



Andrea Goldsmith

Stephen Harris Professor in the School of Engineering, Emerita
Electrical Engineering

 Curriculum Vitae available Online

Bio

BIO

Andrea Goldsmith is the Dean of Engineering and Applied Science and the Arthur LeGrand Doty Professor of Electrical and Computer Engineering at Princeton University. She was previously the Stephen Harris Professor of Engineering and Professor of Electrical Engineering at Stanford University, where she is now Harris Professor Emerita. Her research interests are in information theory, communication theory, and signal processing, and their application to wireless communications, interconnected systems, and biomedical devices. She founded and served as Chief Technical Officer of Plume WiFi (formerly Accelera, Inc.) and of Quantenna (QTNA), Inc, and she serves on the Board of Directors for Intel (INTC), Medtronic (MDT), Crown Castle Inc (CCI), and the Marconi Society. She also serves on the Presidential Council of Advisors on Science and Technology (PCAST). Dr. Goldsmith is a member of the National Academy of Engineering, the Royal Academy of Engineering, and the American Academy of Arts and Sciences. She is a Fellow of the IEEE and has received several awards for her work, including the Marconi Prize, the ACM Sigmobile Outstanding Contribution Award, the IEEE Sumner Technical Field Award, the ACM Athena Lecturer Award, the ComSoc Armstrong Technical Achievement Award, the Kirchmayer Graduate Teaching Award, the WICE Mentoring Award, and the Silicon Valley/San Jose Business Journal's Women of Influence Award. She is author of the book "Wireless Communications" and co-author of the books "MIMO Wireless Communications," "Principles of Cognitive Radio," and "Machine Learning and Wireless Communications," all published by Cambridge University Press, as well as an inventor on 29 patents. She received the B.S., M.S. and Ph.D. degrees in Electrical Engineering from U.C. Berkeley.

Dr. Goldsmith is the founding Chair of the IEEE Board of Directors Committee on Diversity and Inclusion. She served as President of the IEEE Information Theory Society in 2009, as founding Chair of its Student Committee, and as founding Editor-in-Chief of the IEEE Journal on Selected Areas in Information Theory. She has also served on the Board of Governors for both the IEEE Information Theory and Communications Societies. At Stanford she served as Chair of Stanford's Faculty Senate and for multiple terms as a Senator, and on its Academic Council Advisory Board, Budget Group, Committee on Research, Planning and Policy Board, Commissions on Graduate and on Undergraduate Education, Faculty Women's Forum Steering Committee, and Task Force on Women and Leadership.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Electrical Engineering
- Affiliate, Stanford Woods Institute for the Environment
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Eric E. Sumner Technical Field Award in Communications Technology, IEEE Communications Society (2018)

- Member, American Academy of Arts and Sciences (2017)
- Member, National Academy of Engineering (2017)
- Highly Cited Researcher, Thomson-Reuters (2014,2015,2016, 2017)
- Edwin H. Armstrong Achievement Award, IEEE Communications Society (2014)
- Best Tutorial Paper Award, IEEE Communications Society (2013)
- Silicon Valley Women of Influence Award, Silicon Valley Business Journal (2013)
- Technical Achievement Award in Communication Theory, IEEE Communications Society (2013)
- Tsinghua Distinguished Chair Professorship, Tsinghua University (2013)
- Innovation Award, Interdigital (2012)
- Technical Achievement Award in Wireless Communications, IEEE Communications Society (2009)
- Fellow, IEEE (2005)
- IEEE Information Theory Society and Communication Society Joint Paper Award, IEEE (2004)
- Gilbreth Lectureship, National Academy of Engineering (2002)
- Alfred P. Sloan Fellowship, Alfred P. Sloan Foundation (2001)
- Young Investigator Award, The Office of Naval Research (1999)
- CAREER Development Award, National Science Foundation (1995)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- President, IEEE Information Theory Society (2009 - 2009)
- Distinguished Lecturer, IEEE Information Theory Society and Comsoc (2007 - 2009)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- PhD, University of California, Berkeley , Electrical Engineering and Computer Science (1994)

