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**RESEARCH INTERESTS:**

Multiuser Systems	Space-Time Coding
Stochastic Signal Processing	Sensor Networks
Ultra Wideband Systems	Resource Allocation
Mobile and Personal Communications	Detection and Estimation Theory
Underwater Acoustic Communications	Blind & Adaptive Algorithms

**EDUCATION:**

1990-1994 **Princeton University**  
Ph.D., Electrical Engineering, June 1994.  
Dissertation: "Adaptive Multi-user Receivers"  
Ph.D. Advisor: Professor H. Vincent Poor  
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**, *Professor (02/05 – present), Associate Professor (01/01– 01/05)*

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

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

Fall 2002 **Rice University**, *Visiting Associate Professor*

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), Associate Professor, Hacettepe University, Ankara Turkey
3. Prof. Sau-Hsuan Wu (USC PhD 09/03, co-advised with C.-C. Kuo), Assistant 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) Intel, Munich Germany
6. Dr. Chartchai Meesookho (USC PhD 05/07 co-advised with S. Narayanan)
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. Dr. Daphney-Stavroula Zois (USC PhD 5/14) Post-doctoral Researcher, University of Illinois, Urbana-Champaign (with Max Raginsky)

Post-doctoral Researchers

1. Dr. Emrah Akyol (post-doctoral researcher at USC 2013-2014), post-doctoral researcher at the University of Illinois, Urbana-Champaign (with Tamer Basar)
2. Prof. Geoff Hollinger (post-doctoral researcher at USC 2010-2013, co-advised with G. Sukhatme, CS USC) (Assistant Professor, Oregon State University)

3. Prof. Marco Levorato (post-doctoral researcher at USC, 2010-2012, co-advised with A. Goldsmith, EE Stanford) (Assistant Professor, University of California, Irvine)
4. Dr. Daniel Liu (post-doctoral researcher at USC 2008-2009, co advised with G. Caire, EE USC) (Northrup Grumman, Los Angeles, CA)
5. Dr. Feng Wan (NSERC Postdoctoral Fellow)
6. Prof. Wenyi Zhang (post-doctoral researcher at USC 2006-2008) (Professor, University of Science and Technology of China, Hefei China)
7. Dr. Cecilia Carbonelli (post-doctoral researcher at USC)(Intel Mobile Communications, Munich Germany)
8. Prof. Mehmet Akar (post-doctoral researcher/research assistant professor at USC 2001-2003)(Associate Professor, Bogazici University, Istanbul, Turkey)
9. Prof. Monica Fernandez Bugallo (post-doctoral researcher at USC 2001) (Associate Professor, SUNY Stonybrook)
10. Dr. Carlos Escudero (post-doctoral researcher at OSU) (Associate Professor & Faculty Vice-Dean, La Coruna University, La Coruna, Spain)

#### HONORS AND AWARDS:

1. IEEE Globecom Best Paper Award, Anaheim CA, December 2012, Signal Processing for Communications Symposium (2012)
2. Student Best Paper Award (advisor), International Conference on Signal Processing and Communications, Bangalore India, July 2012
3. Lillian Gilbreth Lectureship, Irvine CA, February 2012, U.S. National Academy of Engineering (2012)
4. IEEE Information Theory, Board of Governors (January 2002–December 2007, January 2012- December 2014)
5. IEEE Signal Processing Society, Technical Committee for Signal Processing for Communications and Networks (2012–2016)
6. Qualcomm Innovation Fund Team Finalist (co-advisor), April 2011
7. U.S. National Academy of Engineering and Chinese Academy of Engineering China-America Frontiers of Engineering Symposium Speaker (2011)
8. USC VSoE Dean's Service Award (2009)
9. Best Applications Paper Award, DCOSS (2009)
10. USC Remarkable Woman Award (Faculty) (2009)
11. USC Mellon Mentoring Award (Faculty-to-Faculty) (2008)
12. Elected IEEE Fellow (2007)
13. National Academy of Engineering's Frontiers in Engineering Symposium, Participant, September 2003

14. Texas Instruments Faculty Fellow, Rice University, Fall 2002
15. Okawa Foundation Award (2001, see Funding)
16. Lumley Research Award (2000), OSU College of Engineering
17. Charles E. MacQuigg Student Award for Outstanding Teaching from the Engineers Student Council (1997)<sup>1</sup>
18. NSF CAREER Award (1996, see Funding)
19. NSF International Post-doctoral Fellowship (1994, see Funding)
20. Margaret Goheen Travel Fund Award (June 1993)
21. Lockheed Leadership Fellowship (1988-1989)
22. Microelectronics Fellowship (1987-1988)
23. UC Berkeley College of Engineering Bechtel Achievement Award – highest award for academic achievement and community service (1987)
24. Tau Beta Pi, Eta Kappa Nu

