

Yasamin Mostofi

Associate Professor, Electrical and Computer Engineering
University of California Santa Barbara

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Citizenship: US Citizen

RESEARCH INTERESTS:

My research is multi-disciplinary and draws from the two areas of **communications and robotics** in mobile sensor networks.

Research Thrusts: RF Sensing, See-Through Imaging with WiFi, X-ray Vision for Robots, Communication-Aware Robotics, Robotic Networks, Human-Robot Collaborations.

EDUCATION:

California Institute of Technology, Pasadena, California January 2004 – August 2006
Postdoctoral Scholar, Area: Control and Dynamical Systems

Stanford University, Stanford, California January 2004
Ph.D., Electrical Engineering, Area: Wireless Communications

Stanford University, Stanford, California June 1999
Master of Science, Electrical Engineering

Sharif University of Technology, Tehran, Iran June 1997
Bachelor of Science, Electrical Engineering

ACADEMIC APPOINTMENTS:

University of California, Santa Barbara from September 2012
Associate Professor, Dept. of Electrical and Computer Engineering

University of New Mexico, Albuquerque, New Mexico July 2012 – Aug. 2012
Associate Professor, Dept. of Electrical and Computer Engineering

University of New Mexico, Albuquerque, New Mexico August 2006 – June 2012
Assistant Professor, Dept. of Electrical and Computer Engineering

SELECTED AWARDS/HONORS:

- Keynote Speaker and Honorarium Recipient, HP Annual Imaging Conference Feb. 2015
- IEEE 2012 Outstanding Engineer Award of Region 6 Sept. 2012

This award is given annually to one scientist/engineer in Region 6. Region 6 covers all the western United States, including California, Oregon, Washington, Nevada, Arizona, Utah, Idaho, Montana, Alaska, Hawaii, parts of New Mexico, and parts of Wyoming.
- Presidential Early Career Award for Scientists and Engineers (PECASE) 2011
- National Science Foundation (NSF) CAREER award 2009
- ECE Distinguished Researcher Award, Univ. of New Mexico 2008 – 2009
- Recipient of Bellcore fellow-advisor award 1999
Stanford Center for Telecommunications, Stanford University
- Ranked 11th among 300,000 applicants 1993
Iranian National University Entrance Exam

SELECTED PRESS:

- Our work on Counting People with WiFi in the news: June 2015

Gizmag, Huffington Post UK, PC World, ACM Tech News, Gizmodo, Science Daily, International Business Times UK, Tech Radar, Tech Times, Popular Mechanics, RT, Sputnik News, NDTV Gadgets, DNA, Phys.org, UCSB press release, and several other national and international outlets. Video available at <https://www.youtube.com/watch?v=B7o0qA4L4So>
- Our work on Seeing Through Walls with only WiFi in the news: Aug 2014

NSF (Science360), BBC Interview, Engadget, Gizmag, Daily Mail, Gizmodo, IDG (PC World, IT World, Computer World) , International Business Times (Yahoo News), The Verge, Headline and Global News, Techmundo, Investors Business Daily, Ubergizmo, SD Times, I-Programmer, Outer Places, UCSB press release, several other outlets, and translated to many languages. Video available at <https://www.youtube.com/watch?v=iF1fY3bPA0>
- Quoted in an article in Scientific Computing: 2014

“Women Who Compute: Overcoming Lack of Gender Diversity in Science and Technology”
- Lab featured on the KNME (New Mexico PBS) premiere of “Connect” 2012
- Interview in the IEEE Control Systems Magazine (“People in Control”) 2010

SPONSORED RESEARCH GRANTS:

- **National Science Foundation (NSF)**, Networking Technology and Systems program, “Co-Optimization of Sensing, Communications and Navigation of a Robotic Network under Resource Constraints,” single PI: Mostofi, Sept. 2013-Sept. 2016, Amount: \$400,000
- **National Science Foundation (NSF) CAREER award**, Sensors, Dynamics and Control program, “Compressive Cooperative Sensing and Navigation in Mobile Networks,” June 2009 – June 2015, Amount: \$400,000
- **National Science Foundation (NSF)**, Robust Intelligence program, “An Integrative Framework for Communication and Motion-planning in Robotic Networks Operating in Fading Environments,” PI, Sept. 2008 - Sept. 2011 (Co-PI: Rafael Fierro), Amount: \$350,000
- **Army Research Lab (ARL)**, “Autonomous Multifunctional Mobile Microsystems,” multi-University Collaborative Technology Alliance (lead university: Univ. of Pennsylvania), May 2008 - May 2013, Mostofi’s part: \$550,000
- **Defense Threat Reduction Agency (DTRA)**, “Modeling and Mitigating Cascading Failures in Coupled Distributed Power Grid and Communication Networks,” Co-PI, Aug. 2010 - March 2012 (PI: Majeed Hayat), Amount per PI: \$80,000
- **Defense Threat Reduction Agency (DTRA)**, “Robust Functionality and Active Data Management in Cooperative Networks,” Co-PI, Aug. 2007 - July 2011 (PI: Majeed Hayat), Amount per PI: \$340,000

Total amount granted to Mostofi’s lab: \$2,120,000

PUBLICATIONS: (student advisees are marked with **)

Book Chapter:

- Mostofi and A. Ghaffarkhah**, “Kalman Filtering over Wireless Fading Channels,” book chapter, in *Wireless Network Based Control* (editor: Sudip Mazumder), *Springer*, December 2010.

Journal Publications:

- S. Deapatla**, A. Muralidharan** and Y. Mostofi, "Occupancy Estimation Using Only WiFi Power Measurements," to appear, *IEEE Journal on Selected Areas in Communications, special issue on Location-Awareness for Radios and Networks*, 2015.
- S. Deapatla**, L. Buckland**, and Y. Mostofi, "X-Ray Vision with Only WiFi Power Measurements Using Rytov Wave Models," to appear, *IEEE Transactions on Vehicular Technology, special issue on Indoor Localization, Tracking, and Mapping*, 2015
- Y. Yan** and Y. Mostofi, “To Go or Not to Go: On Energy-aware and Communication-aware Robotic Operation,” *IEEE Transactions on Control of Network Systems*, volume 1, issue 3, pp. 218-231, Sept. 2014.
- A. Ghaffarkhah** and Y. Mostofi, “Dynamic Coverage of Time-Varying Fading Environments”, *ACM Transactions on Sensor Networks*, volume 10, issue 3, April 2014.
- A. Gonzalez-Ruiz**, A. Ghaffarkhah**, and Y. Mostofi, “An Integrated Framework for Obstacle Mapping with See-Through Capabilities using Laser and Wireless Channel Measurements,” , *IEEE Sensors Journal*, volume 14, issue 1, Jan. 2014.

