Xin Wang

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I. Educational Background

COLUMBIA UNIVERSITY
Ph.D. Electrical and Computer Engineering, May 2001
Advisor: Prof. Henning Schulzrinne, Department of Computer Science
Thesis: *Scalable Network Architectures and Measurements for Multicast and Adaptive QoS*

BEIJING UNIVERSITY OF POSTS AND TELECOMMUNICATIONS
M.S. Wireless Communications Engineering, April 1993
Advisor: Prof. Jia-mou Zhang
Thesis: *Design of a Low-Bit Rate Video Phone System*

BEIJING UNIVERSITY OF POSTS AND TELECOMMUNICATIONS
B.S. with the highest distinction, Telecommunications Engineering, July 1990

II. Employment History

Associate Professor
Electrical and Computer Engineering, State University of New York (SUNY) at Stony Brook, New York, 2011 – present

Tenure-track Assistant Professor
Electrical and Computer Engineering, State University of New York (SUNY) at Stony Brook, New York, 2005 - 2011

Tenure-track Assistant Professor
Computer Science & Engineering, State University of New York (SUNY) at Buffalo, New York, 2003 – 2005

Member of Technical Staff
Bell Lab Research, Lucent Technologies, New Jersey, 2001-2003
1. *Research scientist*, leaded the design of QoS schemes for Lucent 3G Radio Network Controller (RNC).
2. *QoS subsystem architect*, leaded the design and development team of QoS subsystem of the Imminent Content Switch (ICS), a next-generation intelligent application platform for content distribution.
3. *Cross-team consultant*, served as an independent research adviser, and also played a cross-functional role between several Bell Labs research teams, the product management team, and product development team of Lucent Gigabit Ethernet MPLS Switch (GEMS)

III. Research

A. Research Interests.

My current research interests are in the area of wireless networking and mobile computing. The specific topics my research group is currently working on can be grouped into four areas: *Wireless Network Infrastructure for High Capacity and Reliability*, *Mobile and Distributed Computing, Robust Networked Sensing and Fusion, and Networked Autonomous Systems*. The details of my research plan and results are in research statement.

B. Award, Grants and Contracts (Total: 5.1 Million, PI: 3.8 Million, My share: 3.1 Million)

PI/PD CAREER award, National Science Foundation (NSF), ($400,000), Sep 2005-Sep 2011**,** *Coordinated Resource Management in IP-based Cellular Radio Access Systems.*

PI/PD Chief of Naval Research (CNR) Challenge award, Office of Naval Research (ONR), ($100,000), July 2011-June 2012, *Concurrent Exploration of Compressive Sensing and Networked MIMO Radars for High Quality and Robust Detection and Tracking*. One of 10 winners with research topics from 6 research fields. This nation-wide competition awards research that addresses the ONR's key challenges.

PI/PD (Sole PI), National Science Foundation (NSF), ($$441,229), Oct 1 2015-Sep 30, 2018. *Fundamental Techniques for Incentive-aware, Efficient, and Reliable Cloudlet Management and Services.*

PI/PD, National Science Foundation (NSF), ($507,092), Feb 1 2013-Jan 2016 *Cognitive and Efficient Spectrum Access in Autonomous Wireless Netwo*rk. With Co-PIs Shiwen Mao, Auburn Univ, Harish Viswanathan Bell Labs. My share is ($253,636).

PI/PD, National Science Foundation (NSF), ($200,000), Jul 1 2014-June 30, 2017. *Electronically-Scanned Wideband Digital Aperture Antenna Arrays using Multi-Dimensional Space-Time Circuit-Network Resonance: Theory and Hardware.*

PI/PD, Air Force Office of Scientific Research (AFOSR), ($900,000), Sep 30, 2014- Aug. 31, 2017. With Co-P   Is Xianfeng Gu and Jie Gao, Computer Science, Stony Brook University. *Riemannian Geometric and Stochastic Methods for Robust and High Performance Network Communications.*

PI/PD (Sole PI), Office of Naval Research (ONR), ($625,000), Jan 1 2013-Sep 2017. *Concurrent Exploration of MIMO Radar and Coprime Array Design for Low Cost and High Performance Sensing.*

PI of Stony Brook, National Science Foundation (NSF), ($360,000), Sep 1 2012-Aug 2015 *Exploiting Control and Communications Techniques to Establish and Maintain Network Connections for Robust and Flexible Multi-Robot Coordination.* With PI Yu Zhou (SUNYIT), and my share is $180,000.

Co-PI, SUNY/RF Research Collaboration Fund. ($100,000), Jan 2013-Jan 2014 *Innovative Power Takeoff for Ocean Wave Energy Harvesting,* With PI Lei Zuo (Mechanical Engineering) and Co-PI Babara Warkentine (SUNY-Maritime College), My share: ($33,000).

Co-PI, SBU-BNL Seed Fund. ($39,692), Ocean Wave Energy Harvesting, Jun 2013-May 2014
   With PI Lei Zuo (Mechanical Engineering), Co-PI ThomasButcher. My share: ($13,000).

PI of Stony Brook (Sole PI), Office of Naval Research (ONR), ($142,000), Nov 2010 – Oct 2011
   State Estimation over Long-Haul Networks, subcontracted from Oak Ridge National Lab (ORNL)
   from the SensorNet project funded at $17.5 Million. This project topic is a collaborative effort among
   ORNL, Stony Brook, Carnegie Mellon University, ONR and Missile Defense Agency. Stony Brook
   works on improving the detection and fusion quality over wide-area sensor networks. Based on
   existing results and feedbacks from sponsors, the work is expected to grow to a multi-year new
   project.