#### TEACHING:

University of Southern California

1. Freshman Academy (UG, Fa13, Fa14)
2. Linear Algebra and Matrix Theory (UG, Sp13)
3. Special Topics: Sparse Approximation Theory (GS, Fa12)
4. Applied Linear Algebra (GS, Fa10, Sp12, Sp14)
5. Mobile Communications (GS, Fa05, Fa06)
6. Probability Theory for Engineers (GS, Sp05, Sp09)
7. Spread-Spectrum Systems (GS, Sp03, Sp04, Sp08)
8. Digital Communication Theory (GS, Fa01, Sp02, Fa04, Sp06, Fa08, Fa11)
9. 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)

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<sup>1</sup>Three awards are given annually to faculty in the OSU College of Engineering.

5. Multiuser Detection Theory (GS, Au95, Au97, Au99, Sp01)
6. Signals and Systems II (UG, Wi97)
7. Communication Theory (UG, Wi98, Wi00)

JOURNAL ARTICLES:

A \* indicates a senior collaborator (not a graduate student, not a post-doctoral associate)

Accepted

- A1. 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, accepted with minor revision, November 9, 2014.
- A2. 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, accepted with minor revision, November 9, 2014.
- A3. G. Hollinger, S. Yerramalli, S. Singh\*, U. Mitra, and G. Sukhatme\*, **Distributed coordination and data fusion for multi-robot search**, submitted to *IEEE Transactions on Robotics*(TRO), conditionally accepted October 2014.
- A4. N. Kumar, U. Mitra and S. Narayanan\*, **Robust object classification in underwater side-scan sonar images by using reliability aware fusion of shadow features**, submitted to the *IEEE Journal on Oceanic Engineering*, accepted August 2014.
- A5. B. Ahmadi, O. Simeone\*, C. Choudhuri and U. Mitra, **On Cascade Source Coding with A Side Information Vending Machine**, submitted to the *IEEE Transactions on Information Theory*, accepted July 15, 2014.
- A6. D. Zois, M. Levorato, U. Mitra, **Active Classification for POMDPs: a Kalman-like State Estimator**, submitted to the *IEEE Transactions on Signal Processing*, accepted June 29, 2014.
- A7. 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, to appear December 104.
- A8. R. Mosayebi, H. Arjmandi, A. Gohari, 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, to appear December 2014.
- A9. C. Choudhuri and U. Mitra, **Capacity Bounds for Relay Channels with ISI and Colored Gaussian Noise**, submitted to the *IEEE Transactions on Information Theory*, accepted March 5, 2013.

Published

- J1. S. Yerramalli, R. Jain\* and U. Mitra, **Coalitional Games for Transmitter Cooperation in MIMO Multiple Access Channels**, accepted with minor revisions, *IEEE Transactions on Signal Processing*, vol.62, no.4, pp.757-771, February, 2014.

- J2. 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.
- J3. C. Choudhuri, Y.-H. Kim\*, U. Mitra, **Causal State Communication**, *IEEE Transactions on Information Theory*, vol.59, no.6, pp.3709,3719, June 2013.
- J4. 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.
- J5. 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.
- J6. 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.
- J7. 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.
- J8. 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.
- J9. 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.
- J10. 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.
- J11. 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
- J12. 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.
- J13. 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.
- J14. 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.

- J15. 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.
- J16. 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.
- J17. 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.
- J18. 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.
- J19. 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.
- J20. 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.
- J21. 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.
- J22. 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.
- J23. 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.
- J24. 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.
- J25. 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.
- J26. 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.
- J27. 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.

- J28. 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.
- J29. 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.
- J30. 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.
- J31. 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.
- J32. 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.
- J33. 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.
- J34. 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.
- J35. 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.
- J36. 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.
- J37. 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.
- J38. 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.
- J39. S. Franz and U. Mitra, **Quantized UWB Transmitted Reference Systems**, IEEE Transactions on Wireless Communications, vol. 6, no. 7, July 2007 pp. 2540 - 2550.
- J40. 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.
- J41. 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.



