan Stromberg
- ◇ Daniil Vankov (jointly with Prof. Angelia Nedich)
- ◇ Obai Bahwal

Current MS Students:

- ◇ Kyle Otstot (degree: Computer Science)
- ◇ Rohan Ayyagari (degree: Computer Engineering)
- ◇ Avinash Kodali (degree: Computer Science)

Current Postdocs:

- ◇ Dr. Rajasekhar Anguluri
- ◇ Dr. Joel Mathias
- ◇ Dr. Tyler Sypherd

Graduated Doctoral Students:

- ◇ Tyler Sypherd, PhD, 2022, Research Scientist, CircleK, Tempe, AZ starting April 2023
- ◇ Andrea Pinceti, PhD, 2021, Research Scientist, Dominion Power, Richmond, VA
- ◇ Jiachun Liao, PhD, 2020, Lead Engineer, Nanhu Labs, China
- ◇ Chong Huang, PhD, 2018, Lead Engineer, Apple, San Jose, CA
- ◇ Jiazi Zhang, PhD, 2017, Research Scientist, NREL, Golden, CO

Graduated Masters Students:

- ◇ Erika Lingo Cole, MA, Mathematics, 2022, Data Scientist, Tempe, AZ
- ◇ Gokulan Vikas Babu, MS, 2021, Data Scientist, Amazon, San Jose, CA
- ◇ Roozbeh Khodadadeh, MS, 2019, Engineer, IncSys Inc, Seattle, WA
- ◇ Kousha Kalantari, MS, 2017, Senior Research Scientist, Meta, Tucson, AZ
- ◇ Bahman Moraffah, MS, 2015, Lecturer, ASU, Tempe, AZ
- ◇ Jiale Hu, MS, 2015, Engineer, ETAP, Irvine, CA
- ◇ Jingwen Liang, MS, 2015, China Power and Electric, Xinan, China
- ◇ Jiazi Zhang, MS, 2015, Research Scientist, NREL, Golden, CO

Undergraduate Mentees/Summer Interns/NSF REUs:

- ◇ Joshua Inman, mentored May 2022–present
- ◇ Rahul Rao, mentored Feb 2023–present

TEACHING:

Undergraduate Teaching: EEE202: Basic Circuits, EEE350: Random Signal Theory, EEE498/591: Foundations of Machine Learning: From Theory to Practice

Graduate Teaching: EEE554: Probability and Random Processes, EEE551: Information Theory, EEE598 (now EEE549): Statistical Machine Learning: From Theory to Practice, EEE598: Smart Grid Operations, Cybersecurity, and Analytics

PROFESSIONAL ACTIVITIES AND SERVICE: (PRESENT–PAST)

Service to IEEE Societies and Research Communities:

- ◇ **Associate Editor:** IEEE Transactions on Information Forensics and Security (TIFS), Dec. 2021–Nov. 2024 (impact factor of TIFS: 6.211)
- ◇ **Associate Editor:** IEEE BITS, the Magazine for the Information Theory Society, Jan. 2021–Dec. 2023 (part of the first AE cohort for this newly launched magazine consisting of peer reviewed surveys and tutorials and articles of interest to the community; lead editor: Dr. Robert Calderbank, Duke) <https://www.itsoc.org/bits/about-us>
- ◇ **Associate Area Chair:** Neural Information Processing (NeurIPS) 2020 (work with a senior Area Chair to manage an assigned set of 25-odd papers)
- ◇ **Guest Editor:** for the *IEEE Journal on Selected Areas in Information Theory (JSAIT) - Special Issue on Privacy and Security of Information Systems*; co-editors: H. Vincent Poor (Princeton); Matthieu Bloch (Georgia Tech); Onur Günlü (TU Berlin); Frédérique Oggier (NTU, Singapore); Rafael F. Schaefer (University Siegen); Aylin Yener (The Ohio State University), Jun. 2020 - Mar. 2021.
- ◇ **Lead Guest Editor:** for the *IEEE Signal Processing Magazine Special Issue on Signal and Information Processing for Privacy*; co-editors: H. Vincent Poor (Princeton), Kannan Ramachandran (Berkeley), Wade Trappe (Rutgers), Merouane Debbah (Supelec, France), Nov 2013 - Oct. 2014.
- ◇ **Steering Committee/Board Member** IEEE ComSoc SmartGridCommunications Conference (SGComm) 2021-2023
- ◇ **Distinguished Lecturer** IEEE Information Theory Society 2020-2022 (in-person talks in early 2020 and virtual talks since including tutorials at information theory summer schools)
- ◇ **Conference Co-Chair** IEEE ComSoc SmartGridCommunications Conference (SGComm) 2020 held virtually, originally scheduled to be held in Phoenix (I led this first SGComm that was fully virtual)
- ◇ **Mini-Symposium on Information-Theoretic Methods for Privacy March 2019** Organized a two-day symposium on privacy as a part of a semester long program on Data Privacy at the Simons Institute for the Theory of Computing, University of California, Berkeley along with Profs. F. P. Calmon (Harvard), P. Kairouz (Google), and A. Wagner (Cornell).
- ◇ **Co-Chair for Workshops 2017** IEEE Wireless Communications and Networking Conference (WCNC) 2017 (Helped solicit and choose 9 workshops for the conference)
- ◇ **Co-Chair for the Cyber-Security and Privacy Symposium**, IEEE SmartGrid Communications 2017, 2018
- ◇ **Co-Chair for two Symposia at IEEE 1st GlobalSIP Conference 2013:** (i) Cyber-Security and Privacy and (ii) Information Processing in the Smart Grid
- ◇ **Technical Program Committee (TPC):**
 - International Symposium on Information Theory (ISIT) (2012-2022)
 - IEEE International Workshop on Signal Processing Advances in Wireless Communications 2018
 - Information Theory Workshop (ITW) (2014-2022)
 - Globecom (2015)