- Y. Yan** and Y. Mostofi, “Co-Optimization of Communication and Motion Planning of a Robotic Operation under Resource Constraints and in Fading Environments,” *IEEE Transactions on Wireless Communications*, volume 12, issue 4, April 2013.
- A. Gonzalez-Ruiz** and Y. Mostofi, “Cooperative Robotic Structure Mapping Using Wireless Measurements – A Comparison of Random and Coordinated Sampling Patterns,” *IEEE Sensors Journal*, volume 13, issue 7, April 2013.
- Y. Mostofi, “Compressive Cooperative Obstacle/Object Mapping and See-Through Capabilities in Robotic Networks,” *IEEE Transactions on Mobile Computing*, vol. 12, no. 5, pp. 817-829, May 2013.
- Y. Yan** and Y. Mostofi, “Robotic Router Formation in Realistic Communication Environments - A Bit Error Rate Approach,” *IEEE Transactions on Robotics*, vol. 28, no. 4, pp. 810-827, Aug. 2012.
- A. Ghaffarkhah** and Y. Mostofi, “A Foundation for Communication-Aware Surveillance in Mobile Cooperative Networks,” *IEEE Transactions on Signal Processing*, vol. 60, no. 7, pp. 3560-3575, July 2012.
- M. Malmirchegini** and Y. Mostofi, “On the Spatial Predictability of Communication Channels,” accepted to appear, *IEEE Transactions on Wireless Communications*, vol.11, no.3, pp. 964-978, March 2012.
- A. Ghaffarkhah** and Y. Mostofi, “Communication-Aware Motion Planning in Mobile Networks,” *IEEE Transactions on Automatic Control*, special issue on Wireless Sensor and Actuator Networks, vol. 56, no. 10, pp. 2478-2485, Oct. 2011.
- Y. Mostofi, “Compressive Cooperative Sensing and Mapping in Mobile Networks,” *IEEE Transactions on Mobile Computing*, vol. 10, no. 12, pp. 1770-1785, December 2011.
- M. Malmirchegini** and Y. Mostofi, “An Integrated Sparsity and Model-Based Probabilistic Framework For Estimating the Spatial Variations of Communication Channels,” special issue of *Elsevier Physical Communication Journal on Compressive Sensing in Communications*, volume 5, issue 2, June 2012.
- A. Gonzalez-Ruiz**, A. Ghaffarkhah**, and Y. Mostofi, “A Comprehensive Overview and Characterization of Wireless Channels for Networked Robotic and Control Systems,” *Journal of Robotics*, 2011.
- Y. Mostofi and M. Malmirchegini**, “Binary Consensus over Fading Channels,” *IEEE Transactions on Signal Processing*, vol. 58, no. 12, December 2010.
- Y. Mostofi and R. Murray, “To Drop or Not to Drop: Design Principles for Kalman Filtering over Wireless Fading Channels,” *IEEE Transactions on Automatic Control*, vol. 54, issue 2, pp. 376-381, Feb. 2009.
- Y. Mostofi, “Decentralized Communication-Aware Motion Planning in Mobile Networks: An Information-Gain Approach,” *Journal of Intelligent and Robotic Systems*, special issue on Unmanned Autonomous Vehicles, volume 56, issue 2, 2009.
- Y. Mostofi and R. Murray, “Kalman Filtering over Wireless Fading Channels – How to Handle Packet Drop,” *International Journal of Robust and Nonlinear Control, Special Issue on Control with Limited Information*, Feb. 2009.
- Y. Mostofi and R. Murray, “Communication and Sensing Trade-Offs in Cooperative Mobile Networks,” *the Special issue of Asian Journal of Control on Collective Behavior and Control of Multi-Agent Systems*, vol. 10, no. 2, pp. 156-170, March 2008.
- Y. Mostofi and D. Cox, “A Robust Timing Synchronization Design for OFDM Systems - Part I: Low Mobility Cases,” *IEEE Transactions on Wireless Communications*, vol. 6, no. 12, December 2007.

- Y. Mostofi and D. Cox, “A Robust Timing Synchronization Design for OFDM Systems - Part II: High Mobility Cases,” *IEEE Transactions on Wireless Communications*, vol. 6, no. 12, December 2007.
- Y. Mostofi and D. Cox, “Mathematical Analysis of the Impact of Timing Synchronization Errors on the Performance of an OFDM System,” *IEEE Transactions on Communications*, vol. 54, no. 2, February 2006.
- Y. Mostofi and D. Cox, “ICI Mitigation for Pilot-aided OFDM Mobile Systems,” *IEEE Transactions on Wireless Communications*, Volume 4, Number 2, March 2005.