- J42. 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.
- J43. 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.
- J44. 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.
- J45. 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.
- J46. 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.
- J47. 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.
- J48. 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.
- J49. 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.
- J50. 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.
- J51. 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.
- J52. 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.
- J53. 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.
- J54. 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.

- J55. 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.
- J56. 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.
- J57. 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.
- J58. 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.
- J59. 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).
- J60. A. Sabharwal, U. Mitra and R. Moses\*, **MMSE Receivers for Multirate DS-CDMA Systems**<sup>2</sup>, *IEEE Transactions on Communications*, vol. 49, no. 12, December 2001 pp. 2184–2197.
- J61. 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.
- J62. 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.
- J63. M. Akar and U. Mitra, **Variations on Optimal and Suboptimal Handoff Algorithms for Cellular Systems**, *IEEE Journal on Selected Areas of Communication, Wireless Series*. vol. 18, no. 6, June 2001, pp. 1173–1185.
- J64. 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.
- J65. 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.
- J66. 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.
- J67. 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.
- J68. 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.

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

- J69. 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.
- J70. 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.
- J71. 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.
- J72. 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.
- J73. 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.
- J74. 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.
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- C4. S. Choudhary and U. Mitra **On The Impossibility of Blind Deconvolution for Geometrically Decaying Subspace Sparse Signals**, IEEE GlobalSip, Atlanta GA, December 2014 (invited)
- C5. N. Michelusi and U. Mitra **Joint Distributed Sensing, Estimation and Decentralized control in Networked systems**, IEEE GlobalSip, Atlanta GA, December 2014 (invited)
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- C21. S. Choudhary and U. Mitra, **Identifiability Results on Bilinear Inverse Problems and Sparse Blind Deconvolution**, Conference on Communications and Information Sciences, Princeton, NJ, March, **invited paper**.
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- C25. 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**).

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- C31. 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.
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- C38. 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**).
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- C81. 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**.
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- C89. 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).
- C90. 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.
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- C92. 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.
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- C96. 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.
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- C98. D. N. Liu, M. P. Fitz\* and U. Mitra, **On Channel Estimation in Fast Fading Mobile Coded MIMO OFDM**, ISIT, Seoul, Korea, July 2009.
- C99. C. Choudhuri and U. Mitra, **Capacity of Relay Channels with ISI and Colored Gaussian Noise**, ISIT, Seoul, Korea, July 2009.
- C100. 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).

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- C102. 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.
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- C107. 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.
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SUBMITTED WORK:

A \* indicates a senior collaborator (not a graduate student, not a post-doctoral associate)

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- Dr. Ashish Pandharipande, Phillips Research, Eindhoven, the Netherlands
- Professor Ashutosh Sabharwal, Assistant Professor, Rice University, Houston TX
- Professor Osvaldo Simeone, New Jersey Institute of Technology, Newark NJ
- Professor Erik Strö, Chalmers University, Goteborg, Sweden
- Professor Gaurav Sukhatme, University of Southern California, Los Angeles CA
- Professor Milica Stojanovic, Northeastern University, Boston MA
- Dr. Zijian Tang, Shell Research, Rijswijk, the Netherlands
- Professor Michele Zorzi, University of Padova, Padova Italy

INVITED TALKS (Universities and Corporations):

- T1. **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.
- T2. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, Mathematics Department Colloquium, University of Madison, WI, January 31, 2014.
- T3. **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.
- T4. **The confluence of communication, sensing and control in large scale wireless networks**, University of Wisconsin, Madison *SILo Seminar*, January 30, 2014.
- T5. **Identifiability for Bilinear Inverse Problems with (Eventual) Applications to Blind Deconvolution, Matrix Factorization and Dictionary Finding**, Georgia Tech, Atlanta, GA, December 10, 2013.
- T6. **Identifiability for Bilinear Inverse Problems with (Eventual) Applications to Blind Deconvolution, Matrix Factorization and Dictionary Finding**, University of Iowa, Iowa City, IA, October 17, 2013.