LINKS

- <http://ee.stanford.edu/~andrea>: <http://ee.stanford.edu/~andrea>

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Jonathan Fisher

Publications

PUBLICATIONS

- **Parallelism Versus Latency in Simplified Successive-Cancellation Decoding of Polar Codes** *IEEE Transactions on Wireless Communications*
Hashemi, A. S.
2022; 21 (6): 3909-3920
- **Estimating the Memory Order of Electrocardiography Recordings** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
Murin, Y., Goldsmith, A., Aazhang, B.
2019; 66 (10): 2809-22

- **The Compress-and-Estimate Coding Scheme for Gaussian Sources** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Rini, S., Kipnis, A., Song, R., Goldsmith, A. J.
2019; 18 (9): 4344–56
- **Fast Blind MIMO Decoding Through Vertex Hopping** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Dean, T. R., Perlstein, J. R., Wootters, M., Goldsmith, A. J.
2019; 18 (7): 3669–82
- **Blind Joint MIMO Channel Estimation and Decoding** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Dean, T. R., Wootters, M., Goldsmith, A. J.
2019; 65 (4): 2507–24
- **Retail and Wholesale Electricity Pricing Considering Electric Vehicle Mobility** *IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS*
Alizadeh, M., Wai, H., Goldsmith, A., Scaglione, A.
2019; 6 (1): 249–60
- **The Distortion-Rate Function of Sampled Wiener Processes** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Kipnis, A., Goldsmith, A. J., Eldar, Y. C.
2019; 65 (1): 482–99
- **DISTRIBUTED CONVEX OPTIMIZATION WITH LIMITED COMMUNICATIONS**
Rao, M., Rini, S., Goldsmith, A., IEEE
IEEE.2019: 4604–8
- **Neural Network Detection of Data Sequences in Communication Systems** *IEEE TRANSACTIONS ON SIGNAL PROCESSING*
Farsad, N., Goldsmith, A.
2018; 66 (21): 5663–78
- **Non-Coherent Detection for Diffusive Molecular Communication Systems**
Jamali, V., Farsad, N., Schober, R., Goldsmith, A.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2018: 2515–31
- **Analog-to-Digital Compression A new paradigm for converting signals to bits** *IEEE SIGNAL PROCESSING MAGAZINE*
Kipnis, A., Eldar, Y. C., Goldsmith, A. J.
2018; 35 (3): 16–39
- **The Distortion Rate Function of Cyclostationary Gaussian Processes**
Kipnis, A., Goldsmith, A. J., Eldar, Y. C.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2018: 3810–24
- **Outage Detection Using Load and Line Flow Measurements in Power Distribution Systems** *IEEE TRANSACTIONS ON POWER SYSTEMS*
Sevlian, R., Zhao, Y., Rajagopal, R., Goldsmith, A., Poor, H.
2018; 33 (2): 2053–69
- **A CCA-Secure Cryptosystem Using Massive MIMO Channels**
Dean, T., Goldsmith, A., Baldi, M., Quaglia, E. A., Tomasin, S.
SPRINGER.2018: 65–77
- **The Future of Wireless and What it will Enable**
Goldsmith, A., ACM
ASSOC COMPUTING MACHINERY.2018: 223
- **MobiCom'18 Panel Discussion: Hammer & Nail vis-a-vis AI / ML Applications to Networked Systems**
Bhagwat, P., Goldsmith, A., Gupta, M., Rastogi, R., Shroff, G., ACM
ASSOC COMPUTING MACHINERY.2018: 653–54
- **Two Way Molecular Communications**
Kwack, J., Yilmaz, H., Farsad, N., Chae, C., Goldsmith, A., ACM
ASSOC COMPUTING MACHINERY.2018

