Urbashi Mitra, Gordon S. Marshall Professor in Engineering

Ming Hsieh Department of Electrical Engineering
Department of Computer Science
University of Southern California
3740 McClintock Avenue
Los Angeles, CA 90089–2565

213 740 4667 (office)
213 740 8729 (fax)
ubli@usc.edu
http://ceng.usc.edu/∼ubli/ubli.html

RESEARCH INTERESTS:

Sparse Approximation & Compressed Sensing
Markov Decision Process Modeling
Detection & Estimation Theory
Biological & Molecular Communications
Underwater Acoustic Communications
Model-based Machine Learning
Cognitive Networks
Actuated Sensor Networks
Wideband Wireless Systems
Blind & Active Algorithms

EDUCATION:

1990-1994 **Princeton University**
Ph.D., Electrical Engineering, June 1994.
Dissertation: "Adaptive Multi-user Receivers"
Ph.D. Advisor: Professor H. Vincent
Major: Communications and Signal Processing
Minors: Systems & Mathematics

1984-1989 **University of California, Berkeley**
MS, Electrical Engineering & Computer Science, February 1989;
BS, Electrical Engineering & Computer Science with high honors, May 1987.

EXPERIENCE:

2001-present **University of Southern California**, Ming Hsieh Department of Electrical & Computer Engineering, and Computer Science *Gordon S. Marshall Professor in Engineering (08/17 –), Dean's Professor of Electrical Engineering (11/15 – 08/17), Professor (02/05 – present), Associate Professor (01/01– 01/05)*

2016-2017 **King's College, London & Imperial College, London**, *Visiting Professor*

2009-2010 **Delft University of Technology** ,*Visiting Professor*

Fall 2003 **Stanford University** ,*Visiting Associate Professor*

Fall 2002 **Rice University**,*Visiting Associate Professor, Texas Instruments Faculty Fellow*

1994-2000 **The Ohio State University**, *Assistant Professor (09/94–08/00), Associate Professor (09/00–12/00)*

Summer 1995 **Eurecom Institute, Sophia Antipolis, France**, *Visiting Scholar*, investigated blind equalization schemes for multi-user wireless environments and optimal detection for multi-rate CDMA systems (see Funding). Subsequent visits: November 1996, June 1997, and September 1997.

1990-1994 **Princeton University**, *Research Assistant*, investigated adaptive multi-user communication; specifically considered the modification of traditional multi-user receivers to make them adaptive

as well as studied the use of neural networks as communication receivers in a multi-user environment. (June 1991 - August 1994)

1989-1990 **Bellcore, Red Bank, New Jersey**

Member of Technical Staff, wrote switch generic requirements for customer telecommunications services. Actively participated in ANSI T1S1.7 meetings and authored Signaling System 7 standards.

1987-1989 **University of California, Berkeley**

Research Assistant, conducted research on cochlear signal processing. Implemented a simple cochlear model and investigated the effects of frequency splatter due to transient sounds, as well as modeled several neural phenomena.

Summer 1987 **Tampere University of Technology, Finland**

Research Assistant, conducted studies on digital filters, specifically on Finite Impulse Response Median Hybrid Filters; implemented several filtering algorithms and completed comparative performance analyses of some newly proposed median filters.

ADVISING: Graduate Students

1. Dr. Li-Chung Chu (OSU PhD 06/99), Manager, Olympus Communication Technology of America
2. Prof. Emre Aktas (OSU PhD 06/02), Professor, Hacettepe University, Ankara Turkey
3. Prof. Sau-Hsuan Wu (USC PhD 09/03, co-advised with C.-C. Kuo), Associate Professor, National Chiao Tung University , Hsinchu Taiwan
4. Dr. Jifeng Geng (USC PhD 05/04), Qualcomm QC San Diego, CA
5. Dr. Stefan Franz (USC PhD 05/06), Patent Examiner, European Patent Office, Munich Germany
6. Dr. Chartchai Meesookho (USC PhD 05/07 co-advised with S. Narayanan), Founder & CEO CMSK (wealth management services) Bangkok, Thailand
7. Dr. Wanshi Chen (USC PhD 05/06) Qualcomm Corporate R & D, San Diego, CA
8. Dr. Madhavan Vajapeyam (USC PhD 05/07) Qualcomm Corporate R & D, San Diego CA
9. Dr. Satish Vedantam (USC PhD 05/09) Bloomberg Financial, New York, NY
10. Dr. Gautam Thatte (USC PhD 07/10) Trellisware Technologies, San Diego, CA
11. Dr. Srinivas Yerramalli (USC PhD 01/13) Qualcomm Corporate R & D, San Diego CA
12. Dr. Chiranjib Choudhuri (USC PhD 12/12) Qualcomm Research, Bangalore India
13. Prof. Daphney-Stavroula Zois (USC PhD 5/14) Assistant Professor, SUNY Albany, NY
14. Dr. Sunav Choudhary (USC PhD 2/16) Adobe Research, Bangalore India
15. Dr. Sajjad Beygi (USC PhD 8/17) Amazon, Boston, MA
16. Mr. Tze-Yang Tung (USC MS 5/19), graduate student, Imperial College, London UK

17. Dr. Amr Elnakeeb (USC PhD 5/20) Qualcomm Corporate R & D, San Diego CA
18. Mr. Libin Liu (USC PhD expected 9/20)
19. Mr. Dhruva Kartik (USC PhD expected 12/20)
20. Mr. Can Gursoy (USC PhD expected 5/24)
21. Mr. Jianxiu Li (USC PhD expected 5/24)
22. Ms. Madhavi Rajiv (USC PhD expected 5/24)
23. Mr. Joni Shaska (USC PhD expected 5/24)

Post-doctoral Researchers

1. Dr. Daewon Seo (USC Fall 2019, currently postdoctoral researcher, University of Wisconsin)
2. Dr. Marcos Vasconcelos (USC 2016 –)
3. Prof. Junting Chen (USC 2016 – 2018) (Assistant Professor, Chinese University of Hong Kong, Shenzhen China)
4. Prof. Arpan Chattopadhyay (USC 2016 – 2018) (Assistant Professor, Indian Institute of Technology, Delhi India)
5. Dr. Amir Salimi (USC 2016 – 2017) (Qualcomm R & D, San Diego CA)
6. Prof. Nicolo Michelusi (USC 2013-2015) (Assistant Professor, Purdue University)
7. Prof. Emrah Akyol (USC 2013-2014) (Assistant Professor, Binghamton University, SUNY, New York)
8. Prof. Geoffrey Hollinger (USC 2010-2013, co-advised with G. Sukhatme, CS USC) (Associate Professor, Oregon State University)
9. Prof. Marco Levorato (USC, 2010-2012, co-advised with A. Goldsmith, EE Stanford) (Associate Professor, University of California, Irvine)
10. Dr. Daniel Liu (USC 2008-2009, co advised with G. Caire, EE USC) (Northrup Grumman, Los Angeles, CA)
11. Dr. Feng Wan (NSERC Postdoctoral Fellow)
12. Prof. Wenyi Zhang (USC 2006-2008) (Professor, University of Science and Technology of China, Hefei China)
13. Dr. Cecilia Carbonelli (USC)(Principal - System and Algorithm Architect, Infineon, Munich Germany)
14. Prof. Mehmet Akar (post-doctoral researcher/research assistant professor at USC 2001-2003)(Professor, Bogazici University, Istanbul, Turkey)
15. Prof. Monica Fernandez Bugallo (USC Fall 2001) (Professor, Stony Brook University, SUNY New York)

16. Prof. Carlos Escudero Cascon (OSU) (Professor & Deputy to the President for Information & Communication Technologies, La Coruna University, La Coruna, Spain)

HONORS AND AWARDS:

1. Plenary Speaker, SampTA 2019, International Conference on Sampling Theory & Applications, July 2019, Bordeaux, France
2. Chair, Communication Theory Technical Committee, IEEE Communications Society (January 2019 - December 2020)
3. IEEE Communications Society's Women in Communications Engineering Committee's Technical Achievement Award (12/17)
4. Member-at-Large, IEEE Communications Society's Board of Governors (January 2018 - December 2020)
5. Plenary Speaker, DSP 2017, International Conference on Digital Signal Processing, August 2017, London UK
6. Plenary Speaker, IEEE International Symposium on Information Theory, June 2017, Aachen Germany
7. Vice-Chair, Communication Theory Technical Committee, IEEE Communications Society (January 2017 - December 2018)
8. IEEE Communications Society, Women in Communications Engineering, Mentorship Award 2016 (awarded at Globecom, December 2016, Washington DC)
9. Plenary Speaker, EUSIPCO, Budapest, Hungary, August/September, 2016
10. Fall 2016 Fulbright US Scholar Award
11. Leverhulme Trust Visiting Professorship Fellowship 2016-2017
12. United Kingdom Royal Academy of Engineering, Distinguished Visiting Fellowship Fall 2016
13. Dean's Professor of Electrical Engineering, endowed professorship, November 2015
14. INSIGHT Into Diversity 2015 Inspiring Women in STEM Award
15. Tutorial Lecturer, IEEE North American School on Information Theory, UC San Diego, August 11-13, 2015
16. IEEE Communications Society, Distinguished Lecturer (2014-2015)
17. Inaugural Editor-in-Chief, IEEE Transactions on Molecular, Biological, and Multi-scale Communications (January 2015-December 2018)
18. 2015 USC Center for Applied Mathematics Student Prize (advisor, USC-wide competition)
19. IEEE Globecom Best Paper Award, Anaheim CA, December 2012, Signal Processing for Communications Symposium (2012)
20. Student Best Paper Award (advisor), International Conference on Signal Processing and Communications, Bangalore India, July 2012

21. Lillian Gilbreth Lectureship, Irvine CA, February 2012, U.S. National Academy of Engineering (2012)
22. IEEE Information Theory, Board of Governors (January 2002–December 2007, January 2012- December 2017)
23. IEEE Signal Processing Society, Technical Committee for Signal Processing for Communications and Networks (2012–2016)
24. Qualcomm Innovation Fund Team Finalist (co-advisor), April 2011
25. U.S. National Academy of Engineering and Chinese Academy of Engineering China-America Frontiers of Engineering Symposium Speaker (2011)
26. USC VSoE Dean's Service Award (2009)
27. Best Applications Paper Award, DCOSS (2009)
28. USC Remarkable Woman Award (Faculty) (2009)
29. USC Mellon Mentoring Award (Faculty-to-Faculty) (2008)
30. Elected IEEE Fellow (2007)
31. National Academy of Engineering's Frontiers in Engineering Symposium, Participant, September 2003
32. Texas Instruments Faculty Fellow, Rice University, Fall 2002
33. Okawa Foundation Award (2001, see Funding)
34. Lumley Research Award (2000), OSU College of Engineering
35. Charles E. MacQuigg Student Award for Outstanding Teaching from the Engineers Student Council (1997)[1]
36. NSF CAREER Award (1996, see Funding)
37. NSF International Post-doctoral Fellowship (1994, see Funding)
38. Margaret Goheen Travel Fund Award (June 1993)
39. Lockheed Leadership Fellowship (1988-1989)
40. Microelectronics Fellowship (1987-1988)
41. UC Berkeley College of Engineering Bechtel Achievement Award – highest award for academic achievement and community service (1987)
42. Tau Beta Pi, Eta Kappa Nu

TEACHING:
University of Southern California

1. Information Theory (GS, Sp19, Sp20)

[1]Three awards are given annually to faculty in the OSU College of Engineering.

2. Probability for Electrical and Computer Engineers (GS, Fa17)
3. Random Processes (GS, Sp16, Sp18, Fa18 ,Fa19)
4. Freshman Academy (UG, Fa13x2, Fa14x2)
5. Linear Algebra and Matrix Theory (UG, Sp13)
6. Applied Linear Algebra (GS, Fa10,Sp12,Sp14)
7. Mobile Communications(GS, Fa05, Fa06)
8. Probability Theory for Engineers (GS, Sp05, Sp09)
9. Spread-Spectrum Systems (GS, Sp03, Sp04, Sp08)
10. Digital Communication Theory (GS, Fa01, Sp02, Fa04, Sp06, Fa08)
11. Special Topics: Underwater Acoustic Communications (GS, Sp15)
12. Special Topics: Sparse Approximation Theory (GS, Fa12)
13. Special Topics: Multiuser Detection Theory (GS, Sp01)

The Ohio State University

1. Random Processes and Linear Systems (GS, Au00)
2. Random Variables and Probability Theory (GS, Au98)
3. Random Processes and Applications (GS, Wi95, Wi96, Wi97)
4. Detection and Estimation (GS, Sp95, Sp96, Sp97, Sp98, Sp99, Sp00)
5. Multiuser Detection Theory (GS, Au95, Au97, Au99, Sp01)
6. Signals and Systems II (UG, Wi97)
7. Communication Theory (UG, Wi98, Wi00)

JOURNAL ARTICLES:

Accepted

A1. M.M. Vasconcelos, M. Gagrani, A. Nayyar and U. Mitra, **Optimal scheduling strategy for networked estimation with energy harvesting**, *IEEE Transactions on Control of Network Systems*, accepted April 21, 2020.

Published

J1. S. J. Quiton, U. Mitra and S. Sharada, **A Matrix Completion Algorithm to Recover Modes Orthogonal to the Minimum Energy Path in Chemical Reactions**, *Journal of Chemical Physics* vol. 153, no. 5, August 2020.

J2. A. Chattopadhyay, and U. Mitra, **Security against false data injection attack in cyber-physical systems**, *IEEE Transactions on Control of Network Systems*, vol.7, no. 2, pp. 1015 - 1027, June 2020.

J3. L. Liu and U. Mitra, **On Sampled Reinforcement Learning in Wireless Networks: Exploitation of Policy Structures**, *IEEE Transactions on Communications*, vol. 68, no. 5, pp. 2823 - 2837, May 2020.

J4. A. Chattopadhyay and U. Mitra, **Dynamic sensor subset selection for centralized tracking of a stochastic process,** *IEEE Transactions on Signal Processing*, vol. 68, pp. 3209 - 3224, May 2020.

J5. M. Vasconcelos and U. Mitra, **Observation-driven scheduling for remote estimation of two Gaussian sources**, *IEEE Transactions on Control of Network Systems*, vol. 7, no. 1, pp. 232 - 244, March 2020.

J6. T.-Y. Tung and U. Mitra, **Synchronisation Error Robust Transceivers for Molecular Communication**, *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*, vol. 5, no. 3, pp. 207 - 221, December 2019.

J7. L. Liu, A. Chattopadhyay, and U. Mitra, **On Solving Large Scale MDPs: Exploitation of Policy Structure and Spectral Properties**, *IEEE Transactions on Communications*, vol. 67, no. 6, June 2019, pp. 4151–4165.

J8. M. Dissanayake, Y. Deng, A. Nallanathan, M. Elkashlan, and U. Mitra, **Interference Mitigation in Large-Scale Multiuser Molecular Communication,** *IEEE Transactions on Communications*, vol. 67, no. 6, June 2019, pp. 4088–4103.

J9. J. Chen and U. Mitra, **Matrix Factorization for Nonparametric Localization Exploiting Unimodal Properties,** *IEEE Transactions on Signal Processing*, vol. 67, no. 9, May 2019, pp. 2371–2386.

J10. N. Michelusi, M. Nokleby, U. Mitra and R. Calderbank,**Multi-scale Spectrum Sensing in 5G Cognitive Networks**, *IEEE Transactions on Communications*, vol. 67, no. 4, April 2019, pp. 2673–2688.

J11. A. El-Nakeeb and U. Mitra, **Line Constrained Estimation with Applications to Target Tracking: Exploiting Sparsity and Low-rank** , *IEEE Transactions on Signal Processing*, vol. 66, no. 24, December 2018, pp. 6488 - 6502.

J12. S. Beygi, A. El-Nakeeb, S. Choudhary and U. Mitra, **Bilinear Matrix Factorization Methods for Time-Varying Narrowband Channel Estimation: Exploiting Sparsity and Rank**, *IEEE Transactions on Signal Processing*, vol. 66, no. 22, November 2018, pp. 6062 - 6075.

J13. S. Beygi,U. Mitra, S. Jalali and A. Maleki, **An efficient algorithm for compression-based compressed sensing**, *Journal of Information and Inference,* August, 2018, doi = {10.1093/imaiai/iay014}

J14. S. Choudhary and U. Mitra, **On the Properties of the Rank-Two Null Space of Non-Sparse and Canonical-Sparse Blind Deconvolution**, *IEEE Transactions on Signal Processing*, vol. 66, no. 14, pp. 3696 - 3709, July 2018.

J15. J. Zhang,U. Mitra, K.-W. Huang, and N. Michelusi, **Support Recovery from Noisy Random Measurements via Weighted l_1 Minimization**, *IEEE Transactions on Signal Processing*, vol. 66, no. 17, pp. 4527-4540, May 2018.

J16. D. Zois and U. Mitra **Active State Tracking With Sensing Costs: Analysis of Two-States and Methods for n-States**, *IEEE Transactions on Signal Processing*, vol. 65, no. 11, pp. 2828-2843, June 2017.

J17. G. A. Hollinger, U. Mitra and G. S. Sukhatme, **Active Classification: Theory and Application to Underwater Inspection,** *Robotics Research*, pp. 95-110, 2017, Springer International Publishing.

J18. M. Michelusi, J. Boedicker, M.Y. El-Naggar and U. Mitra, **Queuing models for abstracting interactions in Bacterial communities,** *IEEE Journal on Selected Areas in Communications*, vol. 34, no. 3, pp. 584-599, February 2016.

J19. E. Akyol and U. Mitra, **Power-Distortion Metrics for Path Planning over Gaussian Sensor Networks**, *IEEE Transactions on Communications*, vol. 64, no. 3, pp. 1220-1231, March 2016.

J20. M. Movahednasab, M. Soleimanifar, A. Gohari, M. Nasiri-Kenari, and U. Mitra, **Adaptive Transmission Rate with a Fixed Threshold Decoder for Diffusion-Based Molecular Communication**, *IEEE Transactions on Communications*, vol.64, no.1, pp.236-248, Jan. 2016.

J21. D. Spruijt-Metz, C. K. Wen, G. O'Reilly, M. Li, S. Lee, B. A. Emken, U. Mitra, A. Annavaram, G. Ragusa, S. Narayanan, **Innovations in the use of interactive technology to support weight management**, *Current obesity reports*, vol. 4, no. 4, pp. 510519, December 2015.

J22. U. Mitra, S. Choudhary, F. Hover, R. Hummel, N. Kumar, S. Narayanan, M. Stojanovic, and G. Sukhatme, **Structured Sparse Methods for Active Ocean Observation Systems with Communication Constraints**, *IEEE Communications Magazine*, vol. 53, no. 11, pp. 88-96, November 2015.

J23. S. Beygi, U. Mitra, and E. Ström, **Nested Sparse Approximation: Structured Estimation of V2V Channels Using Geometry-Based Stochastic Channel Models**, *IEEE Transactions on Signal Processing*, vol.63, no.18, pp.4940-4955, September 2015.

J24. S. Beygi and U. Mitra, **Multi-Scale Multi-Lag Channel Estimation Using Low Rank Approximation for OFDM**, *IEEE Transactions on Signal Processing*, vol. 63, no. 18, pp. 4744-4755, September 2015.

J25. N. Kumar, U. Mitra and S. Narayanan, **Robust object classification in underwater sidescan sonar images by using reliability aware fusion of shadow features**, *IEEE Journal on Oceanic Engineering,* vol.40, no.3, pp.592-606, July 2015.

J26. G. Aminian, H. Arjmandi, A. Gohari, M. Nasiri-Kenari, and U. Mitra, **Capacity of Diffusion-based Molecular Communication Networks over LTI-Poisson Channels**, *IEEE Transactions on Molecular, Biological and Multi-scale Communications*, vol.1, no.2, pp.188-201, June 2015.

J27. N. Michelusi and U. Mitra, **Cross-layer estimation and control for Cognitive Radio: Exploiting Sparse Network Dynamics**, *IEEE Transactions on Cognitive Communications and Networking*, **invited paper for inaugural issue**, vol.1, no.1, pp.128-145, March 2015

J28. N. Michelusi and U. Mitra, **Capacity of electron-based communication over bacterial cables: the full-CSI case**, *IEEE Trasactions on Molecular, Biological and Multi-scale Communications*, vol. 1, no. 1, pp. 62-75, March 2015.

J29. N. Michelusi and U. Mitra **Cross-layer design of distributed sensing-estimation strategies with quality feedback, Part II: Myopic schemes** , IEEE Transactions on Signal Processing, vol. 63, no. 5, pp. 1244 - 1258, March 2015.

J30. N. Michelusi and U. Mitra **Cross-layer design of distributed sensing-estimation strategies with quality feedback, Part I: Optimal schemes**, IEEE Transactions on Signal Processing, vol. 63, no. 5, pp. 1228 - 1243 , March 2015.

J31. G. Hollinger, S. Yerramalli, S. Singh, U. Mitra, and G. Sukhatme, **Distributed Data Fusion for Multirobot Search**, *IEEE Transactions on Robotics*, vol.31, no.1, pp.55-66, Feb. 2015.

J32. D. Zois, M. Levorato, U. Mitra, **Active Classification for POMDPs: a Kalman-like State Estimator**, *IEEE Transactions on Signal Processing*, vol. 62, no. 23, pp. 6209 - 6224, December 2014.

J33. N. Michelusi, S. Pirbadian, M.Y. El-Naggar, U. Mitra, **A Stochastic Model for Electron Transfer in Bacterial Cables**, IEEE Journal on Selected Areas in Communications, Molecular, Biological, and Multi-Scale Communications Series,vol. 32, no. 12, pp. 2402 - 2416, December 2014.