- T7. **Having One's Cake and Eating it Too: The Problem of Joint Communication and Sensing**, University of California, San Diego CA, April 17, 2013
- T8. **Wavelets and Sparse Approximation Methods for Large Scale Network Control**, Aalto University, Helsinki Finland, April 4, 2013
- T9. **Wavelets and Sparse Approximation Methods for Large Scale Network Control**, Electrical Engineering Department Colloquium, University of Illinois, Urbana-Champaign, January 24, 2013.
- T10. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, Chalmers University, Gothenburg Sweden, June, 2012
- T11. **Hybrid Sparse/Diffuse Channels: Channel Models, Bayesian Estimators & Analysis**, University of California, Riverside, January 23, 2012.
- T12. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, University of Texas, Austin, January 20, 2012.
- T13. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, Rice University, December 6 2011.
- T14. **Having Ones Cake and Eating it Too:The Problem of Joint Communication and Sensing**, University of Illinois, Urbana-Champaign, November 10, 2011.
- T15. **Underwater Acoustic Channels: Opportunities for Information and Communication Theories**, CalTech Lunch Colloquium, April 4, 2011.
- T16. **New Results for Communication Systems in Underwater Acoustic Channels**, TNO (Netherlands Organization for Applied Scientific Research), Rijswijk, April 28, 2010.
- T17. **Grey Spaces: A new Approach for Cognitive Radio** Technical University of Eindhoven, April 15, 2010.
- T18. **KNOWME: a wireless body area sensing network for biometric signal analysis**, Philips, Eindhoven, March 11, 2010.
- T19. **Some Results on a Networked Physical Layer and Questions for Cross-layer Approaches** University of Padova, December 16, 2009.
- T20. **Grey Spaces: A new Approach for Cognitive Radio** EPFL, December 9, 2009.
- T21. **Grey Spaces: A new Approach for Cognitive Radio** Technical University of Delft December 3, 2009.
- T22. **Joint Communication and Estimation: Some Fundamental Limits and Applications to Sensor Networks** Technical University of Delft, October 8 , 2009.
- T23. **Joint Communication and Estimation: Some Fundamental Limits and Applications to Sensor Networks** University of California, Davis, December 5, 2008.
- T24. **Sensing in Multihop Sensor Networks**, McGill University, Montreal, Canada, September 13 2007.
- T25. **Communication and Resource Allocation Strategies for Sensor Networks**, Microsoft Research, Redmond, WA, August 15, 2006.

- T26. **Cooperation, Multihopping and Relaying in Underwater Networks**, Boeing, Anaheim, CA, June 1, 2006.
- T27. **Channel acquisition and estimation for UWB systems: an examination of fundamental limits**, University of Pisa, Pisa, Italy, May 9, 2006.
- T28. **Methods for Combating Fading in Multiuser Multipath Channels**, Qualcomm, San Diego CA, May 14, 2004.
- T29. **Systematic Space-Time Code Designs**, Raytheon Corporation, Fullerton CA, May 6, 2004.
- T30. **New Constructions of Space-time Block Codes and their marriage to MTCM**, Stanford University, Palo Alto, CA, December 2, 2003.
- T31. **Collaborative Communications & Signal Processing for Sensor Networks**, University of California, Berkeley, EECS Departmental Colloquium, November 21, 2003.
- T32. **New Constructions of Space-time Block Codes and their marriage to MTCM**, University of California, Santa Cruz, October 21, 2003.
- T33. **New Constructions of Space-time Block Codes and their marriage to MTCM**, University of California, Berkeley, October 28, 2003.
- T34. **Blind Equalization of Unitary Space-Time Modulations**, University of California, Santa Barbara, May 2, 2003.
- T35. **Spread Spectrum Systems: Lessons Learned and New Applications**, Intel Corporation Colloquium, Hillsboro, OR, April 3, 2003.
- T36. **Collaborative Communications & Signal Processing for Sensor Networks: Research Review**, Center for Embedded Networks Seminar Series, University of California, Los Angeles, August 29, 2003.
- T37. **Blind Equalization for Unitary Space-Time Modulation**, University of Houston, November 19, 2002.
- T38. **On Achievable Rates of Complexity Constrained Relay Networks**, Rice University, November 13, 2002.
- T39. **Blind Equalization for Unitary Space-Time Modulation**, University of Texas, Austin, September 13, 2002.
- T40. **Tackling the Fast Multipath Fading Channel in CDMA Systems**, CalTech, Pasadena, CA, February 27, 2002.
- T41. **Receiver Designs for Fast Fading Multuser Multipath Channels**, University of California, Riverside, CA, February 22, 2002.
- T42. **Advanced Receiver Designs for DS-CDMA: Multimedia and Space-Time Coded systems**, Conexant, Newport, CA, January 29, 2002.
- T43. **On Space-Time Coding for CDMA**, Okawa Awards Reception, Palo Alto, CA October 25, 2001.
- T44. **On Space-Time Block Codes for DS-CDMA Systems**, Department of Electrical Engineering, UCLA, Los Angeles, October 24, 2001.