PI of Stony Brook (Sole PI), Space and Naval Warfare Systems Command (SPAWAR), ($750,000),
   Dec 2009-Feb 2012 *Planning and Management of QoS Based Mobile Wireless Networks (PMQ),*
   subcontracted from Referential Inc. My share is ($160,000)

PI/PD (Sole PI), Microsoft Research (MSR), Enabling Mobile Applications with Cloud
   Computing ($50,000) in equipment and service support for both teaching and research, Spring
   2011. MSR supports students from my class ESE 506 to create innovative mobile cloud
   functions, using newly released Window 7 smart phones and exploiting services provided by
   Microsoft Azure cloud platform. The class link and selected student programs will be posted
   on Microsoft website, which will help to increase the visibility of Stony Brook. MSR shares
   our vision in the infrastructure of future Mobile Cloud, which will support more powerful
   wireless applications that need higher computational power, storage, bandwidth, and services.
   This support helps to increase student creativity and integrate research with teaching, and will
   foster more research collaborations between MSR and my research group.

PI/PD (Sole PI), Department of Justice (DOJ), ($161,716), Oct 2006-Sep 2008, CDMA/IP-based
   System for Interoperable Public Safety Radio Communications.

Co-PI, National Science Foundation (NSF), ($150,000), Jul 2008- June 2011
   *A Miniaturized Robotic Testbed for Development, Testing, and Evaluation of Protocols for
   Multi-Hop, Wireless Networks,* project funding total $150,000, with PI Tzi-cker Chiueh, Co-PIs
   Samir Das and Jennifer Wong   My share is ($37,500)

PI of Stony Brook (Sole PI), Space and Naval Warfare Systems Command (SPAWAR), ($100,000), Jul
   2008-Mar 2009. *NetPARAMS: Network Planning and Real-time Automated Management System,*
   subcontracted from Referential Inc. My share is ($30.000)

PI/PD (Sole PI), Office of the Vice President for Research, Stony Brook University, ($50,000)
   matching fund, Sep 2005-Sep 2011**,** *Coordinated Resource Management in IP-based Cellular Radio
   Access Systems.*

PI or Co-PI: New York Center of Excellence in Wireless & Information Technology, under contract
   with NASA, ($48,000), Jan 2006 – Nov 2007

C. Publications

Journal Publications

1. K. Xie, X. Wang, J. Wen, and J. Cao, "Cooperative Routing with Relay Assignment in Multi-radio Multi-hop Wireless Networks," to appear in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, 2015.

2. K. Xie, X. Wang, X. Liu, J. Wen, J. Cao, "Interference-Aware Cooperative Communication in Multi-radio Multi-channel Wireless Networks," to appear in *IEEE Transactions on Computers*, 2015.

3. Q. Liu, X. Wang, and N. S. V. Rao, "Effect of Retransmission and Retrodiction on Estimation and Fusion over Long-Haul Sensor Networks," to appear in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, 2015.

4. L. Yao, Y. Man, Z. Huang, J. Deng, and X. Wang, "Secure Routing based on Social Similarity in Opportunistic Networks," to appear in *IEEE Transactions on Wireless Communications*, 2015.

5. Z. Zhang, D. Liu, X. Ma, and X. Wang, "ECast: An enhanced video transmission design for wireless multicast systems over fading channels," to appear in *IEEE System Journal*, 2015.

6. Q. Liu, X. Wang, and N. S. V. Rao, "Fusion of State Estimates Over Long-haul Sensor Networks with Random Loss and Delay," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 23, No. 2, April 2015.

7. Y. Cui, L. Wang, X. Wang, H. Wang and Y. Wang, "FMTCP: A Fountain Code-based Multipath Transmission Control Protocol," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 23, No. 2, April 2015.

8. R. Jiang, Y. Zhu, X. Wang, L. M. Ni, "*TMC*: Exploiting Trajectories for Multicast in Sparse Vehicular Networks," in *IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS)*, vol. 26 no. 1, pp. 262-271, Jan 2015.

9. S. Chu, X. Wang, Y. Y. Yang, "Adaptive Scheduling in MIMO-based Heterogeneous Ad hoc Networks," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, vol. 13 no. 5, pp. 964 - 978, May 2014.

10. Q. Liu, X. Wang. Y. Cui, "Robust and Adaptive Scheduling of Sequential Periodic Sensing for Cognitive Radios," in *IEEE Journal on Selected Areas in Communications (IEEE JSAC),* special issue on cognitive networks, vol 32, issue 3, pp. 503 - 515 March 2014.

11. C. Gao, S. Chu, X. Wang, "Distributed Scheduling in MIMO Empowered Cognitive Radio Ad Hoc Networks," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, pp. 1456 – 1468, July 2014.

12. Z. Shan, X. Wang and T. Chiueh, "Shuttle: Facilitating Inter-Application Interactions for OS-level Virtualization", in *IEEE Transactions on Computers (IEEE TC)*, Issue 5, Vol. 63, pp. 1220-1233, May 2014.

13. Z. Shan, Xin Wang, "Growing Grapes in Your Computer to Defend Against Malware," in *IEEE Transactions on Information Forensics and Security*, Issue 9 Vol 2, pp. 196-207, 2014.