J34. R. Mosayebi, H. Arjmandi, A. GohariΛ, M. Nasiri-Kenari, and U. Mitra, **Receivers for Diffusion Based Molecular Communication: Exploiting Memory and Sampling Rate**, IEEE Journal on Selected Areas in Communications, Molecular, Biological, and Multi-Scale Communications Series, vol. 32, no. 12, pp. 2368 - 2380, December 2014.

J35. B. Ahmadi, O. Simeone, C. Choudhuri and U. Mitra, **On Cascade Source Coding with A Side Information Vending Machine,** *IEEE Transactions on Information Theory*, vol.60, no.11, pp.6888–6901, November 2014.

J36. C. Choudhuri and U. Mitra, **Capacity Bounds for Relay Channels with ISI and Colored Gaussian Noise**, *IEEE Transactions on Information Theory*, vol.60, no.9, pp.5639–5652, September 2014.

J37. S. Yerramalli, R. Jain and U. Mitra, **Coalitional Games for Transmitter Cooperation in MIMO Multiple Access Channels**, *IEEE Transactions on Signal Processing*, vol.62, no.4, pp.757-771, February, 2014.

J38. S. Beygiharchegani and U. Mitra, **Optimal Bayesian Resampling for OFDM Signaling Over Multi-scale Multi-lag Channels**, *IEEE Signal Processing Letters*, vol. 20, no.11, pp.1118 -1121, Nov. 2013.

J39. C. Choudhuri, Y.-H. Kim, U. Mitra, **Causal State Communication**, *IEEE Transactions on Information Theory*, vol.59, no.6, pp.3709,3719, June 2013.

J40. D.-S. Zois, M. Levorato, and U. Mitra, **Energy-Efficient, Heterogeneous Sensor Selection for Activity Detection in Wireless Body Area Networks,** *IEEE Transactions on Signal Processing*, vol.61, no.7, pp.1581–1594, April, 2013.

J41. T. Xu, Z. Tang, G. Leus and U. Mitra, **Multi-Rate Block Transmission over Wideband Multi-Scale Multi-Lag Channels**, *IEEE Transactions on Signal Processing*, vol. 61, no. 4, pp.964-979, February 2013.

J42. G. Hollinger, B. Englot, F. Hover, U. Mitra, and G. Sukhatme, **Active planning for underwater inspection and the benefit of adaptivity**, *International Journal of Robotics Research (IJRR)*, vol. 32, no. 1, pp. 3-18, Jan. 2013.

J43. S. Yerramalli, M. Stojanovic, and U. Mitra **Partial FFT Demodulation: A Detection Method for Doppler Distorted OFDM Systems**, *IEEE Transactions on Signal Processing*, vol.60, no.11, pp.5906-5918, November 2012.

J44. N. Michelusi, U. Mitra, A. Molisch, and M. Zorzi **UWB Sparse/Diffuse Channels, Part I: Channel Models and Bayesian Estimators**, *IEEE Transactions on Signal Processing*, vol.60, no.10, pp.5307-5319, October 2012.

J45. N. Michelusi, U. Mitra, A. Molisch, and M. Zorzi **UWB Sparse/Diffuse Channels, Part II: Estimator Analysis and Practical Channels**, *IEEE Transactions on Signal Processing*, vol.60, no.10, pp.5320-5333, October 2012.

J46. G. Thatte, M. Li, S. Lee, A. Emken, S. Narayanan, U. Mitra, D. Spruijt-Metz M. Annavaram, **KNOWME: An Energy-Efficient, Multimodal Body Area Network for Physical Activity Monitoring**, ACM Transactions in Embedded Computing Systems, vol. 11, no. S2, August 2012, Article No. 48.

J47. M. Levorato, U. Mitra, and A. Goldsmith **Structure-Based Learning in Wireless Networks via Sparse Approximation,** *Recent Advances in Optimization Techniques in Wireless Communication Networks special issue for the EURASIP Journal on Wireless Communications and Networking* , August 2012, 2012:278 doi:10.1186/1687-1499-2012-278

J48. G. Hollinger, S. Choudhary, P. Qarabaqi, C. Murphy, U. Mitra, G. Sukhatme, M. Stojanovic, H. Singh and F. Hover, **Underwater Data Collection Using Robotic Sensor Networks**, *IEEE Journal on Selected Areas of Communications*, special issue on Communications Challenges and Dynamics for Unmanned Autonomous Vehicles," vol.30, no.5, pp.899-911, June 2012.

J49. U. Mitra, A. Emken, S. Lee, M. Li, V. Rozgic, G. Thatte, H. Vathsangam, D.-S. Zois, M. Annavaram, S. Narayanan,M. Levorato, D. Spruijt-Metz, G. S. Sukhatme, **KNOWME: a Case Study in Wireless Body Area Sensor Network Design**, *IEEE Communications Magazine*, vol.50, no.5, pp.116-125, May 2012.

J50. M. Levorato, U. Mitra, and M. Zorzi, **Cognitive Interference Management in Retransmission-Based Wireless Networks**, *IEEE Transactions on Information Theory*, vol.58, no.5, pp.3023–3046, May 2012.

J51. A. Emken, M. Li, G. Thatte, S. Lee, M. Annavaram, U. Mitra, S. Narayanan and D. Spruijt-Metz, **Recognition of physical activities in overweight Hispanic youth using KNOWME Networks**, Journal of Physical Activity Health, vol. 9, no. 3, pp. 432-441 March 2012.

J52. W. Zhang, S. Vedantam,and U. Mitra, **Joint Transmission and State Estimation: A Constrained Channel Coding Approach**, IEEE Transactions on Information Theory, vol. 57, no.10, pp.7084-7095, October 2011.

J53. W. Zhang, U. Mitra, and M. Chiang, **Optimization of Amplify-and-Forward Multicarrier Two-Hop Transmission**, IEEE Transactions on Communications, vol. 59, no.5, May 2011, pp.1434-1445.

J54. G. Thatte, M. Li, S. Lee, A. Emken, M. Annavaram, S. Narayanan, D. Spruijt-Metz, and U. Mitra, **Optimal Time-Resource Allocation for Energy-Efficient Physical Activity Detection**, *IEEE Transactions on Signal Processing*, vol.59, no.4, pp.1843-1857, April 2011.

J55. G. Thatte, U. Mitra, and J. Heidemann, **Parametric Methods for Anomaly Detection in Aggregate Traffic**, IEEE/ACM Transactions on Networking, vol.19, no.2, pp.512-525, April 2011.

J56. S. Yerramalli and U. Mitra, **Optimal Resampling of OFDM Signals in Multi-Scale Multi-Lag Underwater Acoustic Channels**, *IEEE Journal on Oceanic Engineering*, vol. 36, no. 1, January 2011, pp. 126 - 138.

J57. W. Zhang, M. Stojanovic, and U. Mitra, **Analysis of a Linear Multihop Underwater Acoustic Network**, IEEE Journal on Oceanic Engineering, vol. 35, no. 4, October 2010, pp. 961 - 970.

J58. W. Zhang and U. Mitra, **A Spectrum-Shaping Perspective on Cognitive Radio - Part II: Coexistence with Uncoded Legacy Transmission**, *IEEE Transactions on Communications*, vol.58, no.10, pp.2971-2983, October 2010.

J59. M. Li, V. Rozgic, G. Thatte, S. Lee, A. Emken, M. Annavaram, U. Mitra, D. Spruijt-Metz, S. Narayanan, **Multimodal Physical Activity Recognition by Fusing Temporal and Cepstral Information**, IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 18, no. 4, pp. 369–380, August 2010.

J60. S. Vedantam, U. Mitra, and A. Sabharwal, **Distortion Bounds for the Estimation of Time-Varying Channels in Multihop Sensor Networks**, ACM Transactions on Sensor Networks, vol. 6, no. 4, July 2010, pp. 33:1–33:33.

J61. W. Zhang and U. Mitra, **A Spectrum-Shaping Perspective on Cognitive Radio - Part I: Coexistence with Coded Legacy Transmission**, *IEEE Transactions on Communications*, vol.58, no.6, pp.1857-1867, June 2010.

J62. M. Vajapeyam and U. Mitra, **Performance Analysis of Distributed Space-Time Coded Protocols for Wireless Multi-hop Communications**, IEEE Transactions on Wireless Communications, vol.9, no.1, pp.122-133, January 2010.

J63. C. Carbonelli, S.-H. Chen, and U. Mitra, **Error Propagation Analysis for Underwater Cooperative Multihop Communications**, Elsevier Journal on Ad Hoc Networks, invited submission, vol. 7, no. 4, June 2009, pp. 759-769.

J64. X. He, C. Papadopoulos, J. Heidemann, U. Mitra, and U. Riaz , **Remote Detection of Bottleneck Links Using Spectral and Statistical Methods**, Computer Networks, vol. 53. no. 3, February 2009, pp. 279-298.

J65. W. Zhang and U. Mitra, **Orthogonal Codes for Robust Low-Cost Communication**, IEEE Transactions on Information Theory, vol. 54, no. 12, December 2008, pp. 5411 - 5426.

J66. M. Vajapeyam, S. Vedantam, U. Mitra, J. Preisig, and M. Stojanovic, **Distributed Space-Time Cooperative Schemes for Underwater Acoustic Communications**, IEEE Journal of Oceanic Engineering, vol. 33, no. 4, October 2008, pp. 489 - 501.

J67. S.-H. Wu, U. Mitra and C.C. Kuo, **Iterative Joint Channel Estimation and Multiuser Detection for DS-CDMA in Frequency-Selective Fading Channels**, IEEE Transactions on Signal Processing, vol. 56, no. 7, part 2, July 2008, pp. 3261 – 3277.

J68. G. Thatte and U. Mitra, **Sensor Selection and Power Allocation for Distributed Estimation in Sensor Networks: Beyond the Star Topology**, IEEE Transactions on Signal Processing, vol. 56, no. 7, part 1, July 2008, pp. 2649 – 2661.

J69. W. Chen, M. J. Neely, and U. Mitra, **Energy-Efficient Transmissions with Individual Packet Delay Constraints**, IEEE Transactions on Information Theory, vol. 54, no. 5, May 2008, pp. 2090–2109.

J70. W. Chen, M. Neely and U. Mitra, **Energy-efficient scheduling with individual packet delay constraints over a fading channel** invited submission from WiOpt'07 for special issue of ACM/Springer Wireless Networks, vol. 15, no. 5, July 2009, pp. 601–618.

J71. C. Mesookho, U. Mitra, and S. Narayanan, **On Energy Based Acoustic Source Localization for Sensor Networks**, IEEE Transactions on Signal Processing, vol. 56, no. 1, ppg. 365–377, January 2008.

J72. D. Porrat and U. Mitra, **Delay Profile Acquisition for Ultra-Wideband PPM Systems**, IEEE Transactions on Selected Topics in Signal Processing, vol. 1, no. 3, October 2007, pp. 372 - 382.

J73. C. T. K. Ng, N. Jindal, A. Goldsmith, and U. Mitra, **Capacity of Ad Hoc Networks with Transmitter and Receiver Cooperation**, IEEE Transactions on Information Theory, special issue on Relaying and Cooperation in Communication Networks, vol. 53, no. 10, October 2007, pp. 3822 - 3827.

J74. C. Carbonelli and U. Mitra, **Clustered ML Channel Estimation for Ultra-wideband Signals** , IEEE Transactions on Wireless Communications, vol. 6, no. 7, July 2007, pp. 2412 - 2416.

J75. S. Franz and U. Mitra, **Quantized UWB Transmitted Reference Systems**, IEEE Transactions on Wireless Communications, vol. 6, no. 7, July 2007 pp. 2540 - 2550.

J76. A. Sabharwal and U. Mitra, **Bounds and Protocols for a Rate-Constrained Relay Channel**, IEEE Transactions on Information Theory, vol. 53, no. 7, July 2007, pp. 2616–2624.

J77. C. Carbonelli, S. Vedantam, and U. Mitra, **Sparse Channel Estimation with Zero-Tap Estimation**, IEEE Transactions on Wireless Communications, vol. 6, no. 5, May 2007, pp. 1743 - 1763.

J78. C. Carbonelli and U. Mitra, **Clustered Channel Estimation for UWB Multiple Antenna Systems**, IEEE Transactions on Wireless Communications, vol. 6, no. 3, March 2007, pp. 970 - 981.

J79. M. Vajapeyam, J. Geng, U. Mitra, **Tools for Performance Analysis and Design of Space-Time Block Codes**, *IEEE Trans. on Communications*, vol. 55, issue 2, Feb. 2007, pp 357-369.

J80. S. Franz, C. Carbonelli and U. Mitra, **Joint semi-blind channel and timing estimation for generalized UWB transmitted reference systems** ,*IEEE Transactions on Wireless Communications*, vol. 6, no. 1, pp. 180 - 191 , January 2007.

J81. Y. Mohasseb, M. P. Fitz, and U. Mitra **Performance Bounds for Maximum Likelihood Detection in Fading Channels**, *IEEE Transactions on Information Theory*, vol. 52, no. 3, March 2006, pp. 1184 –1196.

J82. S. Franz and U. Mitra, **Generalized Transmitted Reference UWB Systems**, IEEE Journal on Selected Areas of Communications, special issue on UWB, vol. 24, no. 4, April 2006, pp. 780–786.

J83. H. Vikalo, B. Hassibi, and U. Mitra **Sphere-constrained ML Detection for Frequency Selective Channels**, *IEEE Communications Letters*, vol. 54, no. 7, July 2006, pp. 1179 – 1183.

J84. M.Akar, A. Paul, M. Safonov, and U. Mitra, **Conditions on the Stability of a Class of Second Order Switched Systems**, *IEEE Transactions on Automatic Control*, vol. 51, no. 2, February 2006, pp. 338 – 340.

J85. J. Geng and U. Mitra, **Non-linear Hierarchical Space-Time Block Codes: Construction and Regular MTCM Design** *IEEE Transactions on Communications*, vol. 54, no. 1, January 2006, pp. 82 – 95.

J86. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Performance Analysis of Multistage Receivers for CDMA in Frequency Selective Channels**, *IEEE Transactions on Information Theory* vol. 51, no. 10, October 2005, pp. 3493 - 3517.

J87. A. Paul, M. Akar, M. Safonov, and U. Mitra, **Adaptive distributed power control in cellular communication networks**, *IEEE Transactions on Neural Networks*, Special issue on Adaptive Learning Systems in Communication Networks, vol. 16, no. 5, September 2005, pp. 1212 - 1218.

J88. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Blind Adaptive Multistage MMSE-based Receivers for DS-CDMA in Frequency Selective Fading Channels**, *IEEE Transactions on Communications*, vol. 53, no. 2, February, 2005, pp. 264–270.

J89. E. Aktas and U. Mitra, **Semi-blind Channel estimation for WCDMA Systems with Parallel Data and Pilot Signals**, *IEEE Transactions on Communications*, vol. 52, no. 7, July 2004, pp. 1102–1112.

J90. R. Nowak, U. Mitra, and R. Willett, **Estimating Inhomogeneous Fields Using Sensor Networks** *IEEE Journal on Selected Areas of Communications*, Special Issue on Fundamental Performance Limits of Wireless Sensor Networks, vol. 22, no. 6, August 2004, pp. 999–1006.

J91. M. Akar and U. Mitra, **Soft handoff algorithms for CDMA cellular networks**, *IEEE Transactions on Wireless Communications*, vol. 2 no. 6 , November 2003, pp. 1259–1274.

J92. E. Aktas and U. Mitra, **Blind Equalization for an Application of Unitary Space-Time Modulation in ISI Channels**, *IEEE Transactions on Signal Processing*, special issue on Transmit Diversity Systems, vol. 51, no. 11, November 2003, pp. 2931–2942.

J93. E. Aktas and U. Mitra, **Single User Sparse Channel Acquisition in Multiuser DS-CDMA Systems**, *IEEE Transactions on Communications*, vol. 51, no. 4, April 2003, pp. 682–693.

J94. W. Chen, U. Mitra, and P. Schniter, **On the equivalence of three reduced rank linear estimators with applications to DS-CDMA**, *IEEE Transactions on Information Theory,* vol. 48, no. 9 , September 2002, pp. 2609–2614.

J95. Z. Pi and U. Mitra, **On Blind Timing Acquisition and Channel Estimation for Wideband Multiuser DS-CDMA Systems**, *Journal of VLSI Signal Processing Systems*, February 2002, vol. 30, Issue 1-3, (invited paper).

J96. A. Sabharwal, U. Mitra and R. Moses, **MMSE Receivers for Multirate DS-CDMA Systems**[2], *IEEE Transactions on Communications*,vol. 49, no. 12, December 2001 pp. 2184–2197.

J97. G. Caire and U. Mitra, **Structured multiuser channel estimation for block-synchronous DS/CDMA**, *IEEE Transactions on Communications*, vol. 49, no. 9, September 2001, pp. 1605 –1617.

J98. W. Chen and U. Mitra, **An Improved Blind Adaptive MMSE Receiver for Fast Fading DS-CDMA Channels,** *IEEE Journal on Selected Areas of Communication*, Special Issue on Multiuser Detection Techniques with Application to Wired and Wireless Communication Systems I, vol. 19, no. 8, August 2001, pp. 1531–1543.

J99. M. Akar and U. Mitra, **Variations on Optimal and Suboptimal Handoff Algorithms for Cellular Systems**, *IEEE Journal on Selected Areas of Communications, Wireless Series.* vol. 18, no. 6, June 2001, pp. 1173–1185.

J100. C. Escudero, U. Mitra and D. Slock, **A Toeplitz Displacement Method for Blind Multipath Estimation for Long Code DS/CDMA Signals**, *IEEE Transactions on Signal Processing*, vol. 49, no. 3, March 2001, pp. 654–665.

J101. E. Ertin, U. Mitra, and S. Siwamogsatham, **Maximum-Likelihood Based Multipath Channel Estimation for Code-Division Multiple-Access Systems**, *IEEE Transactions on Communications*, vol. 49, no. 2, February, 2001, pp. 290–302.

J102. W. Chen and U. Mitra, **Training Sequence Optimization: Comparisons, Observations and New Criteria**, *IEEE Transactions on Communications.* vol. 48, no. 12, December 2000, pp. 1987–1991.

J103. E. Aktas and U. Mitra, **Reduced Complexity Subspace Based Blind Identification for DS/CDMA Systems**, *IEEE Transactions on Communications.* vol. 48, no. 8, August 2000, pp. 1392–1404.

J104. R. Srinivasan, U. Mitra and R. Moses, **Design and Analysis of Receiver Filters for Multiple Chip-Rate DS-CDMA Systems**, *IEEE Journal on Selected Areas of Communication*, issue on Global Spread Spectrum Communications, vol. 17, no.12, December 1999, pp. 2096–2109.

J105. J. Chen and U. Mitra, **Optimum Near-Far Resistance for Dual-Rate DS/CDMA Signals: Random Signature Sequence Analysis**, *IEEE Transactions on information Theory*, vol. 45, no. 7, November 1999, pp. 2434–2447.

[2][J22] won the OSU Department of Electrical Engineering Best Student Paper Award, June 2001.

J106. J. Chen and U. Mitra, **Analysis of Decorrelator-based Receivers for Multi-rate CDMA Communications**, *IEEE Transactions on Vehicular Technology*, vol. 48, no. 6, November 1999, pp.1966–1983.

J107. U. Mitra, **Comparison of ML-based Detection for Two Multi-rate Access Schemes for CDMA Signals**, *IEEE Transactions on Communications*, vol. 47, no.1, January 1999, pp.64–77.

J108. C. J. Escudero, L. Castedo, and U. Mitra, **A Modified CMA Equalizer for Length Dependent Local Minima Removal**, *IEEE Transactions on Signal Processing*, vol. 47, no.2, February 1999, pp. 540–544.

J109. L.-C. Chu and U. Mitra, **Analysis of MUSIC-based Delay Estimators for DS/CDMA Systems**, *IEEE Transactions on Communications*, vol. 47, no. 1, January 1999, pp. 133–138.

J110. L.-C. Chu and U. Mitra, **Performance Analysis of the Improved MMSE Multi-user Receiver for Mismatched Delay Channels**, *IEEE Transactions on Communications*, vol. 46, no. 10, pp. 1369–1380. October 1998.

J111. U. Mitra and H. V. Poor, **An Adaptive Decorrelating Detector for Synchronous CDMA Channels**, *IEEE Transactions on Communications*, Vol. 44, No. 2, February 1996, pp. 257–268.

J112. U. Mitra and H. V. Poor, **Activity Detection in a Multi-user Environment**, *Wireless Personal Communications*, special issue on "Signal Separation and Interference Cancellation for Personal, Indoor and Mobile radio Communications," 1996, Vol. 3, pp.149–174.

J113. U. Mitra and H. V. Poor, **Adaptive Decorrelating Detectors for CDMA Systems**, *Wireless Personal Communications*,December 1995, Vol. 2, pp. 265–290.

J114. U. Mitra and H. V. Poor, **Adaptive Receiver Algorithms for Near-Far Resistant CDMA**, *IEEE Transactions on Communications*, Vol. 43, No. 2/3/4, Part III, February/March/April 1995, pp. 1713–1724.

J115. U. Mitra and H. V. Poor, **Neural Network Techniques for Adaptive Multi-user Demodulation**, *IEEE Journal on Selected Areas of Communications*, Issue on Intelligent Communications Systems, Vol. 12, No. 9, December 1994, pp. 1460–1470.

J116. A. Nieminen, Y. Neuvo, A. Värri, and U. Mitra, **Algorithms for Real Time Trend Detection**, *Signal Processing*, Vol. 18, September, 1989, pp. 1-15.

OTHER PUBLICATIONS:

O1. M. Levorato, U. Mitra and A. Ortega, **Graph Compression Techniques for Next Generation Cognitive Networks,**, *Technical Committee on Cognitive Networks Communications* , pp. 24–27, December 2015, **invited position paper**.

O2. J. Heidemann, U. Mitra, J. Preisig, M. Stojanovic, M. Zorzi, and L. Cimini, **Guest Editorial, Underwater Wireless Communication Networks**, *IEEE Journal on Selected Areas in Communications*, vol. 26, no. 9, December 2008, pp. 1617–1619.