- T45. **Ultra Wideband Channel Modeling**, Intel Workshop on Ultrawideband Communications, Portland, OR, October 11-12, 2001.
- T46. **Advanced Receiver Designs for DS-CDMA**, Aerospace Corporation, El Segundo, CA, July 19, 2001.
- T47. **Advanced Multiuser Receiver Designs**, Department of Informatics, Tampere University of Technology, Tampere, Finland, June 15, 2001.
- T48. **DS-CDMA Space-Time Block Codes: Uplink and Downlink Comparisons**, Multidimensional Mobile Communications Conference, Pori, Finland, June 11, 2001.
- T49. **Space-Time Block Codes for Multiuser Systems**, Department of Electrical Engineering, North Carolina State University, Raleigh, NC, February 23, 2001.
- T50. **Space-Time Block Codes for Multiuser Systems**, Cisco Systems, Raleigh, NC, February 22, 2001.
- T51. **Space-Time Block Codes for Multiuser Systems**, Department of Electrical and Computer Engineering, Rice University, October 11, 2000.
- T52. **OSU CDMA Research Review**, Siemens, Munich, Germany, January 13, 2000.
- T53. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, Uppsala University, Uppsala, Sweden, December 16, 1999.
- T54. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, Ericsson, Kista, Sweden, December 15, 1999.
- T55. **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.
- T56. **Data Detection Algorithms for Heterogeneous CDMA Traffic**, *Department of Signals and Systems, Communication Systems Group* Chalmers University of Technology, Gothenburg, Sweden, December 13, 1999.
- T57. **Receiver Designs for Heterogeneous DS/CDMA Traffic**, *School of Electrical Engineering*, Cornell University, Ithaca NY, March 19, 1999.
- T58. **Detection Strategies for Multi-rate DS/CDMA Systems**, *Department of Electrical Engineering*, California Institute of Technology, Pasadena CA, March 10, 1999.
- T59. **Blind Channel Estimation for Randomized Spreading Code DS/CDMA**, *Department of Electrical Engineering*, University of California, Los Angeles CA, March 8, 1999.
- T60. **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.
- T61. **Detection Strategies for Multi-rate DS/CDMA Systems**, *Department of Electrical Engineering and Computer Science*, University of Michigan, Ann Arbor MI, March 2, 1999.
- T62. **Receiver Designs and Access Methods for Multirate Multiuser Systems**, Hughes Network Systems, Germantown MD, February 19, 1999.

- T63. **Multi-rate DS/CDMA: Access Strategies and Receiver Designs**, *Department of Electrical Engineering*, University of Maryland, College Park MD, February 19, 1999.
- T64. **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.
- T65. **MMSE Receiver Analysis for Multiple Data Rate Multi-user Systems**, *Dipartimento di Sistemas*, University of Vigo, Vigo, Spain, March 3, 1998.
- T66. **MMSE Receiver Analysis for Multiple Data Rate Multi-user Systems**, *Dipartimento di Sistemas*, University of La Coruña, La Coruña, Spain, March 2, 1998.
- T67. **Receiver Analysis for Multi-rate Multi-user CDMA Systems**, *Department of Electrical Engineering*, University of Cincinnati, Cincinnati, OH, February 17, 1998.
- T68. **Multi-rate CDMA based Wireless Systems**, *School of Electrical Engineering*, Georgia Institute of Technology, Atlanta, GA, May 1997.
- T69. **Multi-rate CDMA based Wireless Systems**, *Department of Electrical Engineering*, University of Rochester, Rochester, NY, May 1997.
- T70. **Multi-rate CDMA and Possible Applications of Multi-resolution Analysis**, *Mathematics of Communications Group*, Bell Labs, Lucent Technologies, Murray Hill, NJ, May 1997.
- T71. **Multi-rate CDMA based Wireless Systems**, *Department of Electrical and Computer Engineering*, Drexel University, Philadelphia, PA, May 1997.
- T72. **Improved Receiver Design for CDMA based Wireless Systems**, *School of Electrical and Computer Engineering*, Oklahoma State University, Stillwater, OK, April 1996.
- T73. **Signal and Data Detection for CDMA Multi-user Systems**, *Mobile Communications Group*, Institut EURÉCOM, Sophia-Antipolis, France, September 1995.
- T74. **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.
- T75. **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.
- T76. **Non-Parametric Detection Techniques for Multi-User CDMA Systems**, *Department of Electrical and Computer Engineering*, George Mason University, Fairfax, VA, February 1995.
- T77. **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. The confluence of communication, sensing and control in large scale wireless networks, AFOSR Complex Networks Program Review, Washington DC, December 18, 2013.
- P2. 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.
- P3. 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**).
- P4. Actuated Underwater Sensor Networks: A convergence of Communication, Control & Sensing, WiSE Research Horizons: A Day Honoring Professor Hanna Reisler, March 27, 2013.
- P5. 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, (**plenary**).
- P6. Cooperation in heterogeneous wireless networks, 2012 Southern California Symposium on Network Economics and Game Theory November 1-2, 2012, Los Angeles, CA.
- P7. Recursive Kalman-type state estimation within a POMDP Framework, Cognitive and Algorithmic Decision-Making Workshop, October 5-6, 2012, Monticello, IL
- P8. Telehealth: Opportunities for (Communications) Research? IEEE Communication Theory Workshop, May 2012, Maui HI
- P9. Next Generation Wireless Communications: Telehealth, National Academy of Engineering Armstrong Endowment for Young Engineers - Lillian Gilbreth Lecture, Irvine, CA, February 9, 2012.
- P10. Next Generation Wireless Communications: Telehealth, National Academy of Engineering China-America Frontiers of Engineering Symposium, San Diego, CA, March 28-30, 2011
- P11. Optimal resampling of OFDM signaling in underwater acoustic channels, Signal Processing Symposium, Technical University of Delft, NL, March 1, 2010.
- P12. Underwater Acoustic Channels: Opportunities for Information and Communication Theories, 31th Symposium on Information Theory in the Benelux, Rotterdam, NL, May 11, 2010, (**plenary**).
- P13. 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**).
- P14. OFDM Strategies for time-varying channels, OFDM Workshop Santa Clara University, October 30-31, 2008.
- P15. 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.
- P16. 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,
- P17. 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.