14. X. Wu, X. Wang, K. Yu, and F. Y. Li, "A Measurement-based Study on the Correlations of Inter-domain Internet Application Flows", in *Elsevier, Computer Network Journal (COMNET),* Vol. 58, pp. 127–140, Jan 2014.

15. K. Xie, J, Cao, X. Wang, J. Wen, "Optimal Resource Allocation for Reliable and Energy Efficient Cooperative Communications," in *IEEE Transactions on Wireless Communications (IEEE TWC)*. Vol. 12, No 1, pp. 4994-5007, Jan 2013.

16. S. Chu, P. Wei, X. Zhong, X. Wang and Y. Zhou, "Deployment of a Connected Reinforced Backbone Network with a Limited Number of Backbone Nodes ," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, vol. 12 no. 6, pp. 1188-1200, June 2013

17. M. Xu, Y. Shang, D. Li, and X. Wang, "Greening Data Center Networks with Throughput-guaranteed Power-aware Routing" in *Elsevier, Computer Network Journal (COMNET),* Vol. 57, No. 15, pp. 2880–2899, *October 2013*.

18. S. Chu, X. Wang, Y. Yang, "Exploiting Cooperative Relay for High Performance Communications in MIMO Ad Hoc Networks," in *IEEE Transactions on Computers (IEEE TC)*, Vol:62 , No: 4, pp. 716 – 729, Apr. 2013.

19. Z. Shan, X. Wang and T. Chiueh, "Malware Clearance for Secure Commitment of OS-Level Virtual Machines", in *IEEE Transactions on Dependable and Secure Computing (IEEE TDSC)*, Vol10 , No: 2, pp. 70 - 83, March-April 2013.

20. Z. Zhang, X. Wang, X. Qin, "A New Performance Metric for Construction of Robust and Efficient Wireless Backbone Network", in *IEEE Transactions on Computers (IEEE TC)*, Vol. 61, No. 10, Oct 2012. pp. 1495-1506.

21. X. Xiang, X. Wang, Z. Zhou, "Self-Adaptive On-Demand Geographic Routing for Mobile Ad Hoc Networks," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, Vol 11, No. 9, pp. 1572 – 1586, Sep. 2012.

22. Z. Shan, X. Wang and T. Chiueh, "Enforcing Mandatory Access Control in Commodity OS to Disable Malware," in *IEEE Transactions on Dependable and Secure Computing (IEEE TDSC)*, Vol 9. No. 4, pp. 541 - 555, July-Aug. 2012.

23. Q. Xin, F. Manne, Y. Zhang, X. Wang, "Almost optimal distributed M2M multicasting in wireless mesh networks", Vo 439, pp. 69-82, June 2012.

24. Jinhua Zhu, X. Wang, "Model and Protocol for Energy Efficient Routing over Mobile Ad Hoc Networks," accepted and to appear in *IEEE Transactions on Mobile Computing (IEEE TMC)*, 2011.

25. X. Xiang, X. Wang, Y. Yang, "Supporting Efficient and Scalable Multicasting over Mobile Ad Hoc Networks," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, Vol 10, No. 4, pp. 544-559, April 2011.

26. Z. Zhou, X. Xiang, X. Wang and J. Pan, "A Holistic Sensor Network Design for Energy Conservation and Efficient Data Dissemination," in *Computer Networks Journal (COMNET)*, Elsevier, Vol 55, No. 1, pp. 131-146, Jan 2011.

27. S. Chu, X. Wang, "Opportunistic and Cooperative Spatial Multiplexing in MIMO Ad hoc Networks," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 18, No 5, pp. 1610 – 1623, Oct, 2010.

28. J. Zhu, X. Wang, D. Xu "A Unified MAC and Routing Framework for Multi-Channel Multi-Interface Ad Hoc Networks," in *IEEE Transactions on Vehicular Technique (IEEE TVT),* Vol. 59, No 9, pp.4589 – 4601, Nov, 2010.

29. X. Xiang, X. Wang, and Y. Yang, "Stateless Multicasting in Mobile Ad Hoc Networks," in *IEEE Transactions on Computer (IEEE TC),* vol. 59 no. 8, pp. 1076-1090, Aug. 2010.

30. X. Wang, H. Schulzrinne, D. Kandlur, D. Verma, "Measurement and Analysis of LDAP Performance," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 16, No. 1, pp. 232-243, Feb. 2008.

31. J. Zhu, C. Qiao, X. Wang, "On Accurate Energy Consumption Models for Wireless Ad Hoc Networks," in *IEEE Transactions on Wireless Communications (IEEE TWC).* Vol. 5 No. 11, pp. 3077-3086, Nov. 2006.

32. X. Wang, H. Schulzrinne, "Pricing Network Resources for Adaptive Applications," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 14, No 3, pp. 506 – 519, June. 2006.

33. S. Kasera, R. Ramjee, S. Thuel, X. Wang, "Congestion Control Policies for IP-based CDMA Radio Access Network," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, vol. 4, no.4, pp. 349-362, July/Aug, 2005.

34. X. Wang, R. Ramjee, H. Viswanathan, ``Adaptive and Predictive Downlink Resource Management Scheme in Next Generation CDMA Networks," in *IEEE Journal on Selected Areas in Communications (IEEE JSAC),* vol. 23, no.6, pp. 1219-1232, June 2005. Special Issue on Mobile Computing and Networking. 2005.