Lalitha Sankar (15 of 15)

- IEEE Smart Grid Communications (2012-2018)
- IEEE GlobalSIP 2016 : (i) Symposium on Information Theoretic Approaches to Security and Privacy; and (ii) Symposium on Smart Grids

Co-chair, Women in Information Theory (WITHITS): 2016-2018 (IEEE Information Theory Society)

Peer Reviewer for Journals:

- ◇ **IEEE Transactions:** Information Theory (T-IT), Signal Processing (T-SP), Information Forensics and Security (T-IFS), Smart Grid (T-SG), Power Systems (T-PS), Automatic Control (T-AC), Control of Networked Systems (T-CNS)
- ◇ **IEEE:** Journal Selected Topics in Signal Processing (JSTSP), Power Engineering Letters (PEL), Signal Processing Magazine (SPM)
- ◇ **ACM:** Transactions on Information and Systems Security
- ◇ **Other:** Royal Society of Statistics, Proceedings National Academy of Sciences (PNAS)

Reviewer for Conferences:

- ◇ ACM AISTATS, ICML, NeurIPS, AISTATS (2019–present)
- ◇ International Symposium on Information Theory (ISIT) (2012–present)
- ◇ Information Theory Workshop (ITW) (2012–present)

ASU INTERNAL ACTIVITIES AND SERVICE:

ASU Service:

- ◇ ECEE Graduate Program Chair lead, MS in Data Science, EE Concentration, 2023–
- ◇ Chair, ECEE graduate student awards committee 2023-2024
- ◇ Faculty representing ECEE in the Research Activity Council (RAC) in the Fulton Schools of Engineering (FSE) for 2021-2022 (this effort is focused on enhancing graduate programs and research efforts within FSE)
- ◇ Graduate Program Committee Member for the newly developed and introduced PhD program in Data Science, Analytics, and Engineering (DSAE) (I have represented ECEE on the GPC since its inception in fall 2020)
- ◇ Working closely with Pat Phelan, FSE Dean of Graduate Programs, on developing Masters Programs in Data Science with concentration in 6 areas
- ◇ Developed the ECEE minor track for the ASU undergraduate degree (BS) in data science
- ◇ Active and founding member of the FSE Summer Undergraduate Research Initiative (SURI) program (I have mentored several US undergraduate and graduate students including from HBCUs with two of them enrolled in our PhD program now)
- ◇ Served on committee to revisit teaching load and buyout plan (2019-2020)
- ◇ Served on multiple search committees since 2013
- ◇ Founding member of the ASU FSE New Faculty Advisory Council (2 from each FSE school).
- ◇ Created a New Faculty Peer Mentor program to connect new faculty with junior faculty (along with Sarah Stabenfelt, SHBSE, and Candace Chan, SEMTE) which has been very successful at introducing new hires to the processes at ASU.
- ◇ Served on two search committees (power systems and communication systems) in ECEE for academic year 2013-2014.
- ◇ Participated in E-2 camp in summers 2013 and 2014. Represented ECEE in the ‘Intro to Engineering’ activity at the camp.