- P18. 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.
- P19. Cooperation, Multihopping and Relaying in Underwater Networks, MSRI Workshop: Mathematics of Relaying and Cooperation in Communication Networks, Berkeley, CA, April 10-12, 2006
- P20. Communication Methods for Distributed Multi-hop Networks, ONR Passive Sonar Signal Processing Review, APL, Seattle WA, August 23, 2005.
- P21. WHYNET: UltraWideband Physical Layer Accomplishments, WHYNET Project Progress Meeting, University of California, Los Angeles CA, July 29, 2005.
- P22. 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.
- P23. Collaborative Communication and Sensing in Complex Channels, ONR Passive Sonar Signal Processing Review, Lincoln Labs, MA, September 22, 2004.
- P24. WHYNET: UltraWideband Physical Layer Accomplishments, WHYNET Project Progress Meeting, University of California, Los Angeles CA, July 23, 2004.
- P25. Communication in Sensor Networks, Communication Sciences Research Review, University of Southern California, Los Angeles CA, February 26, 2004.
- P26. WHYNET: UltraWideband Physical Layer, WHYNET Project Kickoff Meeting, University of California, Los Angeles CA, November 7, 2004.
- P27. 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.
- P28. Wireless Communications Tutorial, Institute for Pure and Applied Mathematics, UCLA, Workshop III: "Massively Distributed Self-Organizing Networks", May 13, 2002.
- P29. On Space-Time Coding for CDMA, Featured Speaker, Okawa Awards Reception, Palo Alto, CA October 25, 2001.
- P30. 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.
- P31. Ultra Wideband Channel Modeling, Intel Workshop on Ultrawideband Communications, Portland, OR, October 11-12, 2001.
- P32. Training Sequence Design for Wireless Systems, Information Institute Program Review, Air Force Office of Scientific Research, April 15, 1999, Adirondacks, NY.
- P33. 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.*

- 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 (9/14-8/17) (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 Strom, 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 (02/01/12-02/28/17) (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 Dornisfe/VSoE, total amount (05/01/11 04/30/13), PIs: M. El-Naggar and U. Mitra, co-PIs: E. Meng, K. Neelson 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 Biomonitring 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-Papadopoulos 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. Özgüner, 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 EURECOM, Sophia Antipolis, France, \$37K (09/94-09/97).