Refereed Conference Publications:

- H. Cai** and Y. Mostofi, “To Ask or Not to Ask: A Foundation for the Optimization of Human-Robot Collaborations,” to appear, in the proceedings of *American Control Conference (ACC)*, July 2015.
- U. Ali**, Y. Yan**, Y. Mostofi, and Y. Wardi, “An Optimal Control Approach for Communication and Motion Co-optimization in Realistic Fading Environments,” to appear, in the proceedings of *American Control Conference (ACC)*, July 2015.
- Y. Yan** and Y. Mostofi, “An Efficient Clustering and Path Planning Strategy in Sensor Networks for Data Collection Based on Space-Filling Curves,” in the proceedings of *IEEE Conference on Decision and Control (CDC)*, Dec. 2014.
- P. Twu**, Y. Mostofi, and M. Egerstedt, “A Measure of Heterogeneity in Multi-Agent Systems,” in the proceedings of *American Control Conference*, June 2014.
- Y. Yan** and Y. Mostofi, “Efficient Communication-Aware Dynamic Coverage Using Space-Filling Curves,” in the proceedings of *American Control Conference*, June 2014.
- Y. Yan** and Y. Mostofi, “Impact of Localization Errors on Wireless Channel Prediction in Mobile Robotic Networks,” *Proceedings of IEEE Globecom*, Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Dec. 2013
- Yuan Yan**, A. Ghaffarkhah** and Y. Mostofi, “Communication and Path Planning Strategies of a Robotic Coverage Operation,” *Proceedings of the American Control Conference (ACC)*, June 2013.
- Mehrzad Malmirchegini**, A. Ghaffarkhah** and Y. Mostofi, “Impact of Motion and Channel Parameters on the Estimation of Transmitter Position in Robotic Networks,” *Proceedings of the IEEE Globecom*, International Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Dec. 2012.
- A. Ghaffarkhah** and Y. Mostofi, “Optimal Motion and Communication for Persistent Information Collection using a Mobile Robot,” *Proceedings of the IEEE Globecom*, International Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Dec. 2012.
- Y. Yan** and Y. Mostofi, “Utilizing Mobility to Minimize the Total Communication and Motion Energy Consumption of a Robotic Operation,” *Proceedings of the 3rd World Congress of the International Federation of Automatic Control (IFAC)*, Workshop on Distributed Estimation and Control in Networked Systems, Sept. 2012.
- A. Ghaffarkhah** and Y. Mostofi, “A Communication-Aware Framework for Robotic Field Exploration,” *Proceedings of the IEEE Conference on Decision and Control (CDC)*, Dec. 2011.
- A. Ghaffarkhah**, Yuan Yan** and Y. Mostofi, “Dynamic Coverage of Time-varying Environments using a Mobile Robot -- A Communication-Aware Perspective,” *Proceedings of the IEEE Globecom*, International Workshop on Wireless Networking for Unmanned Autonomous Vehicles, Dec. 2011.