- **SLIDING BIDIRECTIONAL RECURRENT NEURAL NETWORKS FOR SEQUENCE DETECTION IN COMMUNICATION SYSTEMS**
Farsad, N., Goldsmith, A., IEEE
IEEE.2018: 2331–35
- **DEEP LEARNING FOR JOINT SOURCE-CHANNEL CODING OF TEXT**
Farsad, N., Rao, M., Goldsmith, A., IEEE
IEEE.2018: 2326–30
- **Detection Over Rapidly Changing Communication Channels Using Deep Learning**
Farsad, N., Goldsmith, A., Matthews, M. B.
IEEE.2018: 604–8
- **Using Markov Properties of ECoG Signals to Infer Neuron Connectivity**
Murin, Y., Goldsmith, A., Matthews, M. B.
IEEE.2018: 671–75
- **Fast Blind MIMO Decoding through Vertex Hopping**
Perlstein, J., Dean, T., Wootters, M., Goldsmith, A., Matthews, M. B.
IEEE.2018: 148–49
- **Robustness of FDM-FDCP Modulation to Phase Noise in Millimeter Wave Systems**
Grimwood, N., Dean, T., Goldsmith, A., Matthews, M. B.
IEEE.2018: 264–68
- **Neural Network Detectors for Molecular Communication Systems**
Farsad, N., Goldsmith, A., IEEE
IEEE.2018: 506–10
- **Zero-Padded FDM-FDCP: Real-Time Signal Processing for Underwater Channels**
Dean, T., Chowdhury, M., Goldsmith, A., IEEE
IEEE.2018: 186–90
- **Variable Length Joint Source-Channel Coding of Text Using Deep Neural Networks**
Rao, M., Farsad, N., Goldsmith, A., IEEE
IEEE.2018: 81–85
- **SozRank: A new approach for localizing the epileptic seizure onset zone** *PLOS COMPUTATIONAL BIOLOGY*
Murin, Y., Kim, J., Parvizi, J., Goldsmith, A.
2018; 14 (1): e1005953
- **Ranking Causal Influence of Financial Markets via Directed Information Graphs**
Diamandis, T., Murin, Y., Goldsmith, A., IEEE
IEEE.2018
- **Lossy Compression of Decimated Gaussian Random Walks**
Murray, G., Kipnis, A., Goldsmith, A. J., IEEE
IEEE.2018
- **Optimal Pricing to Manage Electric Vehicles in Coupled Power and Transportation Networks** *IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS*
Alizadeh, M., Wai, H., Chowdhury, M., Goldsmith, A., Scaglione, A., Javidi, T.
2017; 4 (4): 863–75
- **Directed Information Between Connected Leaky Integrate-and-Fire Neurons**
Soltani, N., Goldsmith, A. J.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2017: 5954–67
- **Physical-Layer Cryptography Through Massive MIMO** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Dean, T. R., Goldsmith, A. J.
2017; 63 (8): 5419–36