35. X. Wang**, H. Schulzrinne**, **"**Incentive-Compatible Adaptation of Internet Real-Time Multimedia," *IEEE Journal on Selected Areas in Communications (IEEE JSAC)* , vol. 23, no.2, pp. 417- 436, Feb 2005. Special Issue on Intelligent Services and Applications in Next Generation Networks.

36. X. Wang, H. Schulzrinne, "Comparative study of two congestion pricing schemes - auction and tatonnement," in *Computer Networks Journal (COMNET)*, Elsevier, Vol. 46, pp. 111-131, 2004. Special Issue on Internet Economics: Pricing and Policies.

37. X. Wang, H. Schulzrinne, "An Integrated Resource Negotiation, Pricing, and QoS Adaptation Framework for Multimedia Applications," *IEEE Journal on Selected Areas in Communications, (IEEE JSAC)*, vol. 18, issue 12, pp. 2514-2529, Dec 2000. Special Issue on Internet QoS.

38. X. Wang, H. Schulzrinne, "Comparison of Adaptive Internet Multimedia Applications," *IEICE Transactions on Communications*, Vol. E82-B, No. 6, pp. 806--818, June 1999.

39. X. Wang, I. Stavrakakis, "Study of Scheduling for Group-based Quality of Service Delivery," *Performance Modeling and Evaluation of ATM Networks*, *Vol. 3,* 1997.

40. X. Wang, L. Zhang, "A High-Quality Medium-Rate Speech Vector Quantizer," *Journal of Beijing University of Posts & Telecommunications*, Vol. 15, No 1, 1992.

Journal Papers under Submission

41 S. Chu, X. Wang, "Routing in Multi-hop Wireless Networks with MIMO," under submission.

42 Z. Shan, T. Chiueh and X. Wang, "Windows Service Virtualization for Building Dependable systems," under submission.

43 X. Wu, X. Wang, and K. Yu, "Data Analysis and Modeling of Internet Application Flows: A Complex Network Perspective", under submission.

44 K. Xie , J. Cao , X. Wang , J. Wen, and W. Wu, "Pre-scheduled Handoff in Urban Mesh Networks for QoS Enforced Seamless Internet Access", under revision.

45 A. Bozkurt and X. Wang Optimal Delay Analysis for Real-Time Video Transmission over IEEE 802.11 Wireless LAN", under submission.

Conference Publications

1. Y. Cui, Z. Lai, X. Wang, N. Dai, C. Miao. "QuickSync: Improving Synchronization Efficiency for Mobile Cloud Storage Services." *In ACM Mobicom* 2015. (Acceptance rate: 18%)

2. K. Xie, L. Wang, X. Wang, G. Xie, G. Zhang, D. Xie, J Wen , "Sequential and Adaptive Sampling for Matrix Completion in Network Monitoring Systems," in *Proceedings of IEEE INFOCOM*, Hong Kong, Apr. 2015. (Acceptance rate: 19%)

3. J. Zhao, X. Wang and Q. Liu, "Cooperative Sequential Compressed Spectrum Sensing over Wide Spectrum Band," in *IEEE International Conference on Sensing, Communications and Networking* (*IEEE SECON)*, Seattle, June 2015. (Acceptance rate: 28.3%)

4. Y. Li, K. Xie, and X. Wang, "Pushing towards the Limit of Sampling Rate: Adaptive Chasing Sampling," in *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Dallas, Oct 2015.

5. Z. Yan, X. Wang, D. Yoon and D. Xie, "Connecting Robots with Concurrent Exploration of Control and Communications" in *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Dallas, Oct 2015.

6. Q. Liu, X. Wang, and N.S.V, Rao, "Artificial Neural Networks for Estimation and Fusion in Long- Haul Sensor Network," *18th International Conference on Information Fusion,* Washington DC, 2015.

7. Q. Liu, X. Wang, and N.S.V, Rao, "Accuracy and Consistency in Estimation and Fusion Over Long- Haul Sensor Networks," *18th International Conference on Information Fusion,* Washington DC, 2015.

8. K. Xie, L. Wang, X. Wang, J. Wen, and G. Xie, "Learning from the Past: Intelligent On-Line Weather Monitoring based on Matrix Completion," in *IEEE International Conference on Distributed Computing Systems* (*IEEE ICDCS)*, Madrid, Spain, June 2014. (Acceptance rate: 13%)

9. Y. Cui, S. Xiao, X. Wang, M. Li, H. Wang and Z. Lai, "Performance-aware Energy Optimization on Mobile Devices in Cellular Network," in *Proceedings of IEEE INFOCOM*, Toronto, Canada, Apr. 2014. (Acceptance rate: 18%)

10. J. Zhao and X. Wang, "Compressive Wireless Data Transmissions under Channel Perturbation," in *IEEE International Conference on Sensing, Communications and Networking* (*IEEE SECON)*, Singapore, June 2014. (Acceptance rate: 28.6%)

11. Y. Li, X. Wang "BRVST: An Efficient and Content-Expressive Information Matching Overlay for Wireless Networks", in *International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Philadelphia, Oct 2014. (Acceptance rate: 26.5%)

12. J. Cordova, X. Wang, D. Xie, L. Zuo, "Self-Motivated Relay Selection for a Generalized Power Line Monitoring Network," in *International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Philadelphia, Oct 2014. (Acceptance rate: 26.5%)

13. Q. Liu, X. Wang, "Adaptive Scheduling of Sequential Periodic Sensing for Cognitive Radios," under submission, in *Proceedings of IEEE INFOCOM'2013*, Turin, Italy, Apr. 2013. (Acceptance rate: 17%)

14. Q. Liu, X. Wang, N. Rao**, "**Staggered Scheduling of Estimation and Fusion in Long-Haul Sensor Networks," in 16th *International Conference on Information Fusion*, Istanbul, Turkey, July 2013.