- S. Ashrafi**, M. Malmirchegini**, and Y. Mostofi, “Binary Consensus for Cooperative Spectrum Sensing in Cognitive Radio Networks,” *Proceedings of the IEEE Globecom*, Dec. 2011.
- Y. Yan** and Y. Mostofi, “Co-Optimization of Communication and Motion Planning of a Robotic Operation in Fading Environments,” (**invited paper**), *Proceedings of the Asilomar Conference on Signals, Systems & Computers*, Nov. 2011.
- Zhuoyao Wang**, Majeed M. Hayat, Mahshid Rahnamay-Naeini**, Yasamin Mostofi, and Jorge E. Pezoa, “Consensus-based Estimation Protocol for Decentralized Dynamic Load Balancing over Partially Connected Networks,” *Proceedings of the IEEE Conference on Decision and Control (CDC)*, Dec. 2011.
- A. Ghaffarkhah** and Y. Mostofi, “Cooperative Surveillance in Mobile Sensor Networks- A Communication-Aware Perspective,” *Proceedings of the American Control Conference (ACC)*, July 2011.
- N. Bezzo**, Y. Yan**, R. Fierro and Y. Mostofi, “A decentralized connectivity strategy for mobile router swarms”, *Proceedings of World Congress of the International Federation of Automatic Control (IFAC)*, August 2011.
- Y. Mostofi and A. Gonzalez-Ruiz**, “Compressive Cooperative Obstacle Mapping,” (**invited paper**) *Proceedings of Milcom*, pp. 947-953, Nov. 2010.
- Y. Yan** and Y. Mostofi, “Robotic Router Formation - A Bit Error Rate Approach,” *Proceedings of Milcom*, pp. 1287-1292, Nov. 2010.
- A. Ghaffarkhah** and Y. Mostofi, “Channel Learning and Communication-Aware Motion Planning in Mobile Networks,” *Proceedings of the American Control Conference (ACC)*, pp. 5413-5420, July 2010.
- Y. Mostofi, M. Malmirchegini** and A. Ghaffarkhah**, “Estimation of Communication Signal Strength in Robotic Networks,” (**invited paper**) *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 1946-1951, May 2010.
- M. Malmirchegini** and Y. Mostofi, “Fusion and Diversity Trade-offs in Cooperative Estimation over Fading Channels,” *Proceedings of the 52th IEEE Global Telecommunications Conference (Globecom)*, Nov. 2009.
- Y. Mostofi, A. Gonzales-Ruiz**, A. Ghaffarkhah**, and D. Li**, “Characterization and Modeling of Wireless Channels for Networked Robotic and Control Systems - A Comprehensive Overview,” *Proceedings of the International Conference on Intelligent Robots and Systems (IROS)*, pp. 4849-4854, Oct. 2009.
- Y. Mostofi and P. Sen, “Compressive Cooperative Mapping in Mobile Networks,” *Proceedings of American Control Conference (ACC)*, pp. 3397-3404, June 2009.
- A. Ghaffarkhah** and Y. Mostofi, “Communication-Aware Navigation Functions for Robotic Networks,” *Proceedings of American Control Conference (ACC)*, pp. 1316-1322, June 2009.
- A. Gonzalez Ruiz** and Y. Mostofi, “Distributed Load Balancing over Directed Network Topologies,” (**best paper in the session**) *Proceedings of American Control Conference (ACC)*, pp. 1814-1820, June 2009.
- Y. Mostofi and Y. Yuan**, “Impact of Link Qualities and Network Topology on Binary Consensus,” *Proceedings of American Control Conference (ACC)*, pp. 1821-1826, June 2009.