O3. A. Chockalingam, U. Mitra, E. Strom, S. Ulukus and L. Milstein, **Guest Editorial Multiuser Detection for Advanced Communication Systems and Networks**, *IEEE Journal on Selected Areas in Communications*, vol. 26, no. 3, April 2008, pp. 417–420.

O4. U. Mitra, A. Ortega, J. Heidemann and C. Papadopoulos, **Detecting and identifying malware: a new signal processing goal**, *IEEE Signal Processing Magazine* Exploratory DSP column, vol. 23, no. 5, September 2006, pp. 107–111 (solicited, reviewed)

O5. Y. Hua, U. Mitra, B. Sadler, D. Slock and J. Zeidler, **Signal processing for wireless ad hoc communication networks** [summary of special issue from the guest Editors] *IEEE Signal Processing Magazine*, vol. 23, no. 5, September 2006, p. 17.

O6. K. Yao, R. Kohno, U. Mitra, L. Tong and L. Vanzago, **Communication and signal processing in sensor networks**, [summary of special issue from the guest Editors], *Journal of Communications and Networks*, vol.7, no.4, December 2005, pp. 397-400.

BOOK CHAPTERS:

B1. U. Mitra, **Spread Spectrum**, *Encyclopedia of Physical Science and Technology*, 3rd edition, L. B. Milstein (Communications Section Editor), Academic Press, September 2003, pp. 667-694.

B2. U. Mitra, **Adaptive Spread Spectrum Receivers**, *Encyclopedia of Telecommunications*, J. G. Proakis (Telecommunications Volume Editor), John Wiley & Sons, 2001/2002.

REFEREED CONFERENCE PUBLICATIONS:

C1. A. A. Herschfelt, A. Chiriyath, D. W. Bliss, C.D, Richmond, U. Mitra and S. D. Blunt, **Vehicular RF Convergence: Simultaneous Radar, Communications, and PNT for Urban Air Mobility and Automotive Applications**, *2020 IEEE Radar Conference*, Florence Italy, September 21-25, 2020.

C2. D. Kartik, A. Nayyar and U. Mitra, **Testing for Anomalies: Active Strategies and Non-asymptotic Analysis**, ISIT 2020, Los Angeles, CA, June 2020.

C3. M. C. Gursoy, D. Seo, and U. Mitra, **Concentration and Position-Based Hybrid Modulation Scheme for Molecular Communications**, ICC 2020, Dublin, Ireland, June 2020.

C4. X. Zhang, M. Vasconcelos, U. Mitra, and W. Cui, **An Optimal Symmetric Threshold Strategy for Remote Estimation over the Collision Channel**, ICASSP 2020 (special session paper), Barcelona, Spain, May 2020.

C5. A. El-Nakeeb & U. Mitra **On Training Sequence Optimization for Leaked MIMO OFDM Channels**, Globecom 2019, Waikoloa, HI, December 9-13 , 2019.

C6. L. Liu & U. Mitra **Policy Sampling and Interpolation for Wireless Networks: A Graph Signal Processing Approach**, Globecom 2019, Waikoloa, HI, December 9-13 , 2019.

C7. A. El-Nakeeb & U. Mitra, **Variety-Based Background Subtraction for Nonlinear Trajectory Tracking**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 3-6 2019.

C8. A. Chattopadhyay, U. Mitra & E. Ström, **Optimal deception attack on networked vehicular cyber physical systems**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 3-6 2019(**invited**).

C9. M. M. Vasconcelos & U. Mitra, **Optimization for data-driven wireless sensor scheduling**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 3-6 2019 (**invited**).

C10. M. M. Vasconcelos, U. Mitra, O. Camara, M. S. Gangan & J Boedicker, **A sequential decision making model for quorum sensing: Imperfect observations in continuous time**. ACM NanoComm Workshop, September 25-27, 2019 (**invited**).

C11. D. Kartik, A. Nayyar, & U. Mitra, **Active Hypothesis Testing: Beyond Chernoff-Stein**, ISIT 2019, Paris, France, July 7-12, 2019.

C12. J. Chen, D. Gesbert & U. Mitra, **Optimal UAV Relay Placement for Single User Capacity Maximization over Terrain with Obstacles**, SPAWC 2019, Cannes, France, July 2-5, 2019 (**invited**).

C13. L. Liu & U. Mitra, **Applying RL and GSP to Wireless Networks: Policy Sampling and Interpolation**, Communication Theory Workshop, Selfoss, Iceland, May 26-29, 2019.

C14. T.-Y. Tung & U. Mitra, **Robust Molecular Communications: DFE-SPRTs and Synchronisation**, ICC 2019, Shanghai, China, May 20-24, 2019.

C15. J. Chen & U. Mitra **A Modified Frank-wolfe Algorithm for Tensor Factorization with Unimodal Signals,** ICASSP 2019, Brighton, UK, May 12, 2019, pp.7938-7942.

C16. A. Chattopadhyay and U. Mitra, **Active Sensing for Markov Chain Tracking**, GlobalSIP, Anaheim CA, November 26-29 2018.

C17. D. Kartik, A. Nayyar, and U. Mitra, **Sequential Experiment Design for Hypothesis Verification**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, October 2018, (**invited**).

C18. M. Vasconcelos, U. Mitra, O. Camara, K. Silva, and J. Boedicker **Analysis of Quorum Sensing as a Networked Decision System**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, October 2018, (**invited**).

C19. D. Kartik, E. Sabir, P. Natarajan, and U. Mitra, **Policy Design for Active Sequential Hypothesis Testing using Deep Learning**, 56th Annual Allerton Conference on Communication, Control, and Computing, Monticello IL, October 2018 (**invited**).

C20. A. Chattopadhyay, U. Mitra, and E. Ström, **Secure Estimation in V2X Networks with Injection and Packet Loss Attacks**, International Symposium on Wireless Communication Systems, Lisbon Portugal, August 2018 (**invited**).

C21. M. Dissanayake, Y. Deng, A. Nallanathan, M. Elkashlan, and U. Mitra, **Enhancing the Reliability of Large-Scale Multiuser Molecular Communication Systems**, 2018 International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), special session paper, June 25-28, 2018, Kalamata Greece.

C22. A. Elnakeeb and U. Mitra, **On the CramérRao Bound of Time-Varying Narrowband Leaked MIMO OFDM Channels**, 2018 International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), June 25-28, 2018, Kalamata Greece.

C23. J. Chen and U. Mitra, **Data Clustering Using Matrix Factorization Techniques for Propagation Map Reconstruction**, Statistical Signal Processing Workshop, Freiburg Germany, June 10-13 2018, (**invited**).

C24. A. Chattopadhyay and U. Mitra, **Optimal Active Sensing for Process Tracking**, ISIT, June 2018, Vail CO.

C25. P. Walk and U. Mitra, **Physical-Layer Secure Communications over Wireless Channels via Common Zeros**, ISIT, June 2018, Vail CO.

C26. M. Vasconcelos, U. Mitra, O. Camara, K. Silva and J. Boedicker **Bacterial quorum sensing as a networked decision system**, ICC, Kansas City MO, May 2018.

C27. A. Elnakeeb and U. Mitra, **Cramr-Rao Bound for Line Constrained Trajectory Tracking**, ICASSP, Alberta Canada, April 2018.

C28. A. Elnakeeb and U. Mitra, **Sparsity and Rank Exploitation for Time-Varying Narrowband Leaked OFDM Channel Estimation**, ICASSP,Alberta Canada, April 2018.

C29. J. Chen and U. Mitra, **A Tensor Decomposition Technique for Source Localization from Multimodal Data**, ICASSP, Alberta Canada, April 2018.

C30. L. Liu, A. Chattopadhyay and U. Mitra, **Exploiting Policy Structure for Solving MDPs with Large State Space**, Conference on Information Sciences and Systems (CISS), Princeton NJ, March 2018.

C31. A. Chattopadhyay and U. Mitra, **Attack detection and secure estimation under false data injection attack in cyber-physical systems**, Conference on Information Sciences and Systems (CISS), Princeton NJ, March 2018 (**invited**).

C32. J. Chen, O. Esrafilian, D. Gesbert, and U. Mitra, **Efficient algorithms for air-to-ground channel reconstruction in UAV-aided communications,** Globecom Wi-UAV workshop, Singapore, December 2017.

C33. A. Chattopadhyay and U. Mitra, **Optimal Sensing and Data Estimation in a Large Sensor Network**, Globecom, Singapore, December 2017.

C34. . M. Vasconcelos, A. Nayyar and U. Mitra, **Optimal sensor scheduling strategies in networked estimation,** IEEE Conference on Decision and Control, Melbourne Australia, December 2017.

C35. N. Michelusi, M. Nokleby, U. Mitra, R. Calderbank, **Multi-scale Spectrum Sensing in Mm-Wave Cognitive Networks**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 2017.

C36. J. Chen and U. Mitra **Underwater Acoustic Source Localization using Unimodal-constrained Matrix Factorization**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 2017.

C37. D. Kartik and U. Mitra, **Non-parametric Active Target Localization: Exploiting Unimodality and Separability**, 55th Annual Allerton Conference on Communication, Control, and Computing, Monticello IL, October 2017 (**invited**).

C38. L. Liu, A. Chattopadhyay and U. Mitra, **On Exploiting Spectral Properties for Solving MDPs with Large State Space**, 55th Annual Allerton Conference on Communication, Control, and Computing, Monticello IL, October 2017.

C39. M. Vasconcelos and U. Mitra, **The multiple-access collision channel without feedback: capacity region and a mutual information game**, 55th Annual Allerton Conference on Communication, Control, and Computing, Monticello IL, October 2017.

C40. J. Chen and U. Mitra, **Rotated Eigenstructure Analysis for Source Localization without Energy-decay Models**, - to the 22nd International Conference on Digital Signal Processing, August 2017, London UK (**invited**).

C41. S. Beygi, S. Jalali, A. Maleki and U. Mitra, **Compressed Sensing of Compressible Signals**, IEEE International Symposium on Information Theory, Aachen Germany, June 2017.

C42. A. El-Nakeeb and U. Mitra, **Low-rank, Sparse and Line Constrained Estimation: Applications to Target Tracking and Convergence**, IEEE International Symposium on Information Theory, Aachen Germany, June 2017.

C43. A. Salimi, W. Zhang, S. Vedantam, and U. Mitra, **The Capacity Distortion Function for Multihop Relay Networks with State**, IEEE International Symposium on Information Theory, Aachen Germany, June 2017.

C44. S. Beygi, S. Jalali, A. Maleki and U. Mitra, **Compression-based Acquisition of Structured Signals**, Signal Processing with Adaptive Sparse Structured Representations (SPARS) Workshop, Lisbon Portugal, June 2017.

C45. N. Michelusi, M. Nokleby, U. Mitra and R. Calderbank, **Multi-scale Spectrum Sensing in Small-Cell mm-Wave Cognitive Wireless Networks**, IEEE International Conference on Communications, Paris France, May 2017.

C46. M. Vasconcelos and U. Mitra, **Observation driven sensor scheduling**, IEEE International Conference on Communications, Paris France, May 2017.

C47. S. Beygi and U. Mitra, **Exploiting Bilinear Forms: Time-varying Wireless Channel estimation via Non-convex and Convex Optimization**, 21st International ITG Workshop on Smart Antennas, Berlin Germany, March 2017 (**invited**)

C48. S. Beygi and U. Mitra, **Structured Estimation of Time-Varying Narrowband Wireless Communication Channels**, IEEE International Conference on Acoustics, Speech and Signal Processing, New Orleans LA, March 2017.

C49. A. Salimi and U. Mitra, **Multi-hop Channels with State: Bounds on Capacity-Distortion functions for Joint Communication and Estimation**, Information Theory and Applications Workshop, San Diego CA, February 2017 (**invited**).

C50. M. Vasconcelos and U. Mitra, **Collaborative detection and estimation over shared networks**, *Communication-Aware Control and Robotics Workshop*, IEEE Conference on Decision and Control, Las Vegas NV, December 2016 (**invited**)

C51. N. Michelusi and U. Mitra, **Model and Analysis of Population Density Estimation via Quorum Sensing**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 2016 (**invited**).

C52. S. Beygi and U. Mitra, **Time-Varying Narrowband Channel Estimation: Exploiting Low-Rank and Sparsity Structures in Delay-Doppler Domain via Bilinear Representation**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove, CA, November 2016 (**invited**).

C53. A. Biason, U. Mitra and M. Zorzi, **Improved Active Sensing Performance in Wireless Sensor Networks via Channel State Information**, IEEE ISIT, Barcelona, Spain, July 2016.

C54. J. Zhang, U. Mitra, K.-W. Huang, and N. Michelusi **Support Recovery from Noisy Random Measurements via Weighted L1 Minimization**, IEEE ISIT, Barcelona, Spain, July 2016.

C55. S. Choudhary, S. Beygi, and U. Mitra, **Delay-Doppler Estimation via Structured Low-Rank Matrix Recovery**, IEEE ICASSP, Shanghai, China, March 2016.

C56. S. Honnungar, S. Choudhary, and U. Mitra, **On Target Localization with Communication Costs via Tensor Completion: A Multi-modal Approach**, IEEE ICASSP, Shanghai, China, March 2016 (**invited**).

C57. M. Bica, K.-W. Huang, V. Koivunen, and U. Mitra, **Mutual Information based Radar Waveform Design for Joint Radar and Cellular Communication Systems**, IEEE ICASSP, Shanghai, China, March 2016.

C58. S. Choudhary, S. Beygi and U. Mitra, **Low Rank Matrix Recovery for time-varying channels: An algorithm and some analysis**, Information Theory and Applications Workshop, UC San Diego, February 2016, (**invited**).

C59. N. Michelusi, M. Nokleby, U. Mitra and R. Calderbank, **Multi-scale Information Exchange for Dynamic Cognitive Spectrum Estimation**, IEEE Globecom, San Diego CA, December 2015.

C60. M. Bica, K.-W. Huang, U. Mitra and V. Koivunen, **Opportunistic Radar Waveform Design in Joint Radar and Cellular Communication Systems**, IEEE Globecom, San Diego CA, December 2015.

C61. A. Anis, N. Michelusi, E. Pavez, U. Mitra, A. Ortega, **Markov chain sparsification with independent sets for approximate value iteration**, Allerton Conference on Communication, Control, and Computing, Monticello, IL, October 2015 (**invited**)

C62. N. Michelusi, J. Boedicker, M. El-Naggar, U. Mitra, **A stochastic queuing model of quorum sensing in microbial communities**, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA, November 2015 (**invited**).

C63. N. Michelusi, U. Mitra, **Sparsity aware dynamic distributed compressive spectrum sensing and scheduling**, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA, November 2015 (**invited**).

C64. S. Beygi and U. Mitra, **Structured Compressive Methods for Wideband Signal Localization**, Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA, November 2015 (**invited**).

C65. N. Michelusi and U. Mitra, **Controlled spectrum sensing and scheduling under resource constraints**, 24th International Conference on Computer Communications and Networks (ICCCN), Las Vegas NV, August 2015, (**invited**)

C66. N. Michelusi and U. Mitra **Capacity of bacterial cables via Electron-transfer under full-CSI**, IEEE ISIT, Hong Kong, June 2015.

C67. G. Aminian, H. Arjmandi, A. Gohari, M. Nasiri-Kenari and U. Mitra, **Capacity of LTI-Poisson Channel for Diffusion based Molecular Communication**, IEEE ICC, London UK, June 2015.

C68. M. Movahednasab, M. Soleimanifar, A. Gohari, M. Nasiri-Kenari and U. Mitra, **Adaptive Molecule Transmission Rate for Diffusion Based Molecular Communication**, IEEE ICC, London UK, June 2015.

C69. N. Michelusi and U. Mitra, **Capacity of electron-based communication over bacterial cables: the full-CSI case with binary inputs**, IEEE ICC, London UK, June 2015.

C70. K.-W. Huang, M. Bica, U. Mitra and V. Koivunen, **Radar waveform design in spectrum sharing environment: Coexistence and cognition**, IEEE Radar Conference (RadarCon),pp. 1698-1703, Arlington VA, May 2015, (**invited**).

C71. S. Beygi, U. Mitra and M. R. Petraglia, **Multi-scale Multi-lag Channel Estimation Via Linearization of Training Signal Spectrum and Sparse Approximation**, IEEE ICASSP, Brisbane Australia, April 2015.

C72. S. Choudhary and U. Mitra, **Analysis of Target Detection via Matrix Completion**, IEEE ICASSP, Brisbane Australia, April 2015.

C73. U. Mitra, N. Michelusi, S. Pirbadiany, H. Koorehdavoudi, M. Y. El-Naggar, and P. Bogdan, **Queueing theory as a modeling tool for Bacterial Interaction: Implications for Microbial Fuel Cells**, *International Conference on Computing, Networking and Communications*, **invited**, Anaheim CA, February 2015.

C74. S. Choudhary and U. Mitra, **Sparsity-ambiguity trade-offs in sparse blind deconvolution**, Information Theory and Applications Workshop, San Diego CA, February 2015 (**graduation day talk**).

C75. S. Choudhary and U. Mitra, **Exploration-Exploitation: a low rank matrix completion solution and performance bounds**, Information Theory and Applications Workshop, San Diego CA, February 2015 (**invited**).

C76. S. Beygi, E. Strom and U. Mitra, **Structured Sparse Approximation Via Generalized Regularizers: with application to V2V Channel Estimation**, IEEE Globecom, Austin TX, December 2014.

C77. E. Akyol and U. Mitra,**Source-Channel Coding over Gaussian Sensor Networks with Active Sensing**, IEEE Globecom, Austin TX, December 2014.

C78. D. Zois and U. Mitra, **Controlled Sensing: A Myopic Fisher Information Sensor Selection Algorithm**, IEEE Globecom, Austin TX, December 2014.

C79. S. Choudhary and U. Mitra **On The Impossibility of Blind Deconvolution for Geometrically Decaying Subspace Sparse Signals**, IEEE GlobalSip, Atlanta GA, December 2014 (**invited**)

C80. N. Michelusi and U. Mitra **Joint Distributed Sensing, Estimation and Decentralized control in Networked systems**, IEEE GlobalSip, Atlanta GA, December 2014 (**invited**)

C81. S. Choudhary, D. Kartik, N. Kumar, S. Narayanan and U. Mitra, **Active Target Detection with Navigation Costs: A Randomized Benchmark**, Allerton Conference on Communication, Control, and Computing, Monticello, IL, October 2014 (**invited**)

C82. E. Akyol, U. Mitra, and A. Nayyar, **Controlled Sensing and Event Based Communication for Remote Estimation**, Allerton Conference on Communication, Control, and Computing, Monticello, IL, October 2014 (**invited**)

C83. E. Akyol, and U. Mitra, **On Source-Channel Coding Over Gaussian Sensor Networks for Path Planning**, Allerton Conference on Communication, Control, and Computing, Monticello, IL, October 2014 (**invited**)

C84. N. Michelusi, and U. Mitra, **Joint Design of Distributed Sensing, Estimation and Control in Networked Systems** , Allerton Conference on Communication, Control, and Computing, Monticello, IL, October 2014 (**invited**)

C85. D. Zois and U. Mitra, **A Weiss–Weinstein Lower Bound Based Sensing Strategy for Active State Tracking**, ISIT, Honolulu HI, July 2014.

C86. N. Michelusi and U. Mitra **A Cross-Layer Framework for Joint Control and Distributed Sensing in Agile Wireless Networks**, ISIT, Honolulu HI, July 2014.

C87. E. Akyol, U. Mitra, E. Tuncel, and K. Rose, **On Scalable Coding in the Presence of Decoder Side Information**, ISIT, Honolulu HI, July 2014.

C88. E. Akyol, U. Mitra, E. Tuncel, and K. Rose **Source Coding in the Presence of Exploration-Exploitation Tradeoff**, ISIT, Honolulu HI, July 2014.

C89. S. Choudhary and U. Mitra **Sparse Blind Deconvolution: What Cannot Be Done**, ISIT, Honolulu HI, July 2014.

C90. R. Mosayebi, H. Arjmandi, A. Gohari, M. Nasiri-KenariΛ, and U. Mitra, **Diffusion Based Molecular Communication: A Simple Near Optimal Receiver** International Workshop on Communication and Information Theory (IWCIT), Tehran, Iran, May 2014.

C91. S. Choudhary, N. Kumar, S. Narayanan, and U. Mitra, **Active Target Detection with Mobile Agents**, ICASSP, Florence Italy, May 2014.

C92. S. Beygi, U. Mitra, **Multi-Scale Multi-Lag Channel Estimation Using Low Rank Structure Of Received Signal**, ICASSP, Florence Italy, May 2014.

C93. S. Beygi, E. Strom, and U. Mitra, **Geometry-Based Stochastic Modeling and Estimation of Vehicle to Vehicle Channels**, ICASSP, Florence Italy, May 2014.

C94. N. Michelusi, U. Mitra, **Adaptive Distributed Compressed Sensing for Dynamic High-Dimensional Hypothesis testing**, ICASSP, Florence Italy, May 2014.

C95. S. Li, E. Akyol, and U. Mitra, **Power allocation for Gaussian multiple access channel with noisy cooperative links**, ICASSP, Florence Italy, May 2014.

C96. S. Choudhary and U. Mitra, **Identifiability Results on Bilinear Inverse Problems and Sparse Blind Deconvolution**, Conference on Communications and Information Sciences, Princeton, NJ, March 2014, **invited paper**.

C97. N. Michelusi, S. Pirbadian, M.Y. El-Naggar, U. Mitra, **A model for electron transfer and cell energetics in bacterial cables**, Conference on Communications and Information Sciences, Princeton, NJ, March 2014.