- **The Fluctuating Two-Ray Fading Model: Statistical Characterization and Performance Analysis** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Romero-Jerez, J. M., Javier Lopez-Martinez, F., Paris, J. F., Goldsmith, A. J.
2017; 16 (7): 4420–32
- **Minimum Sparsity of Unobservable Power Network Attacks** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*
Zhao, Y., Goldsmith, A., Poor, H.
2017; 62 (7): 3354–68
- **Time-slotted transmission over molecular timing channels** *NANO COMMUNICATION NETWORKS*
Murin, Y., Farsad, N., Chowdhury, M., Goldsmith, A.
2017; 12: 12–24
- **On the Minimax Capacity Loss Under Sub-Nyquist Universal Sampling** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, Y., Goldsmith, A. J., Eldar, Y. C.
2017; 63 (6): 3348–67
- **A Critical Survey of Deconvolution Methods for Separating Cell Types in Complex Tissues** *PROCEEDINGS OF THE IEEE*
Mohammadi, S., Zuckerman, N., Goldsmith, A., Grama, A.
2017; 105 (2): 340-366
- **Joint Optimization of Power and Data Transfer in Multiuser MIMO Systems** *IEEE TRANSACTIONS ON SIGNAL PROCESSING*
Rubio, J., Pascual-Iserte, A., Palomar, D. P., Goldsmith, A.
2017; 65 (1): 212-227
- **Multiplexing and Diversity Gains in Noncoherent Massive MIMO Systems** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Chowdhury, M., Manolakos, A., Goldsmith, A.
2017; 16 (1): 265-277
- **Coherence time of wireless channels with large antenna arrays**
Chowdhury, M., Nam, J., Goldsmith, A. J., IEEE
IEEE.2017
- **Resource Pooling via Dynamic Spectrum-level Slicing across Heterogeneous Networks**
Gebremariam, A. A., Chowdhury, M., Goldsmith, A., Granelli, F., IEEE
IEEE.2017: 818–23
- **An OpenAirInterface based Implementation of Dynamic Spectrum-level Slicing across Heterogeneous Networks**
Gebremariam, A. A., Chowdhury, M., Goldsmith, A., Granelli, F., IEEE
IEEE.2017: 609–10
- **The Life and Work of Marvin Kenneth Simon** *IEEE COMMUNICATIONS SURVEYS AND TUTORIALS*
Alouini, M., Biglieri, E., Divsalar, D., Dolinar, S., Goldsmith, A. J., Milstein, L. B.
2017; 19 (3): 1551–66
- **Direction Finding Using Non-coherent Measurements in Large Antenna Arrays**
Chowdhury, M., Rao, M., Goldsmith, A., Matthews, M. B.
IEEE COMPUTER SOC.2017: 1231–36
- **Compressed Sensing under Optimal Quantization**
Kipnis, A., Reeves, G., Eldar, Y. C., Goldsmith, A. J., IEEE
IEEE.2017: 2148–52
- **Compress-and-Estimate Source Coding for a Vector Gaussian Source**
Song, R., Rini, S., Kipnis, A., Goldsmith, A. J., IEEE
IEEE.2017: 539–43
- **Marginal Charging Station Pricing in an Intelligent Electric Transportation System**
Alizadeh, M., Wai, H., Goldsmith, A., Scaglione, A., IEEE
IEEE.2017: 3438–44

- **Capacity of Molecular Channels with Imperfect Particle-Intensity Modulation and Detection**
Farsad, N., Rose, C., Medard, M., Goldsmith, A., IEEE
IEEE.2017: 2468–72
- **ESTIMATION IN AUTOREGRESSIVE PROCESSES WITH PARTIAL OBSERVATIONS**
Rao, M., Javidi, T., Eldar, Y. C., Goldsmith, A., IEEE
IEEE.2017: 4212–16
- **Blind Joint MIMO Channel Estimation and Decoding**
Dean, T., Wootters, M., Goldsmith, A., IEEE
IEEE.2017
- **A Novel Experimental Platform for In-Vessel Multi-Chemical Molecular Communications**
Farsad, N., Pan, D., Goldsmith, A., IEEE
IEEE.2017
- **Coding Theorems for the Compress and Estimate Source Coding Problem**
Kipnis, A., Rini, S., Goldsmith, A. J., IEEE
IEEE.2017: 2568–72
- **Fundamental Estimation Limits in Autoregressive Processes with Compressive Measurements**
Rao, M., Javidi, T., Eldar, Y. C., Goldsmith, A., IEEE
IEEE.2017: 2895–99
- **Machine Learning based Channel Modeling for Molecular MIMO Communications**
Lee, C., Yilmaz, H., Chae, C., Farsad, N., Goldsmith, A., IEEE
IEEE.2017
- **A New Modulation Technique for Doppler Compensation in Frequency-Dispersive Channels**
Dean, T., Chowdhury, M., Goldsmith, A., IEEE
IEEE.2017
- **Diversity Gain of One-shot Communication over Molecular Timing Channels**
Murin, Y., Chowdhury, M., Farsad, N., Goldsmith, A., IEEE
IEEE.2017
- **Energy-Based Modulation for Noncoherent Massive SIMO Systems** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Manolakos, A., Chowdhury, M., Goldsmith, A.
2016; 15 (11): 7831-7846
- **Information Recovery From Pairwise Measurements** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, Y., Suh, C., Goldsmith, A. J.
2016; 62 (10): 5881-5905
- **Benefits of Storage Control for Wind Power Producers in Power Markets** *IEEE TRANSACTIONS ON SUSTAINABLE ENERGY*
Chowdhury, M., Rao, M., Zhao, Y., Javidi, T., Goldsmith, A.
2016; 7 (4): 1492-1505
- **Achieving Full DoF in Heterogeneous Parallel Broadcast Channels With Outdated CSIT** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, J., Yang, S., Ozgur, A., Goldsmith, A.
2016; 62 (7): 4154-4171
- **Scaling Laws for Noncoherent Energy-Based Communications in the SIMO MAC** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chowdhury, M., Manolakos, A., Goldsmith, A.
2016; 62 (4): 1980-1992
- **On the Total Power Capacity of Regular-LDPC Codes With Iterative Message-Passing Decoders** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*
Ganesan, K., Grover, P., Rabaey, J., Goldsmith, A.
2016; 34 (2): 375-396