15. S. Chu, X. Wang, M. Li, "Placement of MIMO Nodes for Provisioning and Performance Enhancement in Wireless Networks," *in Proceeding of IEEE ICDCS,* Macau, June 2012. (Acceptance rate: 13%)

16. Y. Cui, X. Wang, H. Wang, G. Pan and Y. Wang, *"*TCP: A Fountain Code-based Multipath Transmission Control Protocol," *in Proceeding of IEEE ICDCS,* Macau, June 2012. (Acceptance rate: 13%)

17. Jie Zhao, Xin Wang, *"*Channel Sensing Order in Multi-user Cognitive Radio Networks," IEEE Dynamic Spectrum Access Network (DySPAN), Bellevue, Washington, Oct 2012**.**

18. J. Li, H. Wu, B. Liu, J. Lu, Yi Wang, X. Wang, Y. Zhang, L. Dong, "Popularity-driven Coordinated Caching in Named Data Networking," in proceeding of *ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ACM/IEEE ANCS)* , Austin, TX, Oct 2012

19. Z. Shan, X. Wang and T. Chiueh, "Facilitating Inter-Application Interactions for OS-level Virtualization*,"* in Proceeding of *ACM Annual International Conference on Virtual Execution Environments (ACM VEE)*, London, UK, Mar. 2012.

20. Z. Weng and X. Wang "Low-Rank Matrix Complexion for Array Signal Processing," in Proceeding of *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP),* Kyoto, Japan, Mar. 2012.

21. Q. Liu, X. Wang and N. Rao, "Fusion of State Estimates over Long-haul Sensor Networks Under Random Delay and Loss," in Proceeding of *IEEE INFOCOM* minisymposium, Orlando, Mar 2012.

22. Q. Liu, X. Wang, N.S.V, Rao, K. Brigham and B. V. K. Vijaya Kumar "Performance of State Estimate Fusion in Long-Haul Sensor Networks with Message Retransmission," *15th International Conference on Information Fusion,* Singapore, 2012.

23. Q. Liu, X. Wang, N.S.V, Rao, K. Brigham and B. V. K. Vijaya Kumar "Fusion Performance in Long-Haul Sensor Networks with Message Retransmission and Retrodiction*", in IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Las Vegas, Oct 2012.

24. N.S.V, Rao, K. Brigham and B. V. K. Vijaya Kumar, Q. Liu and X. Wang, "Effects of Computing and Communications on State Fusion Over Long-Haul Sensor Networks," 15th International Conference on Information Fusion, Singapore, 2012

25. Z. Weng and X. Wang "Support Recovery in Compressive Sensing for Estimation of Direction-Of-Arrival," in Proceeding of *Asilomar conference on Signals, Systems, and Computers*, Asiloma, California, Nov. 2011.

26. D. Li, H. Cui, Y. Hu, Y. Xia and X. Wang, "Scalable Data Center Multicast using Multi-class Bloom Filter," in *IEEE International Conference on Network Protocols (IEEE ICNP),* Vancouver, BC Canada, Oct 2011. (Acceptance rate: 16%)

27. Q. Xin, X. Wang, J. Cao and W. Feng, "Joint Admission Control, Channel Assignment and QoS Routing for Coverage Optimization in Multi-hop Cognitive Radio Cellular Networks," *in IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS),* Valencia, Spain, Oct 2011. (Acceptance rate: 19.1%)

28. X. Wu, K. Yu, and X. Wang, "On the Growth of Internet Application Flows: A Complex Network Perspective," in *Proceedings of IEEE INFOCOM'2011*, Shanghai, China, Apr. 2011. (Acceptance rate: 15.9%)

29. Z. Shan, X. Wang, and T. Chiueh, "Secom: Save Benign Working Results from Disposable Virtual Machines**,** in *IEEE/ACM International Conference on Autonomic Computing and Communications (ICAC)**,** Karlsruhe, Germany, June 2011. (Acceptance rate: 20%)

30. Z. Shan, X. Wang, and T. Chiueh, "Tracer: Enforcing Mandatory Access Control in Commodity OS with the Support of Light-Weight Intrusion Detection and Tracing," in *ACM Symposium on Information, Computer and Communications Security (ASIACCS)*, Hong Kong, Mar 2011. (Acceptance rate: 16.1%)

31. Z. Shan, T. Chiueh, and X. Wang, "Virtualizing System and Ordinary Services in Windows-based OS-Level Virtual Machines," in *ACM Symposium on Applied Computing (SAC)*, TaiChung, Taiwan Mar 2011. (Acceptance rate: 22%)

32. P. Wei, S. Chu, X. Wang and Y. Zhou, "Deployment of a Reinforcement Backbone Network with Constraints of Connection and Resources" *in Proceeding of IEEE ICDCS'10,* Genoa, Italy, June 2010. (Acceptance rate: 14.3%)

33. S. Chu and X. Wang, "MIMO-Aware Routing in Wireless Mesh Networks*", in Proceeding of IEEE INFOCOM'10,* San Diego, CA, March 2010. (Acceptance rate: 17.5%)