C98. G. Hollinger, C. Choudhuri, U. Mitra, and G. Sukhatme, **Squared error distortion metrics for motion planning in robotic sensor networks**, in Proc. Int. Workshop Wireless Networking for Unmanned Autonomous Vehicles (Wi-UAV), Atlanta, GA, Dec. 2013.

C99. D. Zois, and U. Mitra, **On the Properties of Nonlinear POMDPs for Active State Tracking**, 1st IEEE Global Conference on Signal and Information Processing (GlobalSIP), December 3-5, Austin, TX, USA, 2013 (**invited**).

C100. N. Michelusi, U. Mitra, **Distributed estimation in sensor networks with quality feedback: A general framework**, 1st IEEE Global Conference on Signal and Information Processing (GlobalSIP), December 3-5, Austin, TX, USA, 2013 (**invited**).

C101. M. Levorato, S. Narang, U. Mitra and A. Ortega, **Optimization of Wireless Networks via Graph Interpolation**, 1st IEEE Global Conference on Signal and Information Processing (GlobalSIP), December 3-5, Austin, TX, USA, 2013 (**invited**).

C102. M. Levorato and U. Mitra,**Cognitive Networks with Dynamic User Classification for Tactical Communications**, IEEE Military Communications Conference (Milcom), San Diego, CA, Nov. 18-20, 2013

C103. D. Zois, and U. Mitra, **A Unified Framework for Energy Efficient Physical Activity Tracking**, Asilomar Conference on Signals, Systems, and Computers, November 3-6, Pacific Grove CA, 2013 (**invited**).

C104. S. Choudhary and U. Mitra, **Identifiability Bounds for Bilinear Inverse Problems**, Asilomar Conference on Signals, Systems, and Computers, November 3-6, Pacific Grove CA, 2013.

C105. N. Michelusi, U. Mitra, **Decentralized Estimation in Wireless Sensor Networks exploiting Fusion Center Feedback**, 51th Annual Allerton Conference on Communication, Control, and Computing (Allerton), Sept. 2013, Monticello, USA (**invited**)

C106. D. Zois, M. Levorato, and U. Mitra, **Non-linear smoothers for discrete-time, finite-state Markov chains**, IEEE International Symposium on Information Theory (ISIT), July 7-12, Istanbul, Turkey, 2013.

C107. S. Choudhary and U. Mitra, **On Identifiability in Bilinear Inverse Problems** , ICASSP, Vancouver BC, Canada, May 26-31, 2013.

C108. S. Li, U. Mitra, and A. Pandharipande, **Cooperative Spectrum Sharing with Joint Receiver Decoding** , ICASSP, Vancouver BC, Canada, May 26-31, 2013.

C109. D. Zois, M. Levorato, and U. Mitra **Kalman-like State Tracking and Control in POMDPs with Applications to Body Sensing Networks** , ICASSP, Vancouver BC, Canada, May 26-31, 2013.

C110. D. Zois and U. Mitra, **Unified Herding of CaTs: Joint Control and Tracking in POMDPs with Gaussian Observations**, Information Theory and Applications Workshop, San Diego CA, February 2013 (**invited paper**, presentation only).

C111. S. Choudhary and U. Mitra, **Sparse Recovery from Convolved Output in Underwater Acoustic Relay Networks,** APSIPA-ASC, Hollywood, CA, Dec. 3-6, 2012, **invited paper**.

C112. M. Levorato and U. Mitra, **Scale Invariance and Long-Range Dependence in Smart Energy Grids,** APSIPA-ASC, Hollywood, CA, Dec. 3-6, 2012, **invited paper**.

C113. M. Levorato, S. Narang, U. Mitra, and A. Ortega **Reduced Dimension Policy Iteration for Wireless Network Control via Multiscale Analysis?** IEEE Globecom, Signal Processing for Communications Symposium, Anaheim, CA, December 2012 (**Symposium Best Paper Award**).

C114. C. Choudhuri and U. Mitra, **How Useful is Adaptive Action?** IEEE Globecom, Communication Theory Symposium, Anaheim, CA, December 2012.

C115. B. Reed, M. Stojanovic, U. Mitra and F. Hover, **Robust Minimum Energy Wireless Routing for Underwater Acoustic Communication Networks,** IEEE Globecom, Workshop on Wireless Networking for Unmanned Autonomous Vehicles (Wi-UAV), Anaheim, CA, December 2012.

C116. S. Yerramalli, R. Jain, and U. Mitra **Characterization of Equilibria for the Degraded Gaussian Broadcast and Sum Power MAC Channels**, Allerton Conference, Monticello, IL, September 2012.

C117. C. Choudhuri and U. Mitra, **On Non-causal Side Information at the Encoder**, Allerton Conference, Monticello, IL, September 2012.

C118. A. Gjika, M. Levorato, A. Ortega, and U. Mitra, **Online Learning in Wireless Networks Via Directed Graph Lifting Transform**, Allerton Conference, Monticello, IL, September 2012 **invited paper**.

C119. S. Yerramalli, U. Mitra, Z. Tang, and G. Leus, **Channel Estimation for Multi-layer Block Transmissions over Underwater Acoustic Channels**, Asilomar Conference on Signals, Systems and Computers, Asilomar CA, November 2012 (**invited paper**).

C120. B. Ahmadi, O. Simeone, C. Choudhuri and U. Mitra, **On Cascade Source Coding with A Side Information Vending Machine,**, IEEE Information Theory Workshop, Lausanne, Switzerland, September 2012.

C121. C. Choudhuri and U. Mitra, **On Witsenhausen's Counterexample: the Asymptotic Vector Case**, IEEE Information Theory Workshop, Lausanne, Switzerland, September 2012.

C122. S. Yerramalli, R. Jain and U. Mitra, **Stability of Transmitter Cooperation over a Multiple Access Channel**, SPCOM 2012, Bangalore India, July 2012 (**Student Best Paper Award**).

C123. S. Yerramalli, R. Jain and U. MItra, **A Game-Theoretic Model for the Gaussian Broadcast Channel**, IEEE ISIT, Boston, USA, July 2012.

C124. C. Choudhuri and U. Mitra, **Action dependent strictly causal state communication**, IEEE ISIT, Boston, USA, July 2012.

C125. G. Hollinger, U. Mitra, and G. Sukhatme, "Active dive planning for dense bathymetric mapping," in Proc. International Symposium on Experimental Robotics (ISER), Quebec City, Canada, June 2012.

C126. M. Levorato and U. Mitra, **Fast Anomaly Detection in Smart Grids via Sparse Approximation Theory**, IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM), June 17-20, Stevens Institute of Technology, Hoboken, NJ (**invited paper**).

C127. D.-S. Zois, M. Levorato, and U. Mitra, **Heterogeneous Time-Resource Allocation in Wireless Body Area Networks**, ICC 2012, Ottawa, Canada, June 10-15, 2012.

C128. G. Hollinger, B. Englot, F. Hover, U. Mitra, and G. Sukhatme, **Uncertainty-Driven View Planning for Underwater Surface Inspection**, ICRA, St. Paul, MN, May 2012.

C129. D.-S. Zois, M. Levorato, and U. Mitra, **A POMDP Framework for Heterogeneous Sensor Selection in Wireless Body Area Networks**, INFOCOM 2012, Mini-Conference, Orlando, FL, March 25-30, 2012.

C130. T. Xu, Z. Tang, G. Leus and U. Mitra, **Time- or frequency-domain equalization for wideband OFDM channels?**, ICASSP, Kyoto, Japan, March 2012.

C131. C. Choudhuri, A. Ghosh, U. Mitra, and S. Pamarti, **Robustness of Xampling-based RF Receivers against Analog Mismatches**, ICASSP, Kyoto, Japan, March 2012.

C132. S. Li, U. Mitra, V. Ratnam, and A. Pandharipande, **Jointly Cooperative Decode and Forward Relaying for Secondary Spectrum Access**, CISS, Princeton, NJ, March 2012.

C133. G. Hollinger, S. Choudhary, P.Qarabaqi, C. Murphy, U. Mitra, G. Sukhatme, M. Stojanovic, H. Singh, and F. Hover, **Communication Protocols for Underwater Data Collection Using a Robotic Sensor Network**, IEEE Globecom Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Houston, TX, December 2011.

C134. R. Hummel, F. Hover, U. Mitra, and G. Sukhatme, **One-Step-Ahead Kinematic Compressive Sensing**, IEEE Globecom Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Houston, TX, December 2011.

C135. M. Levorato and U. Mitra, **Optimal Allocation of Heterogeneous Smart Grid Traffic to Heterogeneous Networks**, IEEE SmartGridComm 2011, Oct. 17-20 2011, Brussels, Belgium.

C136. G. Hollinger, U. Mitra, and G. Sukhatme, **Mobile underwater data collection using acoustic communication,** in Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),San Francisco, CA, September 2011, pp. 35643570.

C137. N. Michelusi, U. Mitra, A. Molisch, and M. Zorzi, **Hybrid Sparse/Diffuse Channels : A New Model and Estimators for Wideband Channels**, Allerton Conference, Monticello, IL, September 2011 **invited paper**.

C138. N. Michelusi, B. Tomasi, U. Mitra, J. Preisig, and M. Zorzi, **An evaluation of the hybrid sparse/diffuse algorithm for underwater acoustic channel estimation**, OCEANS 2011 , Kona, HI, 19-22 Sept. 2011.

C139. G. Hollinger, U. Mitra, and G. Sukhatme, **Active classification: Theory and application to underwater inspection,** in Proc. Int. Symp. Robotics Research (ISRR11), Flagstaff, AZ, August 2011.

C140. C. Choudhuri, Y.-H. Kim, and U. Mitra, **Causal State Amplification**, IEEE ISIT, St. Petersburg, Russia, August 2011.

C141. S. Yerramalli, R. Jain and U. Mitra, **Coalition Games for Transmitter Cooperation in Wireless Networks**, IEEE ISIT, St. Petersburg, Russia, August 2011.

C142. S. Kim, M. Li, S. Lee, U. Mitra, A. Emken, D. Spruijt-Metz, M. Annavaram, S. Narayanan, **Modeling high-level descriptions of real-life physical activities using latent topic modeling of multimodal sensor signals**, *IEEE Conference on Engineering in Medicine and Biology Society,*August 2011, pp. 6033-6036.

C143. N. Michelusi, U. Mitra, and M. Zorzi, **Hybrid Sparse/Diffuse UWB Channel Estimation**, IEEE SPAWC, San Francisco, CA, June 2011.

C144. D.-S. Zois, M. Levorato, and U. Mitra, **POMDP Framework for Optimal Sensor Selection and Activity Detection in Wireless Body Area Networks**, 3rd International Workshop in Sequential Methodologies (IWSM 2011), Stanford University, Stanford, CA, June 14-16, 2011.

C145. G. Hollinger, B. Englot, U. Mitra, G. Sukhatme, and F. Hover, **Path and view planning for underwater surface inspection,** in Proc. Robotics: Science and Systems Marine Robotics Workshop (RSS11), Los Angeles, CA, June 2011.

C146. M. Levorato, A. Goldsmith, U. Mitra, D. O'Neill, **Optimization of ARQ Protocols in Interference Networks with QoS Constraints**, IEEE International Conference on Communications, Kyoto, Japan, June 2011.

C147. F. Wan and U. Mitra, **Applying Csiszar's I-Divergence to Blind Sparse Channel Estimation**, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prague, Czech Republic, May 2011.

C148. T. Xu, G. Leus, and U. Mitra, **Orthogonal Wavelet Division Multiplexing for Wideband Time-Varying Channels**, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prague, Czech Republic, May 2011.

C149. R. Hummel, S. Poduri, F. Hover, U. Mitra, and G. Sukhatme, **Mission Design for Compressive Sensing with Mobile Robots,** IEEE International Conference on Robotics and Automation (ICRA), Shanghai, China, May 2011.

C150. G. Hollinger, S. Yerramalli, S. Singh, U. Mitra, and G. Sukhatme, **Distributed Coordination and Data Fusion for Communication-limited Underwater Search**, IEEE International Conference on Robotics and Automation, Shanghai, China, May 2011, pp. 349-355. Finalist for KUKA Service Robotics Best Paper Award.

C151. M. Levorato, U. Mitra and A. Goldsmith , **Sparse Representations for Wireless Network State: a Framework for Wireless Network Control**, Information Theory and Applications Workshop, San Diego CA, February 2011 (**invited paper**, presentation only).

C152. C. Choudhuri, and U. Mitra , **Compress-and-Forward Rates for the Gaussian Relay with ISI and Colored Noise**, Globecom Conference, Miami FL, December 2010.

C153. S. Yerramalli, M. Stojanovic, and U. Mitra , **Carrier Frequency Offset Estimation for Uplink OFDMA using Partial FFT Demodulation**, Globecom Conference, Miami FL, December 2010.

C154. U. Mitra and G. Leus, **Equalizers for Multi-scale/Multi-lag Wireless Channels**, Globecom Conference, Miami FL, December 2010.

C155. M. Levorato, L. Badia, U. Mitra, and M. Zorzi, **An analysis of cognitive networks for unslotted time and reactive users,** Mobile Adhoc and Sensor Systems (MASS), 2010 IEEE 7th International Conference on , vol., no., pp.252-261, November 2010.

C156. S. Yerramalli, M. Stojanovic, and U. Mitra , **Analysis of Partial FFT Demodulation for Doppler Distorted OFDM Signals**, Asilomar Conference on Signals, Systems and Computers, Pacific Grove CA, November 2010, **invited paper**.

C157. G. Leus, T. Xu, and U. Mitra, **Block Transmission over Multi-Scale Multi-Lag Wireless Channels**, Asilomar Conference, Pacific Grove CA, November 2010, **invited paper**.

C158. C. Choudhuri, and U. Mitra , **Rate Bounds for Relay Channels using MIMO methods**, Asilomar Conference, Pacific Grove CA, November 2010, **invited paper**.

C159. C. Choudhuri, Y.-H. Kim and U. Mitra, **Capacity-distortion trade-off in channels with state**, Allerton Conference, Monticello IL, October 2010.

C160. S. Yerramalli, M. Stojanovic, and U. Mitra , **Data Detection Techniques for OFDM Signals over Doppler-Distorted Channels**, 5^{th} International Workshop on Underwater Networks, Falmouth MA, October 2010.

C161. D. O'Neill, M. Levorato, A. Goldsmith, and U. Mitra, **Residential Demand Response Using Reinforcement Learning,** Smart Grid Communications (SmartGridComm), 2010 First IEEE International Conference on SmartGridsComm, pp.409-414, October 2010.

C162. F. Wan, U. Mitra, and A. Molisch , **The modified iterative detector/estimator algorithm for sparse channel estimation**, OCEANS'10, Seattle WA, September 2010.

C163. S. Yerramalli, M. Stojanovic, and U. Mitra , **Partial FFT Demodulation: A Detection Method for Doppler distorted OFDM systems**, International Workshop on Signal Processing Advances for Wireless Communications (SPAWC), Marrakech Morocco, June 2010.

C164. S. Yerramalli, M. Stojanovic, and U. Mitra , **Blind Resampling Parameter Estimation for Doubly Selective Underwater Acoustic Channels**, International Symposium on Circuits and Systems (ISCAS), Paris France, May 2010 (**invited paper**).

C165. F. Wan and U. Mitra , **A New (BLIND) Iterative Method for Sparse Channel Estimation**, Information Theory and Applications Workshop, San Diego CA, February 2010 (**invited paper**, presentation only).

C166. D. N. Liu, S. Yerramalli, and U. Mitra, **On Efficient Channel Estimation for Underwater Acoustic OFDM Systems**, WUWNET'09 (with ACM Sensys), Berkeley, CA, November 2009.

C167. C. Choudhuri and U. Mitra, **Capacity Bounds and Power Allocation for Underwater Acoustic Relay Channels with ISI**, WUWNET'09 (with ACM Sensys), Berkeley, CA, November 2009.

C168. M. Levorato, O. Simeone, U. Mitra and M. Zorzi, **Cooperation and Coordination in Cognitive Networks with Packet Retransmission**, Information Theory Workshop, Taormina, Sicily, October 2009.

C169. M. Levorato, U. Mitra and M. Zorzi, **Cognitive Interference Management in Retransmission-Based Wireless Networks**, Allerton Conference, Monticello IL, October 2009.

C170. C. Choudhuri and U. Mitra, **On the Capacity of the Symbol-Asynchronous Relay Channel**, Allerton Conference, Monticello IL, October 2009, **invited paper**.

C171. S. Yerramalli and U. Mitra, **Optimal Power Allocation and Doppler Compensation in Cooperative Underwater Acoustic Networks using OFDM**, OCEANS, Biloxi MI, October 2009.

C172. M. Levorato, O. Simeone and U. Mitra, **Interference Management via Rate Splitting and HARQ over Time-Varying Fading Channels** Cognitive Radio Networks (CoRoNet) Workshop, ACM Mobicom 2009, Beijing China, September 21, 2009.

C173. G. Thatte, M. Li, A. Emken, U. Mitra, S. Narayanan, M. Annavaram, and D. Spruijt-Metz, **Energy-Efficient Multi-hypothesis Activity-Detection for Health-Monitoring Applications**, Engineering in Biology and Medicine Conference (EMBC), Minneapolis, MN, September 2009.

C174. D. N. Liu, M. P. Fitz and U. Mitra, **On Channel Estimation in Fast Fading Mobile Coded MIMO OFDM,** ISIT, Seoul, Korea, July 2009.

C175. C. Choudhuri and U. Mitra, **Capacity of Relay Channels with ISI and Colored Gaussian Noise,** ISIT, Seoul, Korea, July 2009.

C176. G. Thatte, V. Rozgic, M. Li, S. Ghosh, U. Mitra, S. Narayanan, M. Annavaram, and D. Spruijt-Metz, **Optimal Allocation of Measurements for Multi-hypothesis Activity-Detection**, 5th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS '09), Marina Del Rey, CA, June 2009 (**winner Best Applications Paper Award**).

C177. D. Spruijt-Metz, M. Li, G. Thatte, G. Sukhatme, M. Annavaram, S. Ghosh, V. Rozgic, U. Mitra, N. Medvidovic, B. Belcher, S. Narayanan, **Differentiating physical activity modalities in youth using heartbeat waveform shape and differences between adjacent waveforms**, 7th International Conference on Diet and Activity Methods (ICDAM 7), Washington DC, June 2009.

C178. M. Levorato, U. Mitra, and M. Zorzi, **On Optimal Control of Wireless Networks with Multiuser Detection, Hybrid ARQ and Distortion Constraints**, Infocom09, Rio de Janeiro, Brazil, April 2009.

C179. G. Thatte, V. Rozgic, M. Li, S. Ghosh, U. Mitra, S. Narayanan, M. Annavaram, and D. Spruijt-Metz, **Optimal Time-Resource Allocation for Activity-Detection via Multimodal Sensing** , Bodynets Workshop, Los Angeles, CA, April 2009.

C180. F. Arrichiello, D. N. Liu, S. Yerramalli, A. Pereira, J. Das, U. Mitra and G. Sukhatme, **Effects of Underwater Communication Constraints on the Control of Marine Robot Teams,** in Proc. IEEE International Conference on Robot Communication and Coordination, Odense, Denmark March 2009.

C181. S. Vedantam, U. Mitra, and G. Sukhatme, **The Distortion, Delay and Energy Tradeoffs for Sensor Networks with Mobile Relays**, in Proc. IEEE International Conference on Robot Communication and Coordination, Odense, Denmark March 2009.

C182. W. Zhang and U. Mitra, **Exploiting Spectral Shaping for Cognitive Radio**, Information Theory and Applications Workshop, San Diego, CA, February 2009 (**invited paper**).

C183. M. Annavaram, N. Medvidovic, U. Mitra, S. Narayanan, G. Sukhatme, Z. Meng, S. Qiu, R. Kumar, G. Thatte, D. Spruijt-Metz, **Multimodal Sensing for Pediatric Obesity Applications**, UrbanSense Workshop, Sensys, Raleigh, NC, November 2008.

C184. W. Zhang and U. Mitra, **A Spectrum-Shaping Perspective on Cognitive Radio**, 3rd IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN), Chicago, IL, October 2008.

C185. S. Vedantam, W. Zhang, and U. Mitra, **Joint Communication and Channel Estimation: The Two Hop Case**, 46th Annual Allerton Conference on Communication, Control, and Computing, Monticello, IL, September 2008.

C186. N. Richard and U. Mitra, **Structured Channel Estimation Methods for Cooperative Underwater Communication**, WUWNET 2008, San Francisco, CA September 2008.

C187. W. Zhang, M. Stojanovic, and U. Mitra, **Analysis of A Simple Multihop Underwater Acoustic Network**, WUWNET 2008, San Francisco, CA September 2008.

C188. A. Barbieri, G. Caire and U. Mitra **Transmit/Receive Filter Optimization for Doubly-Selective Underwater Acoustic Channels**, MTS/IEEE OCEANS, September 2008, Quebec, Canada.

C189. S. Yerramali and U. Mitra, **On Optimal Resampling for OFDM Signaling in Doubly Selective Underwater Acoustic Channels**, MTS/IEEE OCEANS, September 2008, Quebec, Canada.

C190. W. Zhang and U. Mitra, **A Spectrum-Shaping Perspective on Cognitive Radio – Uncoded Primary Transmission Case**, IEEE International Symposium on Information Theory (ISIT), Toronto, Canada, July 2008.

C191. W. Zhang, S. Vedantam, and U. Mitra, **A Constrained Channel Coding Approach to Joint Communication and Channel Estimation**, IEEE International Symposium on Information Theory (ISIT), Toronto, Canada, July 2008.

C192. C. T. K. Ng, N. Jindal, A. J. Goldsmith, and U. Mitra **Power and Bandwidth Allocation in Cooperative Dirty Paper Coding**, IEEE International Conference on Communications, Beijing, China, May 2008, pp. 1018 - 1023.

C193. G. Thatte, U. Mitra and J. Heidemann, **Detection of low-rate attacks in computer networks**, Proceedings of the 11th IEEE Global Internet Symposium, (with INFOCOM), Phoenix, AZ, April 2008, pp 1-6.