- **A Unified Graphical Approach to Random Coding for Single-Hop Networks** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Rini, S., Goldsmith, A.
2016; 62 (1): 56-88
- **A Polynomial-Time Method to Find the Sparsest Unobservable Attacks in Power Networks**
Zhao, Y., Goldsmith, A., Poor, H., IEEE
IEEE.2016: 276–82
- **Capacity of Block Rayleigh Fading Channels Without CSI**
Chowdhury, M., Goldsmith, A., IEEE
IEEE.2016: 1884–88
- **On the Capacity of Diffusion-Based Molecular Timing Channels**
Farsad, N., Murin, Y., Eckfordt, A., Goldsmith, A., IEEE
IEEE.2016: 1023–27
- **Multiterminal Compress-and-Estimate Source Coding**
Kipnis, A., Rini, S., Goldsmith, A. J., IEEE
IEEE.2016: 540–44
- **A Molecular Communication System Using Acids, Bases and Hydrogen Ions**
Farsad, N., Goldsmith, A., IEEE
IEEE.2016
- **Optimal Rate Allocation in Multiterminal Compress-and-Estimate Source Coding**
Song, R., Rini, S., Kipnis, A., Goldsmith, A. J., IEEE
IEEE.2016
- **Energy Model for Vesicle-Based Active Transport Molecular Communication**
Farsad, N., Yilmaz, H., Chae, C., Goldsmith, A., IEEE
IEEE.2016
- **System Identification from Partial Samples: Non-Asymptotic Analysis**
Rao, M., Kipnis, A., Javidi, T., Eldar, Y. C., Goldsmith, A., IEEE
IEEE.2016: 2938–44
- **SWIPT Techniques for Multiuser MIMO Broadcast Systems**
Rubio, J., Pascual-Iserte, A., Palomar, D. P., Goldsmith, A., IEEE
IEEE.2016: 499–504
- **On the Capacity of Diffusion-Based Molecular Timing Channels With Diversity**
Farsad, N., Murin, Y., Rao, M., Goldsmith, A., Matthews, M. B.
IEEE COMPUTER SOC.2016: 1117–21
- **Tracking Epileptic Seizure Activity via Information Theoretic Graphs**
Murin, Y., Kim, J., Goldsmith, A., Matthews, M. B.
IEEE COMPUTER SOC.2016: 583–87
- **The Fluctuating Two-Ray Fading Model for mmWave Communications**
Romero-Jerez, J. M., Javier Lopez-Martinez, F., Paris, J. F., Goldsmith, A., IEEE
IEEE.2016
- **Communication over Diffusion-Based Molecular Timing Channels**
Murin, Y., Farsad, N., Chowdhury, M., Goldsmith, A., IEEE
IEEE.2016
- **Distortion Rate Function of Sub-Nyquist Sampled Gaussian Sources** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Kipnis, A., Goldsmith, A. J., Eldar, Y. C., Weissman, T.
2016; 62 (1): 401-429