- A. Ghaffarkhah** and Y. Mostofi, “Communication-Aware Motion Planning of Robotic Networks using Navigation Functions – centralized case,” *International Conference on Robot Communication and Coordination (RoboComm)*, April 2009.
- Y. Ruan** and Y. Mostofi, “Binary Consensus with Soft Information Processing in Cooperative Networks,” invited paper, *Proceedings of 47th IEEE Conference on Decision and Control (CDC)*, Dec. 2008.
- M. Malmirchegini**, Y. Ruan** and Y. Mostofi, “Binary Consensus Over Fading Channels: A Best Affine Estimation Approach,” *Proceedings of IEEE Globecom*, Nov. 2008.
- Y. Mostofi and P. Sen, “Compressed Signal Strength Mapping,” *Proceedings of Milcom*, November 2008.
- Y. Mostofi, “Communication-Aware Motion Planning in Fading Environments,” *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, May 2008.
- Y. Mostofi, “Binary Consensus with Gaussian Communication Noise: A Probabilistic Approach,” *Proceedings of 46th IEEE Conference on Decision and Control (CDC)*, Dec. 2007.
- Y. Mostofi and R. Murray, “To Drop or Not to Drop, Receiver Design Principles for Estimation over Wireless Links,” (**invited paper**) *Proceedings of 26th American Control Conference (ACC)*, 2007.
- Y. Mostofi and R. Murray, “Distributed Sensing and Estimation under Communication Constraints,” *Proceedings of the 45th IEEE Conference on Decision and Control (CDC)*, Dec. 2006, San Diego, CA.
- Y. Mostofi and R. Murray, “Optimum Allocation of Computing Resources in Networked Sensing and Control,” (**best paper in the session**) *Proceedings of 25th American Control Conference (ACC)*, June 2006, Minneapolis, Minnesota.
- Y. Mostofi and R. Murray, “New Design Principles for Estimation over Fading Channels in Mobile Sensor Networks,” (**invited paper**) *44th IEEE Conference on Decision and Control (CDC)*, Dec. 2005, Spain.
- Y. Mostofi and R. Murray, “On Dropping Noisy Packets in Kalman Filtering over a Wireless Fading Channel,” (**best paper in the session**) *Proceedings of the 24th American Control Conference (ACC)*, June 2005, Portland, Oregon.
- Y. Mostofi, T. Chung, R. Murray and J. Burdick, “Communication and Sensing Trade Offs in Decentralized Mobile Sensor Networks: A Cross-Layer Design Approach,” *Proceedings of IEEE 4th International Conference on Information Processing in Sensor Networks (IPSN)*, April 2005, Los Angeles, California.
- Y. Mostofi and R. Murray, “Effect of Time-Varying Fading Channels on the Control Performance of a Mobile Sensor Node,” *Proceedings of IEEE 1st International Conference on Sensor and Adhoc Communications and Networks (SECON)*, Oct. 2004, Santa Clara, California.
- J. Fink**, T. Collins, V. Kumar, Y. Mostofi, J. Baras and B. Sadler, “A Simulation Environment for Modeling and Development of Algorithms for Ensembles of Mobile Microsystems,” *Proc. of the SPIE Conf. on Micro- and Nanotechnology Sensors, Systems, and Applications*, April 2009.
- Y. Mostofi and D. Cox, “Timing Synchronization in High Mobility OFDM Systems,” *Proceedings of IEEE 39th International Conference on Communications (ICC)*, June 2004, Paris, France.
- Y. Mostofi and D. Cox, “An Analytical Comparison of the Linear and Trigonometric Interpolators for Pilot-aided OFDM Receivers,” *IEEE Wireless Communications and Networking Conference, WCNC 2004*, volume: 3, pp. 1421 – 1425.

- Y. Mostofi and D. Cox, “Analysis of the Effect of Timing Synchronization Errors on Pilot-aided OFDM Systems,” *Proceedings of the 37th Asilomar Conference on Signals, Systems and Computers*, November 2003, Monterey, California.
- Y. Mostofi and D. Cox, “ICI Mitigation for Mobile OFDM Receivers,” *Proceedings of IEEE 38th International Conference on Communications (ICC)*, May 2003, Anchorage, Alaska.
- Y. Mostofi, D. Cox and A. Bahai, “Effect of Timing Synchronization Errors on Pilot-aided Channel Estimation in OFDM: Analysis and Solution,” *Proceedings of 5th IEEE International Symposium on Wireless Personal Multimedia Communications (WPMC)*, Honolulu, Hawaii, Oct. 2002, pp. 1309-1313.
- Y. Mostofi and D. Cox, “Blind ISI Mitigation,” *Proceedings of IEEE 54th Vehicular Technology Conference (VTC)*, Oct. 2001, Atlantic City, New Jersey, Volume: 3, pp: 1903 –1907.
- Y. Mostofi and D. Cox, “Novel Blind Decision Feedback Structure for Channel Estimation in Severe ISI Environments,” *Proceedings of the 1st IEEE Sponsored International Symposium on Telecommunications (IST)*, Tehran, Iran, Sept. 2001, pp. 493-496.

Theses:

- Y. Mostofi, “Timing Synchronization and ICI Mitigation for Pilot-Aided OFDM Mobile Systems,” Ph.D. thesis, Stanford University, Jan. 2004.
- Y. Mostofi, “Convergence in Adaptive and Blind Equalizers,” B.S. Thesis, Sharif University of Technology, June 1997.

PATENTS:

- Y. Mostofi Y, P. Sen, “System and Methods for Obstacle Mapping and Navigation,” United States patent US 8,712,679, granted April 2014.
- Y. Mostofi, S. Depatla, A. Muralidharan, “Occupancy estimation using RF or WiFi signals,” provisional patent filed, March 2015.