PROFESSIONAL ACTIVITIES:

1. **IEEE**

- (a) Member, IEEE Prize Paper Award Committee (2014-2015)
- (b) Member, IEEE James H. Mulligan Jr. Education Medal Committee (2013-2016)
- (c) Member, IEEE Fourier Award for Signal Processing Committee (2013-2016)

2. **IEEE INFORMATION THEORY SOCIETY SERVICE**

- (a) **Board of Governors:** (01/02– 12/07, 01/12-12/14)

- (b) **Awards Committee:** 01/12–12/13
- (c) **Outreach Committee:** 05/12 –
- (d) **Aaron Wyner Service Award Committee:** 01/14–
- (e) **Padovani Fund Committee:** 07/13 –
- (f) **Liaison** from IEEE Information Theory Society to IEEE Signal Processing Society
- (g) **Membership Chair:** (03/96 – 12/00)
- (h) **Information Officer:** (04/03– 04/05)

### 3. IEEE SIGNAL PROCESSING SOCIETY SERVICE

- (a) **Technical Committee Member:** Signal Processing for Communications and Networks (01/12-12/14)
- (b) **SmartGrids Ad Hoc Committee**

### 4. CONFERENCE ORGANIZATION

- (a) **Technical Program Co-Chair**, IEEE International Symposium on Information Theory, Honolulu HI, July 2014
- (b) **Technical Program Co-Chair**, IEEE Information Theory Workshop, Hobart, Tasmania 2014
- (c) **Co-organizer**, Women's Workshop on Communications and Signal Processing, 1st Workshop (Banff, Canada July 2012), 2nd Workshop (Princeton, NJ July 2014)
- (d) **Technical Program Co-Chair**, SPCOM Workshop, IISc Bangalore, India, July 2012
- (e) **IEEE SmartGridComm Symposium Chair:** Demand Side Management, Demand Response, Dynamic Pricing, Tainan Taiwan, November 2012
- (f) **Financial Officer**, *IEEE International Conference on Acoustics, Speech, and Signal Processing*, Las Vegas, 2007
- (g) **Tutorial Coordinator**, *IEEE International Symposium on Information Theory*, Nice France, 2007
- (h) **Co-Chair**, 2006, *1st International Workshop on Underwater Networks, Mobicom'06*, September 2006, Los Angeles, CA
- (i) **Co-Chair**, 2003, *Communications Theory Symposium, IEEE International Conference on Communications*, Anchorage, AK

### 5. ASSOCIATE EDITORSHIPS

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

### 6. 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

**7. Technical Program Committee Member**

- (a) BlackSeaComm 2013
- (b) IEEE Globecom Workshop on Wireless Networking and Control for Unmanned Autonomous Vehicles (2013,2012)
- (c) IEEE Global Communications Conference (Globecom) Cognitive Radio Symposium (2011,2013), Communication Theory Symposium (2004,2009), Signal Processing for Communications (2004), Wireless Communications Symposium (2003)
- (d) IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) (2011,2010)
- (e) IEEE International Symposium on Information Theory (ISIT) (2011, 2010, 2009, 2005,2000)
- (f) International Conference on Information Processing in Sensor Networks (IPSN) (2011, 2006, 2005, 2004)
- (g) IEEE International Conference on Communications (ICC) Communication Theory Symposium (2012,2010,2009,2007, 2001), Wireless Communications Symposium(2013), 1998
- (h) IEEE Dynamic Spectrum Access Networks (DySPAN) Conference (2011)
- (i) IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS) (2010, Track Chair 2009)
- (j) ACM Sensys 2004
- (k) IEEE SPAWC (2011,2012,2013)
- (l) IEEE / MTS OCEANS Conference (2010,2011)
- (m) IEEE Information Theory Workshop (2010, 2004)
- (n) IEEE Vehicular Technology Conference (2004)
- (o) UWBST (2004, Track Chair 2003)
- (p) ACM Workshop on Underwater Networks WUWNET (2007,2008,2009, 2011)
- (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*

**8. Proposal Reviewer:** Army Research Office, Air Force Office of Scientific Research, Office of Naval Research, Swedish RAE, Dutch STW, Canadian NSERC, National Science Foundation  
National Science Foundation, National Science Foundation

**9. Book Reviewer:** Prentice Hall

10. **Journal Article Reviewer:** IEEE Transactions on Communications  
IEEE Transactions on Vehicular Technology  
IEEE Journal on Selected Areas of Communication  
IEEE Transactions on Signal Processing  
IEEE Transactions on Wireless Communications  
Wireless Personal Communications Journal  
Wireless Networks of the ACM  
IEEE Communications Letters  
IEEE Signal Processing Letters  
IEEE Transactions on Circuits and Systems II  
European Transactions on Telecommunications  
Journal on VLSI