- **Average Fade Duration for Amplify-and-Forward Relay Networks in Fading Channels** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Javier Lopez-Martinez, F., Kurniawan, E., Islam, R., Goldsmith, A.
2015; 14 (10): 5454-5467
- **Rainfall Effect on the Performance of Millimeter-Wave MIMO Systems** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Zhang, Y., Wang, P., Goldsmith, A.
2015; 14 (9): 4857-4866
- **Exact and Stable Covariance Estimation From Quadratic Sampling via Convex Programming** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, Y., Chi, Y., Goldsmith, A. J.
2015; 61 (7): 4034-4059
- **Null Space Learning in Cooperative MIMO Cellular Networks Using Interference Feedback** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Manolakos, A., Noam, Y., Goldsmith, A. J.
2015; 14 (7): 3961-3977
- **Eigenvalue Dynamics of a Central Wishart Matrix With Application to MIMO Systems** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Javier Lopez-Martinez, F., Martos-Naya, E., Paris, J. F., Goldsmith, A.
2015; 61 (5): 2693-2707
- **MGF Approach to the Analysis of Generalized Two-Ray Fading Models** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*
Rao, M., Javier Lopez-Martinez, F., Alouini, M., Goldsmith, A.
2015; 14 (5): 2548-2561
- **Wind Aggregation Via Risky Power Markets** *IEEE TRANSACTIONS ON POWER SYSTEMS*
Zhao, Y., Qin, J., Rajagopal, R., Goldsmith, A., Poor, H. V.
2015; 30 (3): 1571-1581
- **Diversity-Multiplexing Tradeoff for the Interference Channel With a Relay** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Zahavi, D., Zhang, L., Maric, I., Dabora, R., Goldsmith, A. J., Cui, S.
2015; 61 (2): 963-982
- **Reliable Uncoded Communication in the SIMO MAC** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chowdhury, M., Goldsmith, A.
2015; 61 (1): 388-403
- **Optimal Trade-off Between Sampling Rate and Quantization Precision in Sigma-Delta A/D Conversion**
Kipnis, A., Goldsmith, A. J., Eldar, Y. C., IEEE
IEEE.2015: 627-31
- **Value of Storage for Wind Power Producers in Forward Power Markets**
Rao, M., Chowdhury, M., Zhao, Y., Javidi, T., Goldsmith, A., IEEE
IEEE.2015: 5686-91
- **Coherent Versus Noncoherent Massive SIMO Systems: Which Has Better Performance?**
Chowdhury, M., Manolakos, A., Goldsmith, A. J., IEEE
IEEE.2015: 1691-96
- **Benefits of Coding in a Noncoherent Massive SIMO System**
Knott, B., Chowdhury, M., Manolakos, A., Goldsmith, A. J., IEEE
IEEE.2015: 2350-55
- **MGF Approach to the Capacity Analysis of Generalized Two-Ray Fading Models**
Rao, M., Javier Lopez-Martinez, F., Alouini, M., Goldsmith, A., IEEE
IEEE.2015: 4278-84
- **Information Recovery from Pairwise Measurements: A Shannon-Theoretic Approach**