SELECTED GIVEN TALKS (excludes conference paper presentations)

- “Robotics and RF,” ME Department, UCSD, April 2015
- “Robotics and RF,” Annual Staff Lecture, College of Engineering, UCSB, March 2015
- “Robotics and RF,” ECE Department, Berkeley, March 2015
- “WiFi for Sensing and See-Through Imaging,” Keynote speech, HP annual Imaging Conference, Feb 2015, San Diego, CA
- “Robotics and RF,” ECE Department, USC, Feb 2015
- “See-Through Imaging and Occupancy Estimation with RF Signals,” Information Theory and Application Workshop (ITA), San Diego, CA, Feb. 2015
- “Robotics and RF,” Vice-Chancellor’s Lecture, UCSB, October 2014
- “Robotics and RF: Opportunities and Challenges,” Communication-aware Robotics Workshop, Robotics Science and Systems Conference, July 2014

- “A Sampler in Multi-Agent Systems,” workshop on Open Problems in Multi-Agent Systems, American Control Conference, June 2014
- “Can We Image Through Walls with WIFI Signals?” Information Theory and Application Workshop (ITA), San Diego, CA, Feb. 2014
- “Integration of Sensing, Communication and Navigation in Robotic Networks,” workshop on signal processing in sensor networks, Cyber Physical Systems week, Philadelphia, April 2013
- “Communication-aware Motion Planning,” Army Research Lab Annual Grant meeting, March 2013
- “Communication-aware TSP,” Information Theory and Application Workshop (ITA), San Diego, CA, Feb. 2013
- “Co-optimization of Sensing, Communications and Navigation”, The Science and Engineering Council (SEC) of Santa Barbara, Feb. 2013
- “Co-optimization of Sensing, Communications and Navigation”, EE Dept., UCSD, Feb. 2013
- “Communication-aware Motion Planning,” Army Research Lab Annual Grant meeting, March 2012
- “Integration of Sensing, Communications and Navigation in Mobile Sensor Networks,” CDS, Caltech, Feb. 2012
- “Integration of Sensing, Communications and Navigation in Mobile Sensor Networks,” EE Dept., UT Austin, Dec. 2011
- “Integration of Sensing, Communications and Navigation in Robotic Networks,” Air Force Research Lab (AFRL), July 2011
- “Communication-aware Operation in Mobile Cooperative Networks,” invited workshop and panel, IEEE International Conference on Robotics and Automation (ICRA), May 2010
- “Communication-aware Operation in Mobile Cooperative Networks,” Army Research Lab (ARL), April 2010
- “Wireless Systems: Current and Emerging Applications,” ECE 101 class, UNM, March 2010
- “Integration of Sensing, Communication & Navigation in Mobile Networks,” Dept. of Mechanical Engineering, University of Florida, Nov. 2009
- “Communication and Decision Making in Cooperative Networks,” Air Force Research Lab (AFRL), July 2008
- “Integration of Communication and Control for Delay-Sensitive Wireless Sensor Networks,” University of Notre Dame, Nov. 2005.
- “Communication and Control in Mobile Sensor Networks,” Northwestern University, Oct. 2005.
- “Integration of Communication and Control for Delay-Sensitive Wireless Applications,” University of Michigan, Ann Arbor, Oct. 2005.
- “Receiver Design Principles for Estimation over Wireless Links,” University of Southern California, July 2005.
- “Integration of Communication and Control in Mobile Sensor Networks,” Royal Institute of Technology (KTH), Stockholm, Sweden, July 2005.