C194. W. Zhang and U. Mitra, **Channel-Adaptive Frequency-Domain Relay Processing in Multicarrier Multihop Transmission**, Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, NV, March-April 2008.

C195. A. Barbieri, G. Caire, and U. Mitra, **An Approximate Eigenmode Decomposition for Doubly-Selective Wireless Channels**, Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, NV, March-April 2008.

C196. N. Richard and U. Mitra, **Sparse Channel Estimation for Cooperative Underwater Communications: A Structured Multichannel Approach**, Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Las Vegas, NV, March-April 2008 (**invited paper**).

C197. W. Zhang and U. Mitra **Orthogonal codes for robust low-cost communication** (invited paper) Information Theory and Applications Workshop, UC San Diego, CA, January 2008.

C198. W. Zhang and U. Mitra **Transmitted-Reference UWB: A Digital Approach** (invited paper), Asilomar Conference, Pacific Grove, CA, November 2007.

C199. W. Zhang and U. Mitra **On Outage Behavior of Wideband Slow-Fading Channels** Allerton Conference, Monticello, IL, October 2007.

C200. C. Carbonelli and U. Mitra, **A Simple Sparse Channel Estimator for Underwater Acoustic Channels**, OCEANS'07, Vancouver, Canada, October 2007.

C201. W. Chen and U. Mitra, **Packet Scheduling for Multihopped Underwater Acoustic Communication Networks**, OCEANS'07, Vancouver, Canada, October 2007.

C202. W. Zhang and U. Mitra **A Delay-Reliability Analysis for Multihop Underwater Acoustic Communication**, WUWNET, Montreal, Canada, September 2007.

C203. S. Vedantam, W. Zhang, U. Mitra, and A. Sabharwal, **Joint Channel Estimation and Data Transmission: Achievable Rates**, Information Theory Workshop, Lake Tahoe, CA, September 2007.

C204. W. Zhang and U. Mitra **Multihopping Strategies: An Error-Exponent Comparison**, ISIT'07, Nice France, June 2007.

C205. W. Chen, M. Neely and U. Mitra **Delay-Constrained Energy-Efficient Scheduling over a Multihop Link**, ISIT'07, Nice France, June 2007.

C206. W. Chen, M. J. Neely, and U. Mitra, **Energy Efficient Scheduling with Individual Packet Delay Constraints: Offline and Online Results**, Proc. of IEEE INFOCOM, May 2007, Anchorage, AK.

C207. W. Chen, U. Mitra, and M. J. Neely, **Energy-Efficient Scheduling with Individual Delay Constraints over a Fading Channel**, 5th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), April 2007, Cyprus.

C208. W. Chen, M. Neely and U. Mitra **Energy Efficient Packet Scheduling for Fading Channels and Delay Constraints**, Information Theory and Applications Workshop, San Diego, CA, January 2007 (**invited paper**).

C209. M. Vajapeyam and U. Mitra **Performance of Distributed Space-Time Cooperative Schemes for Underwater Acoustic Communications**, Globecom 2006, San Francisco, November 2006.

C210. S. Franz, U. Mitra, and G. Caire, **Capacity Bounds for Training-Based UWB Systems**, Globecom 2006, San Francisco, November 2006.

C211. G. Thatte and U. Mitra, **Power Allocation in Linear and Tree WSN Topologies**, *39th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, October 2006 (**invited paper**).

C212. M. Nematian, U. Mitra, and R. A. Scholtz, **Optimum Integration Time for UWB Transmitted Reference and Energy Detector Receivers**, Milcom06, October 2006, Washington DC, (**invited paper**).

C213. S. Franz and U.Mitra, **UWB Receiver Design for Low Resolution Quantizers**, 14th European Signal Processing Conference, Florence, Italy, September 2006 (**invited paper**).

C214. W. Chen, U. Mitra, M. J. Neely, **Packet Dropping Algorithms for Energy Savings**, IEEE ISIT, Seattle, WA, June 2006.

C215. S. Vedantam, U. Mitra, and A. Sabharwal, **Shared Sensing and Communications in Sensor Networks: The Multihop Case**, IEEE ISIT, Seattle, WA, June 2006.

C216. D. Porrat and U. Mitra, **Timing Acquisition of Wideband PPM Systems over Multipath**, IEEE ISIT, Seattle, WA, June 2006.

C217. S. Vedantam, U. Mitra, and A. Sabharawal, **Sensing the Channel: Sensor Networks with Shared Sensing and Communications**, IPSN 2006, Nashville, TN, April 2006.

C109 W. Chen and U. Mitra, **Energy Efficient Scheduling with Individual Packet Delay Constraints**, IEEE INFOCOM, Barcelona, Spain, April 2006.

C218. D. Porrat and U. Mitra, **Synchronization of PPM over Wideband Multipath Channels**, 2006 International Zurich Seminar on Communications, Zurich, Switzerland, February 2006, pp. 166–169, (**invited paper**).

C219. S. Vedantam, U. Mitra, and A. Sabharawal, **Shared Sensing and Communications in Sensor Networks : The Multihop Case**, Information Theory and Applications – Inaugural Workshop, San Diego, CA, February 2006 (**invited paper**).

C220. M. Vajapeyam and U. Mitra **Cooperative Strategies for Multihop Communications**, WICAT Workshop, Brooklyn, NY, October 2005.

C221. S. Franz and U. Mitra, **Quantized UWB Transmitted Reference Systems**, *38th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2005.

C222. C. Carbonelli and U. Mitra, **Clustered Channel Estimation for Temporal UWB Returns**, *IEEE International Conference on Ultra-Wideband*, Zurich, Switzerland, September 2005.

C223. A. Sabharwal and U. Mitra, **Rate-constrained Relaying: Achievable Rates and Protocol Comparisons** , *IEEE International Symposium on Information Theory*, Adelaide, Australia, September 2005.

C224. D. Porrat and U. Mitra, **On Synchronization of Wideband Impulsive Systems in Multipath** , *IEEE International Symposium on Information Theory*, Adelaide, Australia, September 2005.

C225. S.-H. Chen, U. Mitra, and B. Krishnamachari, **Cooperative Communication And Routing Over Fading Channels In Wireless Sensor Networks**, *IEEE International Conference on Wireless Networks,Communications, and Mobile Computing (WirelessCom)*, Maui, Hawaii, June 2005. (**invited paper**).

C226. C. Mesookhoo, U. Mitra and S. Narayanan **An Analysis of Range Difference Based Target Localization in Uniformly Distributed Sensor Field**, *Information Processing in Sensor Networks (IPSN)*, Works-in-Progress Poster Session, Los Angeles, CA, April 2005.

C227. M. Takai, R. Bagrodia, M. Gerla, B. Danesharard, M. Fitz, M. S. Belding-Royer, S. Krishnamurthy, M. Molle, P. Mohapatra, R. Rao and U. Mitra, **Scalable testbed for next-generation wireless networking technologies**, *First IEEE International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities*, February 2005.

C228. C. Carbonelli, S. Franz, U. Mengali and U. Mitra, **Semi-blind ML synchronization for UWB transmitted reference systems**, *38th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2004, vol.2, ppl 1491–1495.

C229. J. Geng and U. Mitra, **Exploiting Diversity in Ad Hoc Sensor Networks**, *38th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2004 (**invited paper**)

C230. S.-H. Wu, U. Mitra, and C. C. Kuo, **Iterative MAP Channel Estimation and Multiuser Detection for DS-CDMA in Frequency-Selective Fading Channels**, *38th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2004 (**invited paper**)

C231. J. Geng and U. Mitra, **Exploiting the large dimensions of space-time systems** IEEE Vehicular Technology Conference, Los Angeles CA, September 2004 (**invited paper**).

C232. A. Paul, M. Akar, U. Mitra, and M. G. Safonov, **A Switched System Model for Stability Analysis of Distributed Power Control Algorithms for Cellular Communications**, American Control Conference, Boston, MA, **invited paper** July 2004.

C233. A. Paul, M. Akar, M. G. Safonov and U. Mitra **Necessary and Sufficient Conditions for the Stability of a Class of Second Order Switched Systems**, American Control Conference, Boston, MA, July 2004.

C234. A. Paul, M. Akar, M. G. Safonov and U. Mitra **Power control in cellular communication networks using multiple controllers and switching**, American Control Conference, Boston, MA, July 2004.

C235. N. Jindal, U. Mitra and A. Goldsmith, **Capacity of Ad-Hoc Networks with Node Cooperation** , IEEE ISIT, Chicago, IL, June 2004.

C236. M. Vajapeyam, J. Geng, and U. Mitra **Progressive Union Bound of Space-Time Block Codes and its Saddlepoint Approximation**, IEEE ISIT, Chicago, IL, June 2004.

C237. M. Vajapeyam, J. Geng and U. Mitra, **Low SNR Design of Space-Time Block Codes Based on Union Bound and Indecomposable Error Patterns**, IEEE ICC, Communication Theory Symposium, Paris, France, June 2004.

C238. C. Carbonelli and U. Mitra, **Clustered Channel Estimation for UWB Signals** , IEEE ICC, Signal Processing for Communications Symposium, Paris, France, June 2004.

C239. S.-H. Wu, U. Mitra, and C.-C. J. Kuo, **Noncoherent Multiuser Detection of DS-CDMA over Multipath Fading Channels**, IEEE ICC, Signal Processing for Communications Symposium, Paris, France, June 2004.

C240. C. Carbonelli, S. Vedantam, and U. Mitra, **Sparse Channel Estimation with Zero Tap Detection**, IEEE ICC, Wireless Communications Symposium, Paris, France, , June 2004.

C241. S. Franz and U. Mitra, **Integration Interval Optimization and Performance Analysis for UWB Transmitted Reference Systems**, IEEE UWBST & IWUWBS, Kyoto, Japan, May 2004.

C242. S.-H. Wu, U. Mitra, and C.-C. Kuo, **Multistage MMSE Receivers for Ultra-Wide Bandwidth Impulse Radio Communications** , IEEE UWBST & IWUWBS, Kyoto, Japan, May 2004.

C243. U. Mitra and A. Sabharwal, **Complexity Constrained Sensor Networks: Achievable Rates for Two Relay Networks and Generalizations**, IPSN 2004, Berkeley CA, April 2004.

C244. L. Vasudevan, A. Ortega, and U. Mitra **Joint Compression and Time Delay Estimation for Sensor Networks**,IEEE-EURASIP International Symposium on Control, Communications, and Signal Processing, ISCCSP 2004, Hammamet, Tunisia, March 2004 (**invited paper**).

C245. L. Vasudevan, A. Ortega, and U. Mitra, **Application-Specific Compression for Time Delay Estimation in Sensor Networks**, *ACM Sensys*, Los Angeles, CA, November 2003.

C246. J. Geng and U. Mitra, **Nonlinear Hierarchical Space-Time Block Codes**, *37th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2003.

C247. C. Carbonelli, U. Mengali and U. Mitra, **Synchronization and channel estimation for UWB signals**,*IEEE Globecom*, San Francisco, CA, December 2003.

C248. S.-H. Wu, U. Mitra, and C.-C. J. Kuo, **A Common Framework for Blind Multistage Multiuser Receivers of DS-CDMA in Frequency-Selective Fading Channels**, *IEEE Globecom*, San Francisco, CA, December 2003.

C249. S. Franz and U. Mitra, **On Optimal Data Detection for UWB Transmitted Reference Systems**, *IEEE Globecom*, San Francisco, CA, December 2003.

C250. J. Geng and U. Mitra, **Nonlinear Hierarchical Space-Time Block Codes** [3], *IEEE Globecom*, San Francisco, CA, December 2003.

C251. J. Geng and U. Mitra, **MTCM Design with Nonlinear Hierarchical Space-Time Block Codes**, *IEEE Globecom*, San Francisco, CA, December 2003.

C252. J. Geng and U. Mitra, **Nonlinear Hierarchical Space-Time Block Codes**, *Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2003.

C253. J. Geng and U. Mitra, **Regular MTCM Design with Nonlinear Hierarchical Space-Time Block Codes**, *Allerton Conference*, Monticello, IL, October 2003.

C254. U. Mitra and A. Sabharwal, **On Achievable Rates of Complexity Constrained Relay Channels**, *Allerton Conference*, Monticello, IL, October 2003.

C255. L. Vasudevan, A. Ortega, and U. Mitra, **Application-aware Quantization for Time Delay Estimation in Sensor Networks**, *IEEE Workshop on Statistical Signal Processing*,(**invited paper**) St. Louis, September 2003.

C256. M. Vajapeyam, J. Geng, and U. Mitra, **Union Bounds of Space-Time Block Codes and Decomposable Error Patterns**, *IEEE International Symposium on Information Theory*, Yokohama Japan, July 2003.

C257. E. Aktas and U. Mitra, **Adaptive Blind Decoding of Unitary Space-Time Constellations in ISI Channels** , *IEEE ICC*, Anchorage AK, May 2003.

C258. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Performance analysis of Multistage BLUE/MMSE Receivers for DS-CDMA in Frequency Selective Fading**, *IEEE ICC*, Anchorage AK, May 2003.

C259. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Joint Channel Estimation and Multiuser Detection for Multipath Fading Channels in DS-CDMA Systems**, *IEEE ICC*, Anchorage AK, May 2003.

C260. H. Vikalo, B. Hassibi, and U. Mitra, **Sphere-constrained ML detection for frequency-selective channels**, *IEEE ICASSP*, pp. IV - 1-4 vol.4, Hong Kong, April 2003 (presented at Asilomar'03)

C261. R. Nowak and U. Mitra, **Boundary Estimation in Sensor Networks: Theory and Methods**, *Information Processing in Sensor Networks (IPSN '03)*, Palo Alto, CA, April 2003.

C262. M. Akar and U. Mitra, **Joint downlink power and handoff control using a hybrid systems framework**, *IEEE/ACM 2003 Infocom*, San Francisco, CA, April 2003.

[3] [C77] and [C76] won the USC Department of Electrical Engineering – Systems Best Student Paper Award (co-award) April 2004.

C263. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Performance Analysis of a Class of Multistage DS-CDMA Receivers for Multipath Channels**, *IEEE Information Theory Workshop*, Paris, France, April 2003.

C264. E. Aktas and U. Mitra, **Blind Equalization and Decoding for Unitary Space-Time Modulations**, *36th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November, 2002.

C265. J. Geng, M. Vajapeyam, and U. Mitra, **Distance Spectrum of Space-Time Block Codes: A Union Bound Point of View**, *36th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November, 2002.

C266. S.-H. Wu, U. Mitra and C.-C. J. Kuo, **Multi-stage MMSE/MOE receivers for frequency selective fading channels in DS-CDMA systems**, *IEEE Globecom*, Taipei, Taiwan, November 2002.

C267. W. Chen and U. Mitra, **An enhanced correlation matrix estimation scheme for blind adaptive MMSE receiver**, *IEEE International Conference on Communications*, New York, NY, June 2002, vol. 2,pp. 699–703.

C268. M. Akar and U. Mitra, **Interference management in soft handoff algorithm design**, *Conference Information Sciences and Systems*, Princeton, NJ, March 2002.

C269. E. Aktas and U. Mitra, **CMA Based Equalization for Unitary Space-Time Modulation**, *Conference on Information Sciences and Systems*, Princeton, NJ, March 2002.

C270. E. Aktas and U. Mitra **Semi-blind Channel Estimation for WCDMA Systems with Parallel Data and Pilot Signals**, *IEEE Globecom*, San Antonio, TX, November 2001.

C271. W. Chen and U. Mitra, **An Improved Blind Adaptive MMSE Receiver for Fast Fading DS-CDMA Channels**, *IEEE Globecom*, San Antonio, TX, November 2001.

C272. Y. Mohasseb, U. Mitra, and M. P. Fitz, **Bounding the Performance of a Narrow Band MUD Receiver**, *IEEE Globecom*, San Antonio, TX, November 2001.

C273. J. Geng and U. Mitra, **Optimal Space-Time Block Codes for Reduced Complexity DS-CDMA Decoders**, *Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, November 2001 (**invited paper**).

C274. M. Liu, W.-C. Feng, U. Mitra and M. T. Liu, **Managing code assignment in multi-code CDMA wireless networks for the delivery of H.263 video streams**, *International Conference on Computer Networks and Mobile Computing* , October 2001, Beijing, China, pp.473–478.

C275. W. Chen and U. Mitra, **On Reduced Rank Detection Schemes for DS-CDMA Communication Systems**, *IEEE Milcom*, (**invited paper**) McClean, VA, October 2001.

C276. M. Akar and U. Mitra, **Design of soft handoff algorithms for cellular communications**, *SPIE ITCOM 2001*, Denver, CO, August, 2001.

C277. E. Aktas and U. Mitra, **Data Aided Multipath Delay Estimation for Downlink DS-CDMA** *IEEE ICC*, Helsinki, Finland, June 2001.

C278. A. Sharma and U. Mitra, **Blind Rate Detection for Multirate UMTS DS-CDMA Signals** *IEEE ICC*, Helsinki, Finland, June 2001.

C279. Z. Pi and U. Mitra, **QR Decomposition based Blind Channel Acquisition and Estimation for DS-CDMA** *IEEE ICC*, Helsinki, Finland, June 2001.

C280. W. Chen and U. Mitra, **Comparison of Reduced Rank Detection Schemes for CDMA Systems**, *IEEE International Symposium on Information Theory*, Washington, DC, June 2001.

C281. J. Geng, U. Mitra, and M. Fitz, **Space-Time Block Codes in Multipath CDMA Systems**, *IEEE International Symposium on Information Theory*, Washington, DC, June 2001.

C282. E. Aktas and U. Mitra, **Sparse Channel Estimation in Multiuser Systems with Bandwidth Efficient Signaling**, *International Union of Radio Science, National Radio Science Meeting*, Boulder, CO, January 2001.

C283. M. Akar and U. Mitra, **Implementations of Suboptimal Handoff Algorithms for Wireless Communication Systems,** *IEEE Globecom*, San Francisco, CA, November 2000.

C284. A. Sabharwal and U. Mitra, **Channel Estimation for Multirate DS-CDMA Systems**, *Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, October 2000 (**invited paper**).

C285. J. Geng, U. Mitra and M. P. Fitz, **Optimal Space-Time Block Codes for CDMA Systems**, *Milcom 2000*, Los Angeles, CA, October 2000 (**invited paper**).

C286. Z. Pi and U. Mitra **Performance Analysis of Subspace based Synchronization Algorithms for Multi-rate DS-CDMA Systems**, *Allerton Conference*, Monticello, IL, October 2000 (**invited paper**).

C287. M. Akar and U. Mitra, **Optimal Handoff Control: Incorporating Handoff Delay**, *IEEE WCNC*, September 2000.

C288. J. Geng, L.-C. Chu, U. Mitra and M. P. Fitz, **Coding and Decoding Algorithms for CDMA Space-Time Block Codes**, *IEEE ISIT 2000*, Sorrento Italy, June 2000, p. 336.

C289. M. Akar, U. Mitra and Ü. Özguner, **Optimal control for a class of switching systems**, *IEEE American Control Conference*, Chicago, IL, June 2000, vol.4, pp. 2697–2701 .

C290. W. Chen and U. Mitra, **Frequency Domain versus Time Domain based Training Sequence Optimization**, Communication Theory Mini-Conference, *2000 IEEE International Conference on Communications*, New Orleans, June 2000, vol. 2, pp. 646-650.

C291. Z. Pi and U. Mitra, **Blind Synchronization Algorithms for Multi-rate DS-CDMA Systems**, *International Conference on Telecommunications*, Acapulco, Mexico, May 2000 (**invited paper**).

C292. A. Sabharwal, U. Mitra, and R. Moses, **Low Complexity MMSE Receivers for Multirate DS-CDMA Systems**, *Conference on Information Sciences and Systems*, Princeton, NJ, March 2000, vol. 1, pp. TA3-18.

C293. E. Aktas and U. Mitra, **Single user sparse channel acquisition for DS/CDMA**, *Conference on Information Sciences and Systems*, Princeton, NJ, March 2000, vol. 1, pp. WA1-1.

C294. R. Vijayakumar, U. Mitra and K. Wasserman, **Stability of CDMA Packet Networks with Fixed and Adaptive MMSE Receivers**, *Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, October 1999, vol. 1, pp. 197-201 (**invited paper**).

C295. G. Caire and U. Mitra, **Training Sequence-Based Multiuser Channel Estimation for Block-Synchronous DS/CDMA**, *37th Allerton Conference* , Monticello, IL, September 1999 (**invited paper**).

C296. L.-C. Chu and U. Mitra, **Trellis-Based Multiuser Detection for DS-CDMA Systems in Mismatched Asynchronous Flat-Fading Channels**, *IEEE Wireless Communications and Networking Conference*, New Orleans LA, September 1999, vol. 3, pp. 1134–1138.

C297. A. Sabharwal, U. Mitra and R. Moses, **Cyclic Wiener Filtering Based Multirate DS/CDMA Receivers**, *IEEE Wireless Communications and Networking Conference*, New Orleans LA, September 1999, vol.3, pp. 1129–1134.

C298. J. Chen and U. Mitra, **A Decorrelating Decision-Feedback Detector for Dual Rate Synchronous DS/CDMA Communications**, *IEEE Wireless Communications and Networking Conference*, New Orleans LA, September 1999.

C299. C. Escudero, U. Mitra and D. Slock, **Blind Channel Estimation for DS-CDMA with Long Codes**, *Bayona Workshop on Emerging Technologies in Telecommunications*, Bayona, Spain, September 1999.

C300. L.-C. Chu and U. Mitra, **Approximated Maximum Likelihood Detection for DS-CDMA Channels with Tracking Errors**, *Conference on Information Science and Systems*, Johns Hopkins University, Baltimore MD, March 1999, pp. 638–643. (**invited paper**).