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- Chen, Y., Suh, C., Goldsmith, A. J., IEEE
IEEE.2015: 2336–40
- **Degrees of Freedom of the MIMO Interference Channel with Parallel Multicasting**
Chen, J., Goldsmith, A., Ozgur, A., Yang, S., IEEE
IEEE.2015: 1069–73
 - **Reliable Uncoded Communication in the Quantized SIMO MAC**
Chowdhury, M., Kipnis, A., Goldsmith, A., IEEE
IEEE.2015: 2141–45
 - **The Indirect Rate-Distortion Function of a Binary i.i.d Source**
Kipnis, A., Rini, S., Goldsmith, A. J., IEEE
IEEE.2015: 352–56
 - **The Perils of Dynamic Electricity Pricing Tariffs in the Presence of Retail Market Imperfections**
Alizadeh, M., Goldsmith, A., Scaglione, A., Matthews, M. B.
IEEE.2015: 683–88
 - **Multiplexing-diversity tradeoffs in noncoherent massive MIMO systems**
Chowdhury, M., Manolakos, A., Goldsmith, A. J., Matthews, M. B.
IEEE.2015: 312–16
 - **Optimal Trade-off Between Sampling Rate and Quantization Precision in A/D conversion**
Kipnis, A., Eldar, Y. C., Goldsmith, A. J., IEEE
IEEE.2015: 1083–90
 - **Sub-Nyquist Sampling Achieves Optimal Rate-Distortion**
Kipnis, A., Goldsmith, A. J., Eldar, Y. C., IEEE
IEEE.2015
 - **Capacity Scaling in Noncoherent Wideband Massive SIMO Systems**
Chowdhury, M., Manolakos, A., Gomez-Cuba, F., Erkip, E., Goldsmith, A. J., IEEE
IEEE.2015
 - **Backing Off From Infinity: Performance Bounds via Concentration of Spectral Measure for Random MIMO Channels** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, Y., Goldsmith, A. J., Eldar, Y. C.
2015; 61 (1): 366-387
 - **CaMoDi: a new method for cancer module discovery** *BMC GENOMICS*
Manolakos, A., Ochoa, I., Venkat, K., Goldsmith, A. J., Gevaert, O.
2014; 15
 - **Identification of Outages in Power Systems With Uncertain States and Optimal Sensor Locations** *IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING*
Zhao, Y., Chen, J., Goldsmith, A., Poor, H. V.
2014; 8 (6): 1140-1153
 - **Energy Efficient Cooperative Strategies for Relay-Assisted Downlink Cellular Systems** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*
Rini, S., Kurniawan, E., Ghaghanidze, L., Goldsmith, A.
2014; 32 (11): 2075-2089
 - **On the Capacity of the Multiantenna Gaussian Cognitive Interference Channel** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*
Rini, S., Goldsmith, A.
2014; 32 (11): 2252-2267
 - **Null Space Learning With Interference Feedback for Spatial Division Multiple Access** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*

- Noam, Y., Manolakos, A., Goldsmith, A. J.
2014; 13 (10): 5699-5715
- **Channel Capacity Under Sub-Nyquist Nonuniform Sampling** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Chen, Y., Goldsmith, A. J., Eldar, Y. C.
2014; 60 (8): 4739-4756
 - **On the Capacity of the Interference Channel With a Cognitive Relay** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Rini, S., Tuninetti, D., Devroye, N., Goldsmith, A. J.
2014; 60 (4): 2148-2179
 - **COURSE OUTLINE ELEC 456—Mobile Communications Spring 2014** *Instructor*
Goldsmith, A.
2014
 - **Distortion Rate Function of Cyclo-Stationary Gaussian Processes** *IEEE International Symposium on Information Theory (ISIT)*
Kipnis, A., Goldsmith, A. J.
IEEE.2014: 2834–2838
 - **Interference due to Null Space Mismatch in Cooperative Multipoint MIMO Cellular Networks**
Manolakos, A., Noam, Y., Goldsmith, A. J., Jamalipour, A., Deng, D. J.
IEEE.2014: 5148–53
 - **AN ALGORITHM FOR EXACT SUPER-RESOLUTION AND PHASE RETRIEVAL** *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*
Chen, Y., Eldar, Y. C., Goldsmith, A. J.
IEEE.2014
 - **ESTIMATION OF SIMULTANEOUSLY STRUCTURED COVARIANCE MATRICES FROM QUADRATIC MEASUREMENTS** *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*
Chen, Y., Chi, Y., Goldsmith, A. J.
IEEE.2014
 - **Optimized Path Planning for Electric Vehicle Routing and Charging**
Alizadeh, M., Wai, H., Scaglione, A., Goldsmith, A., Fan, Y., Javidi, T., IEEE
IEEE.2014: 25–32
 - **Gaussian Distortion-Rate Function under Sub-Nyquist Nonuniform Sampling**
Kipnis, A., Goldsmith, A. J., Eldar, Y. C., IEEE
IEEE.2014: 874–80
 - **Optimal Strategies for Dynamic Joint Source-Channel Coding with Feedback**
Park, S., Javidi, T., Goldsmith, A., IEEE
IEEE.2014: 1524–28
 - **Power-Controlled Multiple Access with a Queue-Dependent Backoff Threshold**
Mounzer, J., Schubert, K., Bambos, N., Goldsmith, A., IEEE
IEEE.2014: 4738–44
 - **Constellation Design in Noncoherent Massive SIMO Systems**
Manolakos, A., Chowdhury, M., Goldsmith, A. J., IEEE
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