- Lund ARTIST2 Workshop on “Strategic Research Agenda on Control for Embedded Systems,” Lund, Sweden, aim of the workshop was to provide appropriate recommendations to NSF, EU and national funding agencies (participation by invitation only), June 2005
- “Integration of Communication and Control for Delay-Sensitive Wireless Applications,” Lund Institute of Technology, Lund, Sweden, June 2005.
- “Integration of Communication and Control in Mobile Sensor Networks,” University of Washington Seattle, May 2005.
- “Timing Synchronization in OFDM Systems,” Networking, Communications and DSP Seminar, Berkeley, May 2003.
- “ICI Mitigation for OFDM Receivers,” STARLAB annual reunion, Stanford University, May 2002.
- “Fast and Robust Code Acquisition and Channel Estimation in DS-CDMA Systems,” Microelectronics group, Lucent Technologies, Bell Labs, Allentown, Pennsylvania, Summer 1999.

PROFESSIONAL ACTIVITIES:

- Associate Editor: IEEE Transactions on Control of Networked Systems (TCNS), 2013-now
- Guest editor, IEEE Journal on Selected Areas in Communications, special issue on “Location- Awareness for Radios and Networks,” 2014
- Associate editor, Control Systems Society (CSS) Control Editorial Board, 2008-2013
- NSF review panelist, annually or bio-annually since 2008
- On Program Committees of several conferences
- Organizer/Co-Organizer of several workshops/invited sessions

CURRENT PH.D. STUDENTS:

- Yuan Yan, expected graduation date: June 2015
- Arjun Muralidharan
- Saandeep Depatla
- Herbert Cai
- Chitra Karanam

GRADUATED STUDENTS:

- Alireza Ghaffarkhah, Ph.D. Sept. 2012 (with distinction), now at Google
 - Thesis title: Communication-Aware Motion Planning in Mobile Networks
- Mehrzad MalmirChegini, Ph.D. October 2012 (with distinction), now at Qualcomm
 - Thesis title: On the spatial predictability of wireless channels and robust networked cooperation in mobile sensor networks
- Alejandro Gonzales-Ruiz, Ph.D., November 2012, now at Mobile Comm. Professionals
 - Thesis title: Compressive Cooperative Obstacle Mapping and See-Through Capabilities in Mobile Networks
- Shwan Ashrafi, M.S. July 2012, now Ph.D. student at UW

- Alejandro Gonzalez-Ruiz, M.S. 2009
 - Thesis title: Distributed Load Balancing over Directed Network Topologies
- Leanne Storey, M.S. 2007, now at Sandia National Labs (SNL)
 - Thesis title: Effects of Fading Channels on Motion Planning in Mobile Sensor Networks

TEACHING EXPERIENCE:

- **Convex Optimization Theory**, Spring 2014 and 2015
- **Introductory Communication Systems**, 2012-2015
- **Wireless Communications**
 - Graduate class: Spring 07, 08, 09, 10 and Fall 10, 11, Winter and Fall 13
 - Undergraduate class: Fall 2010 and 2011
- **Theory of Linear Systems**, Fall 2008 and 2009
- **Networked Control Systems**, Fall 2007

OUTREACH ACTIVITIES:

- Organized a workshop for Gallup high school students to visit UCSB as part of SACNAS program, April 2014
- Hosted and mentored a Native American Community College student, summer 2013
- Participated in Tohatchi High School's first Young Men's Leadership Conference, NM, Feb. 2011
- Hosted Southwestern Indian Polytechnic Institute (SIPI) community college students in Wireless Communications class at UNM, Dec. 2010
- Gave a tutorial on Sensor Networks, Southwestern Indian Polytechnic Institute (SIPI), Oct. 2010
- Established an outreach collaboration with Bernalillo High School, 2009-2010
- Co-organized (with Rafael Fierro) a robotic summer camp for selected Native American middle school students of New Mexico, 2009
- Was invited to give a talk at the closing ceremony for the parents of the Native American middle school robotic summer camp, UNM School of Engineering, 2009
- Gave a workshop on Wireless Systems, Southwestern Indian Polytechnic Institute (SIPI), 07, 08, 09
- Participated in the Southwestern Indian Polytechnic Institute (SIPI) strategic planning meeting, Spring 2007

PROFESSIONAL SOCIETIES:

- IEEE senior member, member of
 - Control Systems Society
 - Communications Society
 - Robotics and Automation Society