C301. G. Caire and U. Mitra, **Pilot-aided Adaptive MMSE Receivers for DS/CDMA**, *Proceedings of IEEE ICC*, Vancouver, BC, June 1999, vol.1, pp. 57–62.

C302. G. Caire and U. Mitra, **Training Sequence Design for Adaptive Equalization of Multiuser Systems**, *Asilomar Conference on Signals, Systems and Computers*, Monterey, CA, November 1998 , vol.2 , pp. 1479–1483. (**invited paper**).

C303. E. Ertin, U. Mitra, and S. Siwamogsatham, **Iterative Techniques for DS/CDMA Multipath Channel Estimation**, *1999 Allerton Conference*, Allerton, IL, September 1998, pp. 772–781.

C304. J. Chen and U. Mitra, **Random Sequence Analysis of Optimum Near-Far Resistance in a Variable Chipping Rate Dual-Rate CDMA System**, *1998 IEEE International Symposium on Information Theory*, MIT, Cambridge MA, August 1998, p. 120.

C305. E. Aktas and U. Mitra, **Blind Channel Estimation for Multiuser CDMA Systems**, *1998 IEEE International Conference on Communications*, Atlanta, GA, June 1998, vol. 2, pp. 1064 –1068.

C306. U. Mitra and D. Slock, **On Blind Identification for DS/CDMA Communications**, *Eighth IEEE Digital Signal Processing Workshop*, Bryce Canyon UT, August 1998, 4 pp., (**invited paper**).

C307. R. Srinivasan, U. Mitra, **Frequency-based Rate Separatation for Dual-Rate CDMA Signals**, and R. Moses, *Conference on Information Sciences and Systems*, Princeton University, Princeton NJ, March 1998, vol. 1, pp. 163– 168.

C308. L.-C. Chu and U. Mitra, **Improving DS-CDMA Signal Reception in Delay Mismatched Channels**, *Symposium on Interference Rejection and Signal Separation in Wireless Communications*, New Jersey Institute of Technology, Hoboken, NJ, March 1998.

C309. J. Chen and U. Mitra, **MMSE Receivers for Dual-Rate DS/CDMA Systems: Random Signature Sequence Analysis**, *1997 IEEE Globecom Communication Theory Mini-Conference*, Phoenix, AZ, November 1997, pp. 139 –143.

C310. L.-C. Chu and U. Mitra, **Further Analysis of MUSIC-based Delay Estimators for DS-CDMA Systems**, *1997 Allerton Conference*, Allerton, IL, September 1997, pp. 330 –339.

C311. C. J. Escudero, U. Mitra, and L. Castedo, **Removal of length dependent local minima in CMA equalizers**, COST 254, European Workshop on Emerging Techniques for Communication Terminals, Toulouse, France, July 1997.

C312. U. Mitra, **Comparative Study of Maximum Likelihood Detection for Two Multi-rate DS/CDMA Systems**, *1997 IEEE International Symposium on Information Theory*, Ulm, Germany, July 1997, p. 352.

C313. U. Mitra, D. Slock, and C. Escudero **Blind Identification Schemes for Multi-channel DS/SS Systems**, *1997 Conference on Information Sciences and Systems*, Johns Hopkins University, Baltimore MD, March 1997, pp. 696–701.

C314. L.-C. Chu and U. Mitra, **Performance Analysis of the Improved MMSE Multi-user Receiver for Mismatched Delay Channels**, *1997 Conference on Information Sciences and Systems*, Johns Hopkins University, Baltimore MD, March 1997, pp. 474–479.

C315. U. Mitra, **Observations on Jointly Optimal Detection for Multi-rate DS/CDMA Systems**, *4th IEEE Communication Theory Mini-Conference, Globecom'96*, London, UK, November, 1996, pp.116–120.

C316. J. Chen and U. Mitra, **Further Results for Multi-Rate Decorrelators for Synchronous DS/CDMA Systems**, *34th Annual Allerton Conference*, Monticello, IL, October 1996, pp. 170–179.

C317. L.-C. Chu and U. Mitra, **Improved MMSE-based Multi-user Detectors for Mismatched Delay Channels**, *Thirtieth Annual Conference on Information Sciences and Systems*, Princeton, NJ, March 1996, vol. 1, pp. 326–331.

C318. U. Mitra and H. V. Poor, **Detection of Spread-Spectrum Signals for Linear Multi-User Receivers**, *1995 IEEE International Symposium on Information Theory*, Whistler, British Columbia, September 1995, p. 318.

C319. U. Mitra and H. V. Poor, **Adaptive Decorrelating Detectors for CDMA Communications**, *IEEE International Conference on Communications*, Seattle, WA, June 1995, vol. 2, pp. 1075–1079.

C320. U. Mitra and H. V. Poor, **Detection of Spread-Spectrum Signals in a Multi-user Environment**, *1995 IEEE International Conference on Acoustics, Speech and Signal Processing*, Detroit, MI, May 1995, pp. 1844–1847.

C321. U. Mitra and H. V. Poor, **A Projection Based Adaptive Decorrelating Detector for Synchronous CDMA Channels**, *Twenty-eighth Annual Conference on Information Sciences and Systems*, Princeton University, Princeton NJ, March 1994, pp. 1004–1009.

C322. U. Mitra and H. V. Poor, **Analysis of an Adaptive Decorrelating Detector for Synchronous CDMA Channels**, *Seventh IEE European Conference on Mobile Radio and Personal Communications*, Brighton, UK, December 1993, pp. 155-160.

C323. U. Mitra and H. V. Poor, **Neural Networks in Adaptive Multi-user Detection**, *Fourth International Conference in Advances in Communications and Control*, Rhodes, Greece, June 1993, pp. 660-673 (**invited paper**).

C324. U. Mitra and H. V. Poor, **Neural Network Techniques for Multi-user Demodulation**, *IEEE International Conference on Neural Networks*, San Francisco, CA, March 1993, pp. 1538-1543.

C325. U. Mitra and H. V. Poor, **Adaptive Receiver Algorithms for Near-Far Resistant CDMA**, *Third IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, Boston, MA, October 1992, pp. 639-644.

C326. A. Nieminen, Y. Neuvo, A. Värri, and U. Mitra, **Algorithms for Real Time Trend Detection**, *IEEE International Conference on Acoustics, Speech, and Signal Processing*, New York, NY, April 1988, pp. 1530-1533.

SUBMITTED WORK:

S1. M. Vasconcelos and U. Mitra, **Data-driven sensor scheduling for remote estimation in wireless networks**, *IEEE Transactions on Control of Network Systems*, submitted December 5, 2019.

S2. D. Kartik, A. Nayyar and U. Mitra **Fixed-horizon Active Hypothesis Testing**, *IEEE Transactions on Automatic Control*, submitted November 13, 2019.

S3. A. El-Nakeeb and U. Mitra, **Bilinear Channel Estimation for MIMO OFDM: Lower Bounds and Training Sequence Optimization**, *IEEE Transactions on Signal Processing*, submitted April 30, 2019, revised December 26, 2019.

S4. J. Chen and U. Mitra, **A Unimodal Frank-Wolfe Algorithm with Applications to Data Fusion for Source Localization**, *IEEE Transactions on Signal Processing*, submitted May 28, 2019.

REPORTS:

R1 U. Mitra, **The Cochlea and its Higher Processing: A Signal Processing View**, *Masters Project Report*, University of California, Berkeley, February, 1989.

RECENT COLLABORATORS:

- Professor Murali Annavaram, University of Southern California, Los Angeles CA
- Professor James Boedicker, University of Southern California, Los Angeles CA
- Professor Giuseppe Caire, Technical University of Berlin, Germany
- Professor Robert Calderbank, Duke University, NC
- Professor Moh El Naggar, University of Southern California, Los Angeles CA
- Professor Amin Gohari, Sharif University, Tehran, Iran
- Professor Andrea Goldsmith, Stanford University, Palo Alto CA
- Professor Franz Hover, Massachusetts Institute of Technology, Cambridge MA
- Professor Rahul Jain, University of Southern California, Los Angeles CA
- Professor Young-Han Kim, University of California, San Diego
- Professor Geert Leus, Delft University of Technology, Delft, the Netherlands
- Professor Andreas Molisch, University of Southern California, Los Angeles CA
- Professor Shri Narayanan, University of Southern California, Los Angeles CA
- Professor Masoumeh Nasiri-Kenari, Sharif University, Tehran, Iran
- Professor Antonio Ortega, University of Southern California, Los Angeles CA
- Professor Osvaldo Simeone, New Jersey Institute of Technology, Hoboken, NJ
- Professor Erik Ström, Chalmers University, Goteborg, Sweden
- Professor Gaurav Sukhatme, University of Southern California, Los Angeles CA
- Professor Milica Stojanovic, Northeastern University, Boston MA
- Professor Ali Tajer, Rensselaer Polytechnic Institute, Troy NY
- Dr. Zijian Tang, Shell Research, Rijswijk, the Netherlands
- Professor Yao Xie, Georgia Tech, Atlanta GA
- Professor Michele Zorzi, University of Padova, Padova Italy

INVITED TALKS (Universities and Corporations):

T1. **Learning Methods for Decentralized Decision Making in IoT/CPS Systems**, Keller Colloqium Series, Computing and Mathematical Sciences Department, CalTech, March 2, 2020.

T2. **Learning and Decision Making for Next Generation Wireless Systems**, Ericsson Research, Santa Clara, CA February 26, 2020.

T3. **The Texas Instruments Visiting Professor Program Review**, DSP 50, Rice University, Houston TX, May 26, 2019.

T4. **Sparse Approximation Methods in Large Scale Wireless Networks**, Department of Electronic Engineering and Information Science, University of Science & Technology of China, Hefei, China, May 20, 2019.

T5. **Unimodal Matrix Factorization: Properties, Fast Algorithms & Performance**, Oxford University, Oxford, UK, May 10, 2019.

T6. **Active Hypothesis Testing: Musings on the non-Asymptotic Case**, Electrical Engineering, King's College, London, UK, May 9, 2019.

T7. **Unimodal Matrix Factorization: Properties, Fast Algorithms & Performance** Electrical Engineering, Harvard University, MA, March 1, 2019.

T8. **Estimation and Communication: Observation Driven Sensor Scheduling**, Electrical Engineering, Boston University, MA, February 28, 2019.

T9. **Estimation and Communication: Observation Driven Sensor Scheduling**, Electrical Engineering, Massachusetts Institute of Technology, MA, February 28, 2019.

T10. **Matrix Factorization and Representation with Unimodal Constraints** Electrical Engineering, **Distinguished Lecture**, University of Toronto, Canada, February 1, 2019.

Estimation and Communication: Observation Driven Sensor Scheduling, Electrical Engineering,Hong Kong University of Science and Technology, December 6, 2018.

T11. **Estimation and Communication: Observation Driven Sensor Scheduling**, Electrical Engineering, Chinese University of Hong Kong, December 4, 2018.

T12. **Estimation and Communication: Observation Driven Sensor Scheduling**, Electrical Engineering, Georgia Tech, September 20, 2018.

T13. **Matrix Factorization and Representation with Unimodal Constraints** Industrial Systems Engineering, Georgia Tech, September 19, 2018.

T14. **Sparse Sampling for Active Learning of Multimodal Environments**, University of California, Riverside, May 7, 2018.

T15. **Biological Systems as Communication Networks**, Southern Methodist University, January 18, 2018.

T16. **Sparse Sampling for Active Learning of Multimodal Environments**, National University of Singapore, Singapore, December 8, 2017.

T17. **Sparse Sampling for Active Learning of Multimodal Environments**, Arizona State University, Tempe AZ, November 16, 2017.

T18. **Sparse Sampling for Active Learning of Multimodal Environments with Applications to Radio Map Building**, Tsinghua University, Beijing China, November 10, 2017.

T19. **Sparse Sampling for Active Learning of Multimodal Environments with Applications to Radio Map Building**, Beijing University of Telecommunications and Posts, Beijing China, November 9, 2017.

T20. **Tuesday Masters Dinner, Parkside International Dormitory**, hosted by Prof. Oliver Mayer, USC, September 19, 2017.

T21. **Biological Systems as Communication Networks**, King's College, Guy's Hospital Campus, London UK, July 12, 2017

T22. **Biological Systems as Communication Networks**, King's College, Strand Campus London UK, July 7, 2017.

T23. **Biological Systems as Communication Networks**, Cambridge University, Cambridge UK, June 21, 2017.

T24. **Biological Systems as Communication Networks**, Queen Mary University London, London UK, June 19, 2017.

T25. **Sparse Approximation Methods in Large Scale Wireless Networks**, Huawei, Paris France, May 26, 2017.

T26. **Optimized Sensing and Control in Wireless Body Area Sensing Networks**, National Technological University of Athens, Athens Greece, April 3, 2017.

T27. **Cross-layer estimation and control for Cognitive Radio: Exploiting Sparse Network Dynamics**, Athens Institute of Technology, Athens Greece, April 4, 2017.

T28. **Bilinear Inverse Problems: How much does Structure Help?**, National Kapodostrian University of Athens, Athens Greece, April 5, 2017.

T29. **Cross-layer estimation and control for Cognitive Radio: Exploiting Sparse Network Dynamics**, Athens University of Economics and Business, Athens Greece, April 6, 2017.

T30. **Biological Communication Networks: ffA first step in Modeling & Analysis**, Johannes Kepler University, Linz Austria, February 14, 2017.

T31. **Cross-layer estimation and control for Cognitive Radio: Exploiting Sparse Network Dynamics**, Technical University of Vienna, Vienna Austria, February 13, 2017.

T32. **Bilinear Inverse Problems: How much does Structure Help?**, Cambridge University, Cambridge UK, February 9, 2017.

T33. **Exploiting Sparsity in Future Wireless Networks**, Fulbright Forum, Newcastle UK, January 5, 2017.

T34. **Bilinear Inverse Problems: Good and Bad News**, Delft University of Technology, Delft, the Netherlands, November 21, 2016.

T35. **Cross-layer Approaches for Distributed Sensing with applications to Cognitive Radio**,King's College, London, UK, November 18, 2016.

T36. **Bilinear Inverse Problems: Good and Bad News**, University of Surrey, Guilford, UK, November 17, 2016.

T37. **Bilinear Inverse Problems: Good and Bad News**, Imperial College, London, UK, October 20, 2016.

T38. **Modern Techniques for Cognitive Radio**, University of Southampton, Southampton, UK, October 13, 2016.

T39. **Active Target Detection via Matrix Completion**, USC Bridge Research Circle, April 26, 2016.

T40. **Queues and Bacteria - a Tale of Modeling and Experiment**, University of Maryland, April 22, 2016.

T41. **Bilinear Inverse Problems: Identifiability and Wireless Channel Estimation**, Johns Hopkins University, April 21, 2016.

T42. **Queues and Bacteria - a Tale of Modeling and Experiment**, University of Melbourne, February, 23, 2016.

T43. **Challenges in Communications, Sensing and Control**, USC Ming Hsieh Department of Electrical Engineering Industrial Advisory Board Meeting, November 5, 2015.

T44. **Actuated Underwater Sensor Networks: A convergence of Communication, Control & Sensing** STEM Bytes Program (WiSE Program, University of Southern California) October 16, 2015

T45. **Active Target Localization via Adaptive Sparse Sampling**, University of Pennsylvania, October 12, 2015.

T46. **Active Target Localization via Adaptive Sparse Sampling**, University of British Columbia, September 16, 2015.

T47. IEEE Communications Society Distinguished Lecture Tour – Sweden

(a) **Biological Communications: Natural and Engineered**, Royal Institute of Technology, Stockholm, October 2, 2015

(b) **Wireless channel Estimation: Opportunities for Exploiting Structure and Sparsity**, Ericsson Research, Kista, October 3, 2015

(c) **Biological Communications: Natural and Engineered**, Uppsala University, Uppsala, October 4, 2015

(d) **Biological Communications: Natural and Engineered**, Chalmers University, Goteborg, October 7, 2015

(e) **Wireless channel Estimation: Opportunities for Exploiting Structure and Sparsity**, Linkoping University, Linkoping, October 8, 2015

T48. **Actuated Underwater Sensor Networks: A convergence of Communication, Control & Sensing** Chevron Scholars Program (Viterbi School of Engineering, University of Southern California) July 9, 2015

T49. **Active Target Localization via Adaptive Sparse Sampling**, Aerospace Corporation, April 21, 2015.

T50. **What is Communication? From Card Tricks to Bacteria, a Walk through Problems in Communications**, W.V.T Rusch Engineering Honors Colloquium, the Viterbi School of Engineering, University of Southern California, January 30, 2015.

T51. **What Matters to Me and Why**, presentation and discussion with the greater USC community, organized by the Office of Religious Life, December 3, 2014.

T52. **Communication, Control and Sensing: Connecting Communication over Channels with State with the Witsenhausen Counterexample for Distributed Control**, Department of Electrical Engineering, Arizona State University, Tempe, AZ, April 16, 2014.

T53. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, Mathematics Department Colloquium, University of Madison, WI, January 31, 2014.

T54. **Identifiability for Bilinear Inverse Problems with (Eventual) Applications to Blind Deconvolution, Matrix Factorization and Dictionary Finding**, University of Wisconsin, Madison, *Applied Algebra Seminar*, January 31, 2014.

T55. **The confluence of communication, sensing and control in large scale wireless networks**, University of Wisconsin, Madison *SILO Seminar*, January 30, 2014.

T56. **Identifiability for Bilinear Inverse Problems with (Eventual) Applications to Blind Deconvolution, Matrix Factorization and Dictionary Finding**, Georgia Tech, Atlanta, GA, December 10, 2013.

T57. **Identifiability for Bilinear Inverse Problems ffffwith (Eventual) Applications to Blind Deconvolution, Matrix Factorization and Dictionary Finding**, University of Iowa, Iowa City, IA, October 17, 2013.

T58. **Having One's Cake and Eating it Too: The Problem of Joint Communication and Sensing**, University of California, San Diego CA, April 17, 2013

T59. **Wavelets and Sparse Approximation Methods for Large Scale Network Control**, Aalto University, Helsinki Finland, April 4, 2013

T60. **Wavelets and Sparse Approximation Methods for Large Scale Network Control**, Electrical Engineering Department Colloquium, University of Illinois, Urbana-Champaign, January 24, 2013.

T61. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, Chalmers University, Gothenburg Sweden, June, 2012

T62. **Hybrid Sparse/Diffuse Channels: Channel Models, Bayesian Estimators & Analysis**, University of California, Riverside, January 23, 2012.

T63. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, University of Texas, Austin, January 20, 2012.

T64. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, Rice University, December 6 2011.

T65. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, University of Illinois, Urbana-Champaign, November 10, 2011.

T66. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, CalTech Lunch Colloquium, April 4, 2011.

T67. **New Results for Communication Systems in Underwater Acoustic Channels**, TNO (Netherlands Organization for Applied Scientific Research), Rijswijk, April 28, 2010.

T68. **Grey Spaces: A new Approach for Cognitive Radio** Technical University of Eindhoven, April 15, 2010.

T69. **KNOWME: a wireless body area sensing network for biometric signal analysis**, Philips, Eindhoven, March 11, 2010.

T70. **Some Results on a Networked Physical Layer and Questions for Cross-layer Approaches** University of Padova, December 16, 2009.

T71. **Grey Spaces: A new Approach for Cognitive Radio** EPFL, December 9, 2009.

T72. **Grey Spaces: A new Approach for Cognitive Radio** Technical University of Delft December 3, 2009.

T73. **Joint Communication and Estimation: Some Fundamental Limits and Applications to Sensor Networks** Technical University of Delft, October 8 , 2009.

T74. **Joint Communication and Estimation: Some Fundamental Limits and Applications to Sensor Networks** University of California, Davis, December 5, 2008.

T75. **Sensing in Multihop Sensor Networks**, McGill University, Montreal, Canada, September 13 2007.

T76. **Communication and Resource Allocation Strategies for Sensor Networks**, Microsoft Research, Redmond, WA, August 15, 2006.

T77. **Cooperation, Mulithopping and Relaying in Underwater Networks**, Boeing, Anaheim, CA, June 1, 2006.

T78. **Channel acquisition and estimation for UWB systems: an examination of fundamental limits**, University of Pisa, Pisa, Italy, May 9, 2006.

T79. **Methods for Combating Fading in Multiuser Multipath Channels**, Qualcomm, San Diego CA, May 14, 2004.

T80. **Systematic Space-Time Code Designs**, Raytheon Corporation, Fullerton CA, May 6, 2004.

T81. **New Constructions of Space-time Block Codes and their marriage to MTCM**, Stanford University, Palo Alto, CA, December 2, 2003.

T82. **Collaborative Communications & Signal Processing for Sensor Networks**, University of California, Berkeley, EECS Departmental Colloquium, November 21, 2003.

T83. **New Constructions of Space-time Block Codes and their marriage to MTCM**, University of California, Santa Cruz, October 21, 2003.

T84. **New Constructions of Space-time Block Codes and their marriage to MTCM**, University of California, Berkeley, October 28, 2003.

T85. **Blind Equalization of Unitary Space-Time Modulations**, University of California, Santa Barbara, May 2, 2003.

T86. **Spread Spectrum Systems: Lessons Learned and New Applications**, Intel Corporation Colloquium, Hillsboro, OR, April 3, 2003.

T87. **Collaborative Communications & Signal Processing for Sensor Networks: Research Review**, Center for Embedded Networks Seminar Series, University of California, Los Angeles, August 29, 2003.

T88. **Blind Equalization for Unitary Space-Time Modulation**, University of Houston, November 19, 2002.

T89. **On Achievable Rates of Complexity Constrained Relay Networks**, Rice University, November 13, 2002.

T90. **Blind Equalization for Unitary Space-Time Modulation**, University of Texas, Austin, September 13, 2002.

T91. **Tackling the Fast Multipath Fading Channel in CDMA Systems**, CalTech, Pasadena, CA, February 27, 2002.

T92. **Receiver Designs for Fast Fading Mulituser Multipath Channels**, University of California, Riverside, CA, February 22, 2002.