11. **Conference Session Organizer:**

- *Information Theory and Applications Workshop*, February 2013, San Diego, CA
- *Communication Theory Workshop*, May 2009, Napa, CA
- *38th Asilomar Conference on Signals, Systems and Computers*, November 2004, Monterey, CA.
- *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).
- *36th Asilomar Conference on Signals, Systems and Computers*, October 2002, Monterey, CA.
- *IEEE Wireless Communications and Networking Conference*, September 1999, New Orleans, LA.
- *IEEE International Conference on Communications*, June 1998, Atlanta, GA.
- *31st Asilomar Conference on Signals, Systems, and Computers*, November 1997, Pacific Grove, CA.

12. **External Examination Committees:**

- (a) Dr. Elchanan Zwecher, Doctoral thesis evaluator (advisor: Dana Porrat), January 2013, Hebrew University of Jerusalem, Israel.
- (b) Mr. David Caicedo, Doctoral Defense (advisor: Geert Leus), June 2014, Technical University of Delft, Delft, the Netherlands.
- (c) Mr. David Caicedo, Masters Defense (advisor: Geert Leus), June 2010, Technical University of Delft, Delft, the Netherlands.
- (d) Mr. Kun Fang, Doctoral Defense (advisor: Geert Leus), March 2010, Technical University of Delft, Delft, the Netherlands.
- (e) Ms. Irena Maravic, Doctoral Defense (advisor: Martin Vetterli), July 2004, Ecole Polytechnique Fédérale, Lausanne, Switzerland.
- (f) Mr. Benjamin Skelton, Dissertation Review, (advisor: Desmond Taylor), November 2000, University of Canterbury, Christchurch, New Zealand.

- (g) Mr. Xavier Mestre, Dissertation Proposal Review, (advisor: Javier Fonollosa), May 2000, Polytechnical University of Catalunya, Barcelona, Spain.
- (h) Dr. Claes Tidestav, Doctoral Defense, (advisor: Anders Ahlen), December 1999, Uppsala University, Uppsala, Sweden.
- (i) Mr. Ruhua He, General Examination, (advisor: Irving Reed), March 1999, University of Southern California, Los Angeles, CA.
- (j) Dr. Carlos Escudero, Doctoral Defense, (advisor: Luis Castedo), March 1998, University 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 Advisory Board (August 2011-present)
2. Departmental Hiring Super Committee (August 2011- present)
3. Faculty Merit Review Committee (Research Spring 2010, Teaching & Service Spring 2001)
4. Women EE PhD Networking Group, Faculty Mentor. (09/06 - present).
5. EE Systems Department Distinguished Lecturer Series Coordinator (2004-2005)
6. Communications Sciences Institute, co-Director (August 2003 - May 2007)
7. Departmental Appointment, Promotion, and Tenure Committees Full Professor appointments (3, Chair (2)) , Associate Professor promotion (1), Assistant Professor promotion (2, Chair(1)), Joint Appointments (2)
8. Departmental Web Page Committee, Member (01/01- 05/02)
9. Communications Area Screening Exam Coordinator (Spring 2001, Fall 2001, Spring 2002)
10. Communications Laboratory Renovation, Chair Spring 2001
11. Fellowship Application Clinic Co-Organizer (with K. Nayak and B. Krishnamachari 2006-

#### **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 - 05/13)
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).
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 - Present)
2. University Research Committee (08/12-7/13)
3. Graduate School Advisory Council (08/11- present)
4. Center for Excellence in Research Fellow (08/10-05/13) panels organized:
  - (a) Wireless Technologies and their Potential for Health and Health-related Research (3/11)
  - (b) The Birth of Aerospace in Southern California (4/11)
  - (c) Medical Informatics (10/11)
  - (d) Social Networks and Health: What can Technology Do? (03/12)
  - (e) The Brain: Natural and Artificial (09/12)
5. Provost's Workshop on Mentoring, Faculty presenter (2/11)
6. Future of Tenure Panel, Faculty presenter
7. Women@CENS panel, NSF Science & Technology Center, Faculty presenter (Summer 2004, 2007, 2008, 2009)
8. Provost WISE Advisory Board, Committee Member. (08/01- 05/05, 08/12-present)
9. Provost WiSE Task Force, Member (01/01- 05/01)
10. Featured Speaker, Presidential Scholarship Recruitment Dinner (03/04)
11. USC Threat Assessment Team Member (2001, 2002, 2004)
12. 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.