34. S. Chu, X. Wang, "Adaptive Exploitation of Cooperative Relay for High Performance Communications in MIMO Ad Hoc Networks," in *IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS)*, San Francisco, CA, Nov. 2010. (Acceptance rate: 27%)

35. Z. Zhang, Qiang Ma, Xin Wang, "Constructing Robust and Efficient Wireless Backbone Network with Algebraic Connectivity", in *Proceedings of IEEE IWQoS'10* , Beijing, China, June 2010.. (Acceptance rate: 24.8%)

36. S. Chu, X. Wang, "Adaptive and Distributed Scheduling in Heterogeneous MIMO-based Ad hoc Networks," in IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS), MACAU, Oct., 2009. (Acceptance rate: 25%)

37. S. Chu, X. Wang, "Opportunistic and Cooperative Spatial Multiplexing in MIMO Ad hoc Networks," in *ACM International Symposium on Mobile Ad Hoc Networking and Computing* (*ACM MobiHoc'2008),* Hong Kong, May, 2008. (Acceptance rate: 14.6%)

38. X. Xiang, Z. Zhou, X. Wang, "A Scalable Geographic Service Provision Framework for Mobile Ad Hoc Networks," in *IEEE International Conference on Pervasive Computing and Communications* (*IEEE PerCom'2007)*, White Plain, New York, Mar 2007. (Acceptance rate: 13.5%)

39. X. Xiang, Z. Zhou, X. Wang, "Self-Adaptive On Demand Geographic Routing Protocols for Mobile Ad Hoc Networks," in *Proceedings of IEEE INFOCOM'2007*, mini-symposium, Alaska, May 2007. (Acceptance rate: 25%)

40. X. Xiang, Z. Zhou, X. Wang, "Robust and Scalable Geographic Multicast Protocol for Mobile Ad Hoc Networks," in *Proceedings of IEEE INFOCOM'2007*, mini-symposium, Alaska, May 2007. (Acceptance rate: 25%)

41. Z. Zhou, X. Xiang, X. Wang, J. Pan, "An Energy-Efficient Data Dissemination Protocol in Wireless Sensor Networks,*" IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM'2006)*, Niagara-Falls, Buffalo, NY, June, 2006. (Acceptance rate 10.4 %, as extended paper)

42. X. Yu, C. Qiao, X. Wang, D. Xu, "Performance Analysis and Enhancement of the Next Generation Cellular Networks," *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM'2006)*, Niagara-Falls, Buffalo, NY, June, 2006. (Acceptance rate 10.4 %, as extended paper)

43. X. Xiang, X. Wang, Z. Zhou, "An Efficient Geographic Multicast Protocol for Mobile Ad Hoc Networks," *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM'2006)* , Niagara-Falls, Buffalo, June, 2006. (Acceptance rate: ~30%)

44. P. Lin, H. Ngo, C. Qiao, X. Wang, T. Wang, D. Qian, "Minimum Cost Wireless Broadband Overlay Network Planning," *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM'2006)*, Niagara-Falls, Buffalo, NY, June, 2006. (Acceptance rate: around 30%)

45. A. Balasubramanian, J. Ghosh, X. Wang, "A Reputation Based Scheme for Stimulating Cooperation in MANETs," in *19th International Teletraffic Congress (ITC-19)*, Beijing, China, Aug. 2005. (Acceptance rate unknown)

46. J. Zhu, X. Wang, "PEER: A Progressive Energy Efficient Routing Protocol for Wireless Ad Hoc Networks," in *Proceedings of IEEE INFOCOM'2005*, Miami, March 2005. (Acceptance rate: 17.2%)

47. *X. Wang, R. Ramjee, H. Viswanathan, ``Adaptive and Predictive Downlink Resource*

Management Scheme in Next Generation CDMA Networks," in *Proceedings of IEEE INFOCOM'2004,* Hong Kong, March 2004.   (Acceptance rate: 18.4%)

48. J. Zhu, C. Qiao, X. Wang, "A Comprehensive Minimum Energy Scheme for Wireless Networks," in *Proceedings of IEEE INFOCOM'2004,* Hong Kong, March 2004. (Acceptance rate: 18.4%)

49. P. Lin and C. Qiao and X. Wang**, "**Medium Access Control With Dynamic Duty Cycle For Sensor Networks," *IEEE Wireless Communications and Networking Conference (WCNC*), Atlanta, Georgia, March, 2004.

50. G. Gopalakrishnan, S. Kasera, C. Loader, X. Wang, "Robust Router Overload Control Using Acceptance and Departure Rate Measures," in *18th International Teletraffic Congress (ITC-18)*, Berlin, Germany, Aug. 2003. (Acceptance rate unknown)

51. S. Kasera, R. Ramjee, S. Thuel, X. Wang, "Congestion Control Policies for IP-based CDMA Radio Access Network," in *Proceedings of IEEE INFOCOM'2003,* San Francisco, March 2003. (Acceptance rate: 20.8%)

52. X. Wang, H. Schulzrinne, "Auction or Tatonnement - Finding Congestion Prices for Adaptive Applications," short paper in *10th International Conference on Network Protocols (ICNP'2002)*, Paris, France, Nov. 2002. (Acceptance rate: 14.7%)

53. X. Wang, H. Schulzrinne, "Pricing Network Resources for Adaptive Applications in a Differentiated Services Network," in *Proceeding of IEEE INFOCOM'2001*, Anchorage, Alaska, April 2001. (Acceptance rate: 23%)

54. X. Wang, H. Schulzrinne, D. Kandlur, D. Verma, "Measurement and Analysis of LDAP Performance," *ACM International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS'2000)*, Santa Clara, California, June 2000. (Acceptance rate: 17%)

55. X. Wang, H. Schulzrinne, C. Yu, P. Stirpe, W. Wu, "IP Multicast Fault Recovery in PIM over OSPF," in *ACM International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS'2000)*, Santa Clara, California, June 2000. As short paper.