T93. **Advanced Receiver Designs for DS-CDMA: Multimedia and Space-Time Coded systems**, Conexant, Newport, CA, January 29, 2002.

T94. **On Space-Time Coding for CDMA**, Okawa Awards Reception, Palo Alto, CA October 25, 2001.

T95. **On Space-Time Block Codes for DS-CDMA Systems**, Department of Electrical Engineering, UCLA, Los Angeles, October 24, 2001.

T96. **Ultra Wideband Channel Modeling**, Intel Workshop on Ultrawideband Communications, Portland, OR, October 11-12, 2001.

T97. **Advanced Receiver Designs for DS-CDMA**, Aerospace Corporation, El Segundo, CA, July 19, 2001.

T98. **Advanced Multiuser Receiver Designs**, Department of Informatics, Tampere University of Technology, Tampere, Finland, June 15, 2001.

T99. **DS-CDMA Space-Time Block Codes: Uplink and Downlink Comparisons**, Multidimensional Mobile Communications Conference, Pori, Finland, June 11, 2001.

T100. **Space-Time Block Codes for Multiuser Systems**, Department of Electrical Engineering, North Carolina State University, Raleigh, NC, February 23, 2001.

T101. **Space-Time Block Codes for Multiuser Systems**, Cisco Systems, Raleigh, NC, February 22, 2001.

T102. **Space-Time Block Codes for Multiuser Systems**, Department of Electrical and Computer Engineering, Rice University, October 11, 2000.

T103. **OSU CDMA Research Review**, Siemens, Munich, Germany, January 13, 2000.

T104. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, Uppsala University, Uppsala, Sweden, December 16, 1999.

T105. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, Ericsson, Kista, Sweden, December 15, 1999.

T106. **Analysis and Design of a Blind Channel Identification Algorithm for Long Code DS/CDMA Signals**, *Signal Processing Group*, Royal Institute of Technology, Stockholm, Sweden December 14, 1999.

T107. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, *Department of Signals and Systems, Communication Systems Group* Chalmers University of Technology, Gothenburg, Sweden, December 13, 1999.

T108. **Receiver Designs for Heterogeneous DS/CDMA Traffic**, *School of Electrical Engineering*, Cornell University, Ithaca NY, March 19, 1999.

T109. **Detection Strategies for Multi-rate DS/CDMA Systems**, *Department of Electrical Engineering*, California Institute of Technology, Pasadena CA, March 10, 1999.

T110. **Blind Channel Estimation for Randomized Spreading Code DS/CDMA**, *Department of Electrical Engineering*, University of California, Los Angeles CA, March 8, 1999.

T111. **Analysis and Design of a Blind Channel Identification Algorithm for Long Code DS/CDMA Signals**, *Systems Division*, University of Southern California, Los Angeles CA, March 5, 1999.

T112. **Detection Strategies for Multi-rate DS/CDMA Systems**, *Department of Electrical Engineering and Computer Science*, University of Michigan, Ann Arbor MI, March 2, 1999.

T113. **Receiver Designs and Access Methods for Multirate Multiuser Systems**, Hughes Network Systems, Germantown MD, February 19, 1999.

T114. **Multi-rate DS/CDMA: Access Strategies and Receiver Designs**, *Department of Electrical Engineering*, University of Maryland, College Park MD, February 19, 1999.

T115. **State of the art research issues in Communication systems, Algorithms, including CDMA vs. TDMA** (with Professor M. P. Fitz), Interdisciplinary Seminar Series on Wireless Communication Technologies, *Department of Electrical Engineering*, the Ohio State University, Columbus, OH, March 12, 1998.

T116. **MMSE Receiver Analysis for Multiple Data Rate Multi-user Systems**, *Dipartimento di Sistemas*, University of Vigo, Vigo, Spain, March 3, 1998.

T117. **MMSE Receiver Analysis for Multiple Data Rate Multi-user Systems**, *Dipartimento di Sistemas*, University of La Coruña, La Coruña, Spain, March 2, 1998.

T118. **Receiver Analysis for Multi-rate Multi-user CDMA Systems**, *Department of Electrical Engineering*, University of Cincinnati, Cincinnati, OH, February 17, 1998.

T119. **Multi-rate CDMA based Wireless Systems**, *School of Electrical Engineering*, Georgia Institute of Technology, Atlanta, GA, May 1997.

T120. **Multi-rate CDMA based Wireless Systems**, *Department of Electrical Engineering*, University of Rochester, Rochester, NY, May 1997.

T121. **Multi-rate CDMA and Possible Applications of Multi-resolution Analysis**, *Mathematics of Communications Group*, Bell Labs, Lucent Technologies, Murray Hill, NJ, May 1997.

T122. **Multi-rate CDMA based Wireless Systems**, *Department of Electrical and Computer Engineering*, Drexel University, Philadelphia, PA, May 1997.

T123. **Improved Receiver Design for CDMA based Wireless Systems**, *School of Electrical and Computer Engineering*, Oklahoma State University, Stillwater, OK, April 1996.

T124. **Signal and Data Detection for CDMA Multi-user Systems**, *Mobile Communications Group*, Institut EURÉCOM, Sophia-Antipolis, France, September 1995.

T125. **Personal Communication Systems: Achieving Ubiquitous Wireless Communications**, Keynote speaker for the Electrical Engineering Department, OSU, for the College of Engineering's *Annual Conference for Engineers and Architects - ACE Day*, May 1995.

T126. **Signal Detection Methods for Spread-Spectrum Signals in a Multi-User Environment**, *Department of Electrical Engineering*, Communications and Signal Processing Seminar Series, Purdue University, West Lafayette, IN, March 1995.

T127. **Non-Parametric Detection Techniques for Multi-User CDMA Systems**, *Department of Electrical and Computer Engineering*, George Mason University, Fairfax, VA, February 1995.

T128. **Preliminary Results for an Adaptive Decorrelating Detector for Synchronous CDMA Channels**, *Wireless Information Networking Laboratory Seminar Series*, Rutgers University, Piscataway, NJ, April 1993.

INVITED WORKSHOPS, PANELS, and PLENARIES:

P1. **Machine Learning Methods for Localization**, Cisco Wireless and RF PI Summit, Cisco Systems, Milpitas, CA February 25, 2020 (one of four featured speakers).

P2. **Optimization and Learning in Next Generation IoT Networks**, NSF PI Meeting SPECEES Program, Irvine, CA, February 4, 2020.

P3. **Biology through information, communication, control, and signal processing**, NSF Biology through Information, Communication & Coding Theory Workshop, Alexandria, DC, January 21, 2020.

P4. **Algorithms & Learning Methods for CPS/IoT Communication Scheduling**, (one of two invited talks for the workshop), WICE Workshop on Communications and Professional Development, IEEE Globecom 2019, Waikoloa, HI, December 9, 2019

P5. **6G? Reflections on Things, People & Intelligence in the context of Wireless**, *Distinguished Speaker*, Industry Workshop/Forum 1: Future Networks toward 6G, IEEE Globecom 2019, Waikoloa, HI, December 9, 2019

P6. **Bagging the Peaks: Matrix and Tensor Factorization with Unimodal Constraints**, International Conference on Sampling Theory & Applications, Bordeaux, France, July 11, 2019 **invited keynote**.

P7. **Sensing, Communication and Control: Opportunities for Signal Processing for Biological Systems**, *ETON-Primers (Expert-no-Nonexpert) Short Tutorial*, **invited**, IEEE ICASSP, Brighton UK, May 15, 2019.

P8. **Active Hypothesis Testing: Musings on the non-Asymptotic Case**, **Distinguished Lecture**, UC Riverside, CA, April 29, 2019.

P9. **Estimation and Communication: Observation Driven Sensor Scheduling**, Electrical Engineering, **Distinguished Lecture**, Ryerson University, Toronto, January 31, 2019.

P10. **Increasing Robustness to Synchronisation Errors in Molecular Communications**,International Symposium on Turbo Codes & Iterative Information Processing 2018 Hong Kong, December 3-7,2018 **invited keynote**.

P11. **Are Large Scale Wireless Networks Compressible?** Plenary, 50th Anniversary of the International Conference on Digital Signal Processing, DSP 2017, Imperial College, London, August 25, 2017.

P12. **Biological Communication Networks**, Plenary, IEEE International Symposium on Information Theory, Aachen Germany, June 27, 2017.

P13. **Blind Identifiability: Back to Future**, Workshop Honoring Prof. Thomas Kailath's receipt of an Honorary Doctorate from the National Technical University of Athens, Athens Greece, June 13, 2017.

P14. **Multi-scale Spectrum Sensing and Boundary Detection in Sensor Networks**, Robert Nowak Festricht, Lisbon Portugal, June 9, 2017.

P15. **Biological Communication Networks: A first step in Modeling & Analysis**, **Distinguished Lecture**, University College, London, UK, October 19, 2016.

P16. Biological communication networks: A first step in modeling and analysis, EUSIPCO, Budapest, Hungary, August/September, 2016 (**plenary talk**).

P17. Optimization of Large Scale Wireless Networks, 10th Tsinghua-University of Southern California Joint Symposium on *Energy Informatics and Big Data,* May 10, 2016 (**plenary talk**)

P18. Communication Techniques for Bacterial Networks, IEEE International Conference on Ubiquitous Wireless Broadband, Montreal, Canada, October 5, 2015 (**invited keynote talk**)

P19. Communication Theory Workshop, **invited panelist**, *Applications of Communication Theory in Other Fields*, Dana Point CA, May 2015.

P20. Queueing Theory as a Modeling Tool for Bacterial Interaction: Implications for Microbial Fuel Cells, International Conference on Computing, Networking and Communications, Anaheim, CA, February 19, 2015, (**invited keynote talk**).

P21. Invited panelist, *Qualcomm-Ericsson 5G Workshop*, **5G: Challenges in Communications, Sensing and Control**, Asilomar CA, November 11, 2014.

P22. Intelligent Coordination and Adaptive Classification for Autonomous Naval Systems, ONR Science of Autonomy Program Review, Washington DC, August, 2014.

P23. The confluence of communication, sensing and control in large scale wireless networks, AFOSR Complex Networks Program Review, Washington DC, December 18, 2013.

P24. The confluence of communication, sensing and control in large scale wireless networks, **Distinguished Lecture**, Computer Science Department, University of California, Irvine CA, November 8, 2013.

P25. Wavelets and Sparse Approximation Methods for Large Scale Network Control, 4th Nordic Workshop on System and Network Optimization for Wireless, April 2-5, 2013, Äkäslompolo, Finland (**plenary**).

P26. Actuated Underwater Sensor Networks: A convergence of Communication, Control & Sensing, WiSE Research Horizons: A Day Honoring Professor Hanna Reisler, March 27, 2013.

P27. Human-centered Wireless Body Computing: The Multifold Opportunities and Challenges, (with S. Narayanan), International Conference on Computing, Networking and Communications, San Diego, CA, January 28-31, 2013, (**invited talk**).

P28. Cooperation in heterogeneous wireless networks, 2012 Southern California Symposium on Network Economics and Game Theory November 1-2, 2012, Los Angeles, CA.

P29. Recursive Kalman-type state estimation within a POMDP Framework, Cognitive and Algorithmic Decision-Making Workshop, October 5-6, 2012, Monticello, IL

P30. Telehealth: Opportunities for (Communications) Research? IEEE Communication Theory Workshop, May 2012, Maui HI

P31. Next Generation Wireless Communications: Telehealth, National Academy of Engineering Armstrong Endowment for Young Engineers - Lillian Gilbreth Lecture, Irvine, CA, February 9, 2012.

P32. Next Generation Wireless Communications: Telehealth, National Academy of Engineering China-America Frontiers of Engineering Symposium, San Diego, CA, March 28-30, 2011

P33. Optimal resampling of OFDM signaling in underwater acoustic channels, Signal Processing Symposium, Technical University of Delft, NL, March 1, 2010.

P34. Underwater Acoustic Channels: Opportunities for Information and Communication Theories, 31th Symposium on Information Theory in the Benelux, Rotterdam, NL, May 11, 2010, (**plenary**).

P35. Relay Processing for Multi-carrier Multi-hopped Communications: a new form of Amplify-and-Forward, Workshop on Interference in Networks, Ulm, Germany, March 26, 2010, (**plenary**).

P36. OFDM Strategies for time-varying channels, OFDM Workshop Santa Clara University, October 30-31, 2008.

P37. Signal Processing Methods for Denial of Service Attack Detection , Internet Multi-Resolution Analysis: Foundations, Applications and Practice Workshop II: Applications of Internet MRA to Cyber-Security, Institute for Pure and Applied Mathematics, UCLA, October 13 - 17, 2008.

P38. Underwater Sensor Networks, what Ive learned so far: a communication theorists view, *Panel 1: A Desirable Underwater Portfolio: Stocks NO, Sensors YES*, (primary presenter and moderator), IEEE SECON'08, San Francisco Bay Area, CA, June 17, 2008,

P39. Multihopping in wireless communication channels: Some solutions, some challenges, Workshop on Mathematical Challenges and Opportunities in Sensor Networking, Institute for Pure and Applied Mathematics, UCLA, January 8-12, 2007.

P40. Underwater Acoustic Communications, NSF Workshop on Socio-Technical Aspects of Cost Effective, Sensor-based Infrastructure for Tsunami Monitoring and Detection, UC Berkeley, November 16-17, 2006.

P41. Cooperation, Multihopping and Relaying in Underwater Networks, MSRI Workshop: Mathematics of Relaying and Cooperation in Communication Networks, Berkeley, CA, April 10-12, 2006

P42. Communication Methods for Distributed Multi-hop Networks, ONR Passive Sonar Signal Processing Review, APL, Seattle WA, August 23, 2005.

P43. WHYNET: UltraWideband Physical Layer Accomplishments, WHYNET Project Progress Meeting, University of California, Los Angeles CA, July 29, 2005.

P44. Future of Wireless Communications, Pervasive Communications: All the Time, Everywhere Panel, California: Prosperity Through Technology 2005 Industry Research Symposium, University of California, Irvine, CA May 23, 2005.

P45. Collaborative Communication and Sensing in Complex Channels, ONR Passive Sonar Signal Processing Review, Lincoln Labs, MA, September 22, 2004.

P46. WHYNET: UltraWideband Physical Layer Accomplishments, WHYNET Project Progress Meeting, University of California, Los Angeles CA, July 23, 2004.

P47. Communication in Sensor Networks, Communication Sciences Research Review, University of Southern California, Los Angeles CA, February 26, 2004.

P48. WHYNET: UltraWideband Physical Layer, WHYNET Project Kickoff Meeting, University of California, Los Angeles CA, November 7, 2004.

P49. Communications and Information Theory Problems in Large Scale Communication Networks, Institute for Pure and Applied Mathematics, UCLA, Large Scale Communication Networks, Concluding Workshop, Lake Arrowhead , June 19-14, 2002.

P50. Wireless Communications Tutorial, Institute for Pure and Applied Mathematics, UCLA, Workshop III: "Massively Distributed Self-Organizing Networks", May 13, 2002.

P51. On Space-Time Coding for CDMA, Featured Speaker, Okawa Awards Reception, Palo Alto, CA October 25, 2001.

P52. Advanced Receiver Processing for Spread Spectrum Systems: Multimedia Signaling and Space-time Coding, Communication Sciences Research Review, University of Southern California, Los Angeles CA, April 13, 2001.

P53. Ultra Wideband Channel Modeling, Intel Workshop on Ultrawideband Communications, Portland, OR, October 11-12, 2001.

P54. Training Sequence Design for Wireless Systems, Information Institute Program Review, Air Force Office of Scientific Research, April 15, 1999, Adirondacks, NY.

P55. Robust Receivers for Wireless Communications, DISA Program Review, Air Force Office of Scientific Research, October 1995, Raleigh, NC.

FUNDING: *Note: Unless otherwise stated, U. Mitra is the sole Principal Investigator and the amount listed is her portion.*

F51 Department of Energy, *Adapting signal recovery algorithms for accurate and efficient reaction rate calculations*, $572K (08/01/2020-07/31/2023) (PI: S Sharada (USC), co-PI: U Mitra)

F50 : Cisco Research Center, *Atomic-norm Based Localization Methods* $145K (6/01/2020 to 5/31/2021)

F49 Army Research Office, MURI, Investigating energy efficiency, information processing and control architectures of microbial community interaction networks, (Mitra portion $749K),(6/1/19-5/31/24) PI: J Boedicker (USC), co-PIs: U Mitra (USC), P Newton (USC), J Parker (CalTech), J Handelsman (Wisconsin), O Venturelli (Wisconsin), A Hero (Michigan)

F48 Ming Hsieh Institute, Robert A. Scholtz Retirement Event, $9K, April 2019.

F47 Swedish Research Council, Timely Communication: Theory and Practice for the Automated Society, $451K USD (Mitra portion $90.2K) (1/1/19-12/31/22), Erik Strom (PI), Giuseppe Durisi (co-PI) of Chalmers University, Goteborg Sweden, Mitra as external co-PI

F46 Ming Hsieh Distinguished Institute Visitor Fund, Prof. H. Vincent Poor, Electrical Engineering, Princeton University, NJ, $4.2K January 2019.

F45 National Science Foundation, *CIF: Small: Modeling and Analysis of Microbial Signaling*, $499.4K (9/1/18-8/31/21).

F44 National Science Foundation, *CIF: Small: Understanding Microbial Signaling Through a Communication Theoretic Lens*, $180K (9/1/17-8/31/19).

F43 Office of Naval Research, *Active Communication, Sensing & Control in Actuated Underwater Sensing Networks*, $2,300K total (9/15-8/19) (lead PI: Mitra, co-PI Stojanovic, Northeastern, co-PI Sukhatme, USC)

F42 National Science Foundation, *CPS: Breakthrough: Energy and Delay: Network Optimization in Cyber Physical Human Sensing Systems*, $500K total (01/15-12/17) (lead PI: Mitra co-PI Nayyar)

F41 National Science Foundation, *NeTS: Medium: A Sparse Decomposition Framework for Complex System Design and Analysis* $825K total (9/14-8/18) (lead PI:Mitra, co-PI: Ortega)

F40 Viterbi School of Engineering, Research Innovation Fund, *Molecular Communication: A novel joint project between USC VSoE and Sharif University*, $10K, (10/13-4/14)

F39 Ming Hsieh Institute Visitor Fund, Prof. Erik Ström, Chalmers University, Goteborg Sweden, $5K Summer 2013.

F38 Ming Hsieh Institute Visitor Fund, Prof. Shamgar Gurevich and Dr. Alexander Fish, Department of Mathematics, University of Wisconsin, Madison, $1K February 2013.

F37 Air Force Office of Scientific Research *Reduced Dimension Wireless Network and Radio Design: Enabling New Radio Architectures and Network Controllers via Compressed Sensing*, $1.0M, Mitra's portion (02/01/12-02/28/18) (subcontract from Stanford University, lead PI: A. Goldsmith)

F36 National Science Foundation *NeTS: Large: Collaborative Research: Exploration and Exploitation in Actuated Communication Networks*, $1.9 M total (07/01/12 07/31/15) (lead PI: U. Mitra, co-PIs: F. Hover (MIT), S. Narayanan (USC), M. Stojanovic (NEU), G. Sukhatme (USC))

F35 Ming Hsieh Institute Visitor Fund, Dr. Zijian Tang, TNO, Netherlands, $5K Spring 2012.

F34 National Science Foundation, *CIF:Small:Multiscale Methods for Mobile Underwater Networks Period of Performance* $480K (09/01/11- 08/31/14), Mitra sole PI.

F33 USDOT Federal Transit Administration, *Technical and Safety Evaluation of the Southern California Regional Rail Authority Positive Train Control Deployment Project*, $900K total (09/01/11-6/30/13), PI: J. Moore, co-PIs: P. Ioannou, U. Mitra, N. Meshkati, M. Dessouky.

F32 USC Provost's Office, Zumberge Innovation Award, *Electrical Signaling in Microbial Communities*, $50K + $10K costshare from Dornsife/VSoE, total amount (05/01/11 04/30/13), PIs: M. El-Naggar and U. Mitra, co-PIs: E. Meng, K. Nealson and M. Ward.

F31 National Center for Minority Health and Health Disparities, Obesity in Minority Youth, Los Angeles (OMYLA) Pilot Program, $19K total (09/01/10-4/30/11), PI: D. Spruijt-Metz (USC Keck School of Medicine), co-PI U. Mitra.

F30 USC Provost's Office, Center for Excellence in Research Award, *Intelligent Coordination and Adaptive Classification for Naval Autonomous Systems*, $5K (08/01/10 05/31/13)

F29 National Science Foundation, *MRI-R2: Acquisition of a Networked AUV-based Instrument for the Southern California Bight* $390K (total)(01/01/10- 12/31/12), PIs: G. Sukhatme, D. Caron, co-PIs: U. Mitra, K. Edwards, B. Jones, all USC.

F28 National Science Foundation, *CIF: Small: Cognitive Femtocells: Breaking the Spatial Reuse Limits of Cellular Systems* $450K (total)(09/01/09- 08/31/12), PI: G. Caire, co-PI: U. Mitra, all USC.