56. M. Chan, Y. J. Lin, X. Wang, "On Reducing QoS Data Exchange in Monitoring Flows with Service Level Agreements," in *8th IEEE International Conference on Network Protocols (IEEE ICNP'2000)*, Osaka, Japan, November 2000. (Acceptance rate: 27%)

57. X. Wang, H. Schulzrinne, C. Yu, P. Stirpe, W. Wu, "IP Multicast Fault Recovery in PIM over OSPF," in *8th IEEE International Conference on Network Protocols (IEEE ICNP'2000)*, Osaka, Japan, November 2000. (Acceptance rate: 27%)

58. X. Wang, H. Schulzrinne, "Performance Study of Congestion Price based Adaptive Service," in *Proc. International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV'2000)*, Chapel Hill, North Carolina, June 2000.

59. X. Wang, H. Schulzrinne, "Adaptive Reservation: A New Framework for Multimedia Adaptation," *IEEE International Conference on Multimedia and Expo. (ICME'2000)*, New York, July 2000.

60. X. Wang, H. Schulzrinne, "RNAP: A Resource Negotiation and Pricing Protocol," In *Proc. International Workshop On Network and Operating System Support for Digital Audio and Video*

(NOSSDAV'99), New Jersey, June 1999.

61. X. Wang, I. Stavrakakis, "An Efficient VBR Traffic Scheduling Policy using Dynamic Bandwidth Allocation," *4th IFIP Workshop on Performance Modeling and Evaluation of ATM Networks*, July 8-10, 1996, W. Yorkshire, U.K.

62. X. Wang, J. Zhang, W. Zhu, "64 Kb/s Motion Videophone Hardware System Design," *The 6th National conference on Speech and Image Communications*, Beijing, China, 1993.

63. X. Wang, J. Li, W. Zhu, J. Zhang, "Using TMS 320C25 to Realize 64Kb/s Motion Videophone Decoder," *The 6th National United Conference on Multimedia Communications*, Beijing, China, 1993.

Conference Papers under Submissions

1. Kun Xie, Juhong Wu, Xin Wang, Jigang Wen, Gaogang Xie, "Stackelberg Game for Utility-based Pervasive Mobile Cloud", under submission.

2. Kun Xie, Xin Wang, Wen Shi, Jigang Wen, Gaogang Xie, Dongliang Xie, "TSM-Cloud: Time-dependent Social Mobile Cloud", under submission.

3. Kun Xie, Yuqin Ji, Xin Wang, Qingu Li, Jigang Wen, Dongliang Xie, "Multi-dimensional Pricing Based on Two-sided Market Game in Cloud Computing, under submission.

4. Kun Xie, Xin Wang, Wen Shi, Jigang Wen, Dongliang Xie, "Social-group-aware Cloud Offloading", under submission.

5. Shuo Yang Xin Wang, "Distributed Scheduling with Interference Management in MIMO Ad Hoc Networks", under submission.

6. Zhiqing Wei, Zhiyong Feng, Qixun Zhang, Xin Wang, "Efficient Delivery of Radio Environment Information with Geo-location Database in Cognitive Radio Networks**",** under submission.

Workshop Publications and Presentations

1. Virendra M., Upadhyaya S., Wang X., "GSWLAN: A Generic and Secure Wireless LAN Architecture", *Fifth IEEE Information Assurance Workshop (West Point Workshop)*, West Point, NY, pp. 434-435, June 2004

2. X. Wang, H. Schulzrinne, "Resource Negotiation and Pricing in Diffserv for Adaptive Multimedia Applications," *First NY Metro Area Networking Workshop*, IBM T. J Watson Research Center, Hawthorne, New York, Mar 2001.

3. X. Wang, H. Schulzrinne, "RNAP: A Framework for Congestion-Based Pricing and Charging for Adaptive Multimedia Applications," *First International Workshop Quality of future Internet Services (QofIS'2000)*, Berlin, Germany, Sep. 2000.

4. X. Wang, H. Schulzrinne, "Resource Negotiation and Pricing Protocol," *Internet2 Network Research Workshop*, Chicago, June 2000.

Conference Presentations:

1. J. Zhao, X. Wang and Q. Liu, "Cooperative Sequential Compressed Spectrum Sensing over Wide Spectrum Band," in *IEEE International Conference on Sensing, Communications and Networking* (*IEEE SECON)*, Seattle, June 2015.

2. Q. Liu, X. Wang, "Adaptive Scheduling of Sequential Periodic Sensing for Cognitive Radios," under submission, in *Proceedings of IEEE INFOCOM'2013*, Turin, Italy, Apr. 2013.

3. Q. Liu, X. Wang, N.S.V, Rao, K. Brigham and B. V. K. Vijaya Kumar "Performance of State Estimate Fusion in Long-Haul Sensor Networks with Message Retransmission," 15th International Conference on Information Fusion, Singapore, July 2012.