F27 Office of Naval Research, (Multi-Disciplinary Basic Research in the Science of Autonomy with Naval Relevance)*Intelligent Coordination and Adaptive Classification for Naval Autonomous Systems*, $2.25M total ($1.7M option 2) (08/01/09 07/31/14, option for two more years) (lead PI: U. Mitra, H. Singh(WHOI), co-PIs: F. Hover (MIT), S. Narayanan (USC), M. Stojanovic (NEU), G. Sukhatme (USC))

F26 Qualcomm, *Mobile Metabolic health Monitoring Network: Phase 1*, $57K total (08/01/08 07/31/09) (PI: S. Narayanan, co-PIs M. Annavaram, N. Medvidovic, G. Sukhatme, D. Spruijt-Metz all USC)

F25 National Center for Minority Health and Health Disparities, *Mobile Device Biomonitoring to Prevent and Treat Obesity in Underserved Minority Youth*, $472K total(09/01/08-08/30/10) (PI D. Spruijt-Metz, co-PIs M. Annavaram, N. Medvidovic, S. Narayanan, G. Sukhatme, all USC)

F24 National Science Foundation, *Wireless Underwater Multi-tiered Acoustic Networks* $500K (total, Mitra's portion $250K)(8/21/08-08/24/11)(co-PI M. Stojanovic, Northeastern)

F23 National Science Foundation, *MRI: Development of an Always-Available Testbed for Underwater Networking Research* $250K (total)(07/07/08- 07/08/09), (PI W. Ye, ISI, co-PIs J. Heidemann, J. Wills, ISI)

F22 National Science Foundation, *Maltraffic Analysis and Detection in Challenging and Aggregate Traffic (MADCAT)* ,$896K (total, Mitra's portion approx $200K) (09/01/06 - 08/31/09) (PI-Papadapoulos at Colorado School of Mines, co-PI's Heidemann, Ortega at USC)

F21 National Science Foundation, *Networking the Digital Ocean*, $1300K (total, Mitra's portion approx. $330K) (09/01/05–08/31/06) (Mitra PI, 4 co-PIs at USC, Woodshole Oceanographic Institute, MIT, Intel).

F20 Provost's Office, University of Southern California, *The Digital Ocean: a proposal to the Center for Interdisciplinary Research*, $50K (07/01/05–06/30/06).

F19 Office of Naval Research, *Cooperative communications and signal processing methods for large scale sensor networks*, $234K (03/01/04–09/30/06)

F19 Center for Embedded Networked Systems (NSF STC, UCLA), *Sensor Networks: Communication via Collaboration*, $42K (09/01/03 – 08/31/04)

F18 National Science Foundation, *NRT: Scalable Testbed for Next Generation Mobile Wireless Networking Technologies*, Rajive Bagrodia, UCLA, PI (12 PI grant: UCLA, UCSD, USC, UC Riverside, UCSB, University of Delaware) $275K (10/01/03-09/30/06)

F17 National Science Foundation, *ITR: From Sensor Networks to Multimedia Systems: New Views on MIMO Channels*, $237K (07/15/03-06/30/06)

F16 National Science Foundation, *A Hybrid Systems Approach to Resource Allocation for Multimedia Wireless Networks*, co-PI Urbashi Mitra, co-PI Scott Jordan (UCI), $326K (09/02-11/05).

F15 Okawa Foundation Award, $10K (09/01-08/02).

F14 University of Southern California, WISE Large Grant Program, $37K (09/01-08/04).

F13 National Science Foundation, *Efficient Integration and Quality-of-Service Management of Video over Wireless Networks*, co-Principal Investigator- Urbashi Mitra, co-Principal Investigator- Wu-Chi Feng , $300K joint (10/01-09/04).

F12 Intel, *Channel Modeling for UltraWideband Communication Systems*, Principal Investigator- Urbashi Mitra, $147K (06/01–05/03).

F11 National Science Foundation, *Space-time Coding for Wireless Communications* Principal Investigator- Michael Fitz, co-Principal Investigator- Urbashi Mitra, $480K joint (10/00-09/03).

F10 Air Force Office of Scientific Research, 2000 Defense University Research Instrumentation Program, *Instrumentation to Support Advanced Research on Wireless CDMA Communications*, Principal Investigator- Urbashi Mitra, co-Principal Investigator- Michael Fitz, $338K (one time award for equipment)(10/00-09/01).

F9 National Science Foundation, Special Projects in Networking and Communications, Principal Investigator - M. Fitz; co-Principal Investigators - U. Mitra, C-J. Hou, H. Özbay, and R. Jain (all at OSU), *An Experimental Testbed for Research in Advanced Wireless Communications*, $1,491 K joint(10/98 -10/01).

F8 National Science Foundation CISE Instrumentation Program, Principal Investigator - M. Fitz; co-Principal Investigators - U. Mitra, S. Bibyk, Ü. Özguner, and P. Roblin (all at OSU), $71K (one time award for equipment)(01/97-01/98).

F7 AT&T Foundation, *A Wireless Communications Systems Laboratory for Research in PCS, Digital Cellular and Intelligent Transportation Systems (equipment grant)* $40K (10/96-10/97).

F6 National Science Foundation CAREER Grant, *Multi-user Receivers for Advanced Wireless Systems* $210K (09/96-09/00).

F5 Air Force Office of Scientific Research, *New Robust Estimation/Detection Techniques with Applications to Wireless CDMA Communications* $109K (04/96-09/99).

F4 The Ohio Space Grant Consortium Seed Grant Program , *Development and Analysis of Robust Multi-User Receivers for Wireless Communications*, travel funds for 3 conferences, the above amount matched by the Department of Electrical Engineering, OSU, $2.5K (05/95-12/95).

F3 National Science Foundation - Research Planning Grants, *Development and Analysis of Multi-User Receivers for Multi-Rate Wireless Communications*, $18K (05/95-05/97).

F2 The Ohio State University Seed Grant program, *Flexible Adaptive Multi-User Receivers for Dispersive Communication Environments*, $22K (12/94-06/96).

F1 National Science Foundation - Post-Doctoral and Junior Investigator Research Fellowship, *Adaptive Multi-User Receivers for Fading and Time-Dispersive Communication Channels*, for funding collaboration with colleagues at the Institut EURÉCOM, Sophia Antipolis, France, $37K (09/94-09/97).

PROFESSIONAL ACTIVITIES:

1. **EXTERNAL REVIEW COMMITTEES**
   (a) Chair, Review Committee for Fundacao para a Ciencia e a Tecnologia (Portuguese FCT) – review of 14 research institutes across Portugual
   (b) Member, External Review Committee, Department of Electrical and Computer Engineering, University of Arizona
   (c) Member, (first) External Review Committee, Department of Electrical Engineering, Beijing Institute of Technology
2. **IEEE**
   (a) Member, IEEE Koji Kobayashi Computers and Communications Award Committee (2019–)
   (b) Member, IEEE Prize Paper Award Committee (2014-2015)
   (c) Member, IEEE James H. Mulligan Jr. Education Medal Committee (2013-2016, Chair 2017-2018)
   (d) Member, IEEE Fourier Award for Signal Processing Committee (2013-2016)
3. **IEEE COMMUNICATIONS SOCIETY SERVICE**
   (a) Chair, Communication Theory Technical Committee, 1/2019 – 12/2020
   (b) Vice Chair, Communication Theory Technical Committee, 1/2017 – 12/2018
   (c) Member-at-Large, Board of Governors, 1/2018 – 12/2021
4. **IEEE INFORMATION THEORY SOCIETY SERVICE**
   (a) **Information Theory Magazine**, steering committee (01/18–)
   (b) **Board of Governors** (01/02–12/07, 01/12-12/17)
   (c) **External Nominations Committee** 2/16 – 2/17
   (d) **Conference Committee** (1/14– 8/18)
   (e) **Aaron Wyner Service Award Committee:** (01/14–01/15)
   (f) **Awards Committee** (01/12–12/13)
   (g) **Outreach Committee** (05/12 – 05/14)
   (h) **Padovani Fund Committee** (07/13 – 07/14)
   (i) **Liaison** from IEEE Information Theory Society to IEEE Signal Processing Society
   (j) **Membership Chair** (03/96 – 12/00)
   (k) **Information Officer** (04/03– 04/05)
5. **IEEE SIGNAL PROCESSING SOCIETY SERVICE**
   (a) **Awards Board** (1/17–12/18)

(b) **IEEE Fellows Committee** (1/17–12/19)

(c) **Technical Committee Member**: Signal Processing for Communications and Networks (01/12–12/16)

(d) **SmartGrids Ad Hoc Committee**

(e) IEEE Transactions on Wireless Communications Steering Committee, Signal Processing Society representative (1/14–12/16, 1/17–12/18, Chair)

6. CONFERENCE ORGANIZATION

(a) **Technical Program Co-Chair**, IEEE Communication Theory Workshop, Selfoss, Iceland, May 2019.

(b) **Technical Program Co-Chair**, IEEE Signal Processing Advances in Wireless Communications Workshop, Kalamata Greece, June 2018.

(c) **Communications Track Chair**, Asilomar Conference on Computers, Signals and Systems, Pacific Grove, CA, October/Novemeber 2017.

(d) **Organizer**, Communications, Inference and Computing in Molecular and Biological Systems Workshop, 12/3-4/15, USC

(e) **Organizer**, USC Workshop on Future Directions in Networks, Optimization & Controls, 12/18/14 USC

(f) **Technical Program Co-Chair**, IEEE International Symposium on Information Theory, Honolulu HI, July 2014

(g) **Technical Program Co-Chair**, IEEE Information Theory Workshop, Hobart, Tasmania 2014

(h) **Co-organizer**, Women's Workshop on Communications and Signal Processing, 1st Workshop (Banff, Canada July 2012), 2nd Workshop (Princeton, NJ July 2014), 3rd Workshop (Washington DC, December 2016 in conjunction with Globecom)

(i) **Technical Program Co-Chair**, SPCOM Workshop, IISc Bangalore, India, July 2012

(j) **IEEE SmartGridComm Symposium Chair**: Demand Side Management, Demand Response, Dynamic Pricing, Tainan Taiwan, November 2012

(k) **Financial Officer**, *IEEE International Conference on Acoustics, Speech, and Signal Processing*, Las Vegas, 2007

(l) **Tutorial Coordinator**, *IEEE International Symposium on Information Theory*, Nice France, 2007

(m) **General Program Co-Chair**, *2006, 1st International Workshop on Underwater Networks, Mobicom'06*, September 2006, Los Angeles, CA

(n) **Technical Program Co-Chair**, *2003, Communications Theory Symposium, IEEE International Conference on Communications*, Anchorage, AK

7. ASSOCIATE EDITORSHIPS

(a) IEEE Transactions on Signal Processing (11/12 – 12/15)

(b) IEEE Journal of Oceanic Engineering (10/06 -05/11)(Acoustic Communications)

(c) IEEE Transactions on Information Theory (05/07-12/10) (Editor at Large)

(d) IEEE Transactions on Communications (07/96-12/01) (Spread-Spectrum and Equalization)

8. GUEST EDITORSHIPS

(a) IEEE Journal on Selected Areas of Communications (03/07 - 12/08) (lead editor) underwater acoustic communication networks

(b) IEEE Journal on Selected Areas of Communications (09/06 - 04/08) multiuser detection

(c) IEEE Signal Processing Magazine (01/05) Wireless sensor networks

(d) Journal on Communications and Networks (JCN) (10/04) Communications and Signal Processing in Sensor Networks

9. **Technical Program Committee Member**

(a) IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) (2010–)

(b) IEEE International Symposium on Information Theory (ISIT) (2020,2017,2014,2011, 2010, 2009, 2005,2000)

(c) IEEE Global Communications Conference (Globecom) Cognitive Radio Symposium (2011,2013), Communication Theory Symposium (2004,2009,2019,2020), Signal Processing for Communications (2004), Wireless Communications Symposium (2003)

(d) IEEE International Conference on Communications (ICC) Communication Theory Symposium (2019,2020,2018,2012,2010,2009,2007, 2001), Molecular, Biological and Multiscale Communications SAC Track (2018,2019,2020), Wireless Communications Symposium(2013), 1998

(e) IEEE SPAWC (2011,2012,2013,2019)

(f) ACM Workshop on Underwater Networks WUWNET (2007,2008,2009, 2011, 2013, 2014,2015,2017)

(g) IEEE Globecom Workshop on Wireless Networking and Control for Unmanned Autonomous Vehicles (2017–2012)

(h) International Conference on Information Processing in Sensor Networks (IPSN) (2015,2011, 2006, 2005, 2004)

(i) IEEE Dynamic Spectrum Access Networks (DySpAN) Conference (2011)

(j) IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS) (2010, Track Chair 2009)

(k) BlackSeaComm 2013

(l) ACM Sensys 2004

(m) IEEE / MTS OCEANS Conference (2010–2015)

(n) IEEE Information Theory Workshop (2020,2010, 2004)

(o) IEEE Vehicular Technology Conference (2004)

(p) UWBST (2004, Track Chair 2003)

(q) *IEEE-EURASIP International Symposium on Control, Communications, and Signal Processing* (ISCCSP) Hammamet, Tunisia, March 2004

(r) *Conference on Modelling and Design of Wireless Networks*, SPIE International Symposium and Exhibit on the Convergence of Information Technology and Communication, Denver CO, August 2001

(s) *IEEE Wireless Communications and Networking Conference*, New Orleans LA, September 1999

(t) *Fifth Bayona Workshop on Emerging Technologies in Telecommunications*, Bayona Spain, September 1999

(u) *IEEE International Symposium on Information Theory Applications*, Honolulu HI, September 2000

10. **Proposal Reviewer:**National Science Foundation, Army Research Office, Air Force Office of Scientific Research, Office of Naval Research, Swedish RAE, Swedish VR, Dutch STW, Canadian NSERC, Israeli-US Binational Foundation

11. **Conference Session Organizer:**

,

- *Information Theory and Applications Workshop*, February 2013- 2016, San Diego, CA
- *IEEE International workshop on Signal Processing Advances in Wireless Communications* July 2016, Edinburgh, UK
- *Communication Theory Workshop*, May 2018, Sandestin, FL
- *Communication Theory Workshop*, May 2016, Napflion Greece
- *Communication Theory Workshop*, May 2009, Napa, CA
- *Asilomar Conference on Signals, Systems and Computers*, November Monterey, CA (1997, 2002, 2004, 2016, 2018,2019)
- *IEEE-EURASIP International Symposium on Control, Communications, and Signal Processing* (ISCCSP) Hammamet, Tunisia, March 2004
- *IEEE Workshop on Statistical Signal Processing* , October 2003, St. Louis, MO (two sessions).
- *IEEE Wireless Communications and Networking Conference*, September 1999, New Orleans, LA.
- *IEEE International Conference on Communications*, June 1998, Atlanta, GA.

12. **External Examination Committees:**

(a) Mr. Amir Tadayon, external committee member for PhD proposal exam (advisor: Milica Stojanovic), October 23, 2019, Northeastern University, Boston, MA

(b) Dr. Shuai Li, External Evaluation for PhD (advisor: Frans Willems), June 6, 2017, Technical University of Eindhoven, Eindhoven the Netherlands

(c) Dr. Seyran Khademi, External Evaluation for PhD (advisor: Alle Jan van der Veen), November 22, 2016, Technical University of Delft, Delft the Netherlands

(d) Dr. Adam Noel, External evaluation for PhD (advisor: Robert Schober), September 17, 2015, University of British Columbia, Vancouver BC Canada

(e) Dr. Elchanan Zwecher, Doctoral thesis evaluator (advisor: Dana Porrat), January 2013, Hebrew University of Jerusalem, Israel.

(f) Dr. David Caicedo, Doctoral Defense (advisor: Geert Leus), June 2014, Technical University of Delft, Delft, the Netherlands.

(g) Mr. David Caicedo, Masters Defense (advisor: Geert Leus), June 2010, Technical University of Delft, Delft, the Netherlands.

(h) Dr. Kun Fang, Doctoral Defense (advisor: Geert Leus), March 2010, Technical University of Delft, Delft, the Netherlands.

(i) Dr. Irena Maravic, Doctoral Defense (advisor: Martin Vetterli), July 2004, Ecole Polytechnique Fédérale, Lausanne, Switzerland.

(j) Dr. Benjamin Skelton, Dissertation Review, (advisor: Desmond Taylor), November 2000, University of Canterbury, Christchurch, New Zealand.

(k) Dr. Xavier Mestre, Dissertation Proposal Review, (advisor: Javier Fonollosa), May 2000, Polytechnical University of Catalunya, Barcelona, Spain.

(l) Dr. Claes Tidestav, Doctoral Defense, (advisor: Anders Ahlen), December 1999, Uppsala University, Uppsala, Sweden.

(m) Mr. Ruhua He, General Examination, (advisor: Irving Reed), March 1999, University of Southern California, Los Angeles, CA.

(n) Dr. Carlos Escudero, Doctoral Defense, (advisor: Luis Castedo), March 1998, Univerity of La Coruña, La Coruña, Spain.

UNIVERSITY ACTIVITIES

USC UNIVERSITY SERVICE

Ming Hsieh Department of Electrical Engineering

Active and consistent participation in: Communications area faculty hiring, Controls area faculty hiring, doctoral student admissions, graduate student recruitment, graduate student fellowship nomination, and MS student advising.

1. Ming Hsieh Institute Scholars Review Committee (Fall 2019)
2. Faculty Coordinator, Robert A Scholtz Retirement Event, April 4, 2019
3. Ming Hsieh Institute Advisory Board (August 2011-August 2015)
4. Departmental Hiring Super Committee (August 2011- 2019)
5. Faculty Merit Review Committee (Research Spring 2010, Teaching & Service Spring 2001)
6. Women EE PhD Networking Group, Faculty Mentor. (09/06 - present)
7. EE Systems Department Distinguished Lecturer Series Coordinator (2004-2005)
8. Communications Sciences Institute, co-Director (August 2003 - May 2007, August 2017-)
9. Departmental Appointment, Promotion, and Tenure Committees Full Professor appointments (4, Chair (3)) , Associate Professor promotion (3, Chair (2)), Assistant Professor promotion (2, Chair(1)), Joint Appointments (2)
10. Departmental Web Page Committee, Member (01/01- 05/02)
11. Communications Area Screening Exam Coordinator (Spring 2001, Fall 2001, Spring 2002)
12. Communications Laboratory Renovation, Chair Spring 2001
13. Fellowship Application Clinic Co-Organizer (with K. Nayak and B. Krishnamachari 2006-2008)

Viterbi School of Engineering

Regular presenter for VSoE panels aimed at faculty and graduate students: (1) Applying for a faculty position, (2) Graduate study towards a faculty position, (3) Promotion to Full Professor - What to do, *etc.*

1. Engineering Faculty Council (08/11 - 05/13)
2. Viterbi Research Committee (08/11 - 08/16, 08/17- present)
3. VSoE WiSE Committee, Committee Chair (2006-2009,2010-2011)
4. CRA/USC Program for Women Ph.D. students, Faculty Presenter (11/10)
5. VSoE New MS Student Orientation, Faculty Presenter (8/09, 8/10, 8/14)
6. Liaison from WISE Advisory Board to VSoE (01/01-08/03)
7. VSoE Appointments, Promotion and Tenure Committee (08/04 - 05/05)
8. Energy Initiative Committee (acting chair, 06/07 -04/09, member 01/06-04/09).
9. WiSE Representative, Mork Family Department of Chemical Engineering & Materials Science, University Committee on Academic Review (04/07)
10. VSoE Presidential/Provost Fellowship Interviews (Spring 2002, 2003,2004,2011,2013,2014,2018).
11. Boeing Mobile Wireless Communication & Networking Technology Strategy, VSoE Representative (01/04)
12. Women's Interest Network, Faculty Participant (01/03-05/05)

University of Southern California

1. University Appointments, Tenure and Promotion (01/06- 08/09, 08/10 - 8/14, 8/13-8/16 Chair, 8/17- 8/18 Chair)
2. What is Electrical Engineering (08/02/17), USC Careers in STEM summer workshop for middle and high school students
3. University Research Committee (08/12-7/13)
4. Graduate School Advisory Council (08/11- 12/14)
5. Center for Excellence in Research Fellow (08/10-05/13) panels organized:
   (a) Wireless Technologies and their Potential for Health and Health-related Research (03/11)
   (b) The Birth of Aerospace in Southern California (04/11)
   (c) Medical Informatics (10/11)
   (d) Social Networks and Health: What can Technology Do? (03/12)
   (e) The Brain: Natural and Artificial (09/12)
6. Provost's Workshop on Mentoring, Faculty presenter (02/11)
7. Future of Tenure Panel, Faculty presenter
8. Women@CENS panel, NSF Science & Technology Center, Faculty presenter (Summer 2004, 2007, 2008, 2009)
9. Provost WISE Advisory Board, Committee Member. (08/01- 05/05, 08/12-08/16)

10. Provost WiSE Task Force, Member (01/01- 05/01)
11. Featured Speaker, Presidential Scholarship Recruitment Dinner (03/04)
12. USC Threat Assessment Team Member (2001, 2002, 2004)
13. USC Faculty Diversity Committee, Member (01/01- 05/03)

OSU UNIVERSITY SERVICE

University Committees and Service

1. "An Orientation for New Faculty," September 18, 1997, Facilitator for *Perceptions of Junior Faculty on Succeeding at Ohio State*, sponsored by the Office of Faculty and Teaching Assistant Development.
2. "Roads Scholar Tour," tour of Southern Ohio with OSU faculty and administrators to promote OSU in the public view, September 1998.
3. "Dorm-Storm," welcoming of Honors freshmen October 1997, October 1998.
4. Presentation Judge, Graduate Research Forum, Engineering Area, April 1998, April 1999.

College of Engineering Committees and Service

1. College of Engineering Career Exploration Day, March 8, 1997, Speaker for the Department of Electrical Engineering
2. ACE Day speaker, Department of Electrical Engineering, May 1995.

Departmental Committees and Service

1. Communications/Signal Processing Area Committee – 09/94–12/00
2. Research Committee – 09/95– 12/00
3. Ad Hoc Search Committee for the hiring of a faculty member in Communications – 09/95 – 12/00
4. Recruiting & Financial Aid – 09/97–12/00
5. "What is Communications?", Seminar for Incoming Freshmen/Sophomores October 1997; January 1998, October 1998, October 1999.
6. Electrical Engineering Student Council Faculty Seminar Series, "What is Communications?", January 1998.
7. EE Undergraduate Advisor for Technical Affairs: Communications Area (Spring 1996, 1997, 1998)

PERSONAL: U.S. citizen, Female.

REFERENCES: available upon request.