4. S. Chu, X. Wang, M. Li, "Placement of MIMO Nodes for Provisioning and Performance Enhancement in Wireless Networks," *in Proceeding of IEEE ICDCS,* Macau, June 2012.

5. Q. Liu, X. Wang and N. Rao, "Fusion of State Estimates over Long-haul Sensor Networks Under Random Delay and Loss," in Proceeding of *IEEE INFOCOM* minisymposium, Orlando, Mar 2012.

6. Z. Weng and X. Wang "Support Recovery in Compressive Sensing for Estimation of Direction-Of-Arrival," in Proceeding of *Asilomar conference on Signals, Systems, and Computers*, Asiloma, California, Nov. 2011.

7. X. Wu, K. Yu, and X. Wang, "On the Growth of Internet Application Flows: A Complex Network Perspective," in *Proceedings of IEEE INFOCOM'2011*, Shanghai, China, Apr. 2011.

8. P. Wei, S. Chu, X. Wang and Y. Zhou, "Deployment of a Reinforcement Backbone Network with Constraints of Connection and Resources" *in Proceeding of IEEE ICDCS'10,* Genoa, Italy, June 2010.

9. S. Chu, X. Wang, "Adaptive Exploitation of Cooperative Relay for High Performance Communications in MIMO Ad Hoc Networks," in *IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS)*, San Francisco, CA, Nov. 2010.

10. Z. Zhang, Qiang Ma, Xin Wang, "Constructing Robust and Efficient Wireless Backbone Network with Algebraic Connectivity", in *Proceedings of IEEE IWQoS'10* , Beijing, China, June 2010..

11. S. Chu, X. Wang, "Adaptive and Distributed Scheduling in Heterogeneous MIMO-based Ad hoc Networks," in IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS), MACAU, Oct., 2009.

12. S. Chu, X. Wang, "Opportunistic and Cooperative Spatial Multiplexing in MIMO Ad hoc Networks," in *ACM International Symposium on Mobile Ad Hoc Networking and Computing* (*ACM MobiHoc'2008),* Hong Kong, May, 2008.

13. X. Xiang, Z. Zhou, X. Wang, "A Scalable Geographic Service Provision Framework for Mobile Ad Hoc Networks," in *IEEE International Conference on Pervasive Computing and Communications* (*IEEE PerCom'2007)*, White Plain, New York, Mar 2007.

14. A. Balasubramanian, J. Ghosh, X. Wang, "A Reputation Based Scheme for Stimulating Cooperation in MANETs," in *19th International Teletraffic Congress (ITC-19)*, Beijing, China, Aug. 2005.

15. X. Wang, R. Ramjee, H. Viswanathan, ``Adaptive and Predictive Downlink Resource Management Scheme in Next Generation CDMA Networks," in *Proceedings of IEEE INFOCOM'2004,* Hong Kong, March 2004.

16. X. Wang, H. Schulzrinne, "Auction or Tatonnement - Finding Congestion Prices for Adaptive Applications," short paper in *10th International Conference on Network Protocols (ICNP'2002)*, Paris, France, Nov. 2002.

17. X. Wang, H. Schulzrinne, "Pricing Network Resources for Adaptive Applications in a Differentiated Services Network," in *Proceeding of IEEE INFOCOM'2001*, Anchorage, Alaska, April 2001.

18. X. Wang, H. Schulzrinne, D. Kandlur, D. Verma, "Measurement and Analysis of LDAP Performance," *ACM International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS'2000)*, Santa Clara, California, June 2000.

19. X. Wang, H. Schulzrinne, C. Yu, P. Stirpe, W. Wu, "IP Multicast Fault Recovery in PIM over OSPF," in *ACM International Conference on Measurement and Modeling of Computer Systems (ACM SIGMETRICS'2000)*, Santa Clara, California, June 2000.

20. X. Wang, H. Schulzrinne, C. Yu, P. Stirpe, W. Wu, "IP Multicast Fault Recovery in PIM over OSPF," in *8th IEEE International Conference on Network Protocols (IEEE ICNP'2000)*, Osaka, Japan, November 2000.

21. X. Wang, H. Schulzrinne, "Performance Study of Congestion Price based Adaptive Service," in *Proc. International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV'2000)*, Chapel Hill, North Carolina, June 2000.

22. X. Wang, H. Schulzrinne, "Adaptive Reservation: A New Framework for Multimedia Adaptation," *IEEE International Conference on Multimedia and Expo. (ICME'2000)*, New York, July 2000.

23. X. Wang, H. Schulzrinne, "RNAP: A Resource Negotiation and Pricing Protocol," In *Proc. International Workshop On Network and Operating System Support for Digital Audio and Video (NOSSDAV'99),* New Jersey, June 1999.

Five selected papers: http://www.ece.sunysb.edu/~xwang/public/Selected/

1. Q. Liu, X. Wang, and N. S. V. Rao, "Fusion of State Estimates Over Long-haul Sensor Networks with Random Loss and Delay," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 23, No. 2, April 2015.

2. S. Chu, X. Wang, "Opportunistic and Cooperative Spatial Multiplexing in MIMO Ad hoc Networks," in *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, Vol. 18, No 5, pp. 1610 – 1623, Oct, 2010.

3. C. Gao, S. Chu, X. Wang, "Distributed Scheduling in MIMO Empowered Cognitive Radio Ad Hoc Networks," in *IEEE Transactions on Mobile Computing (IEEE TMC)*, pp. 1456 – 1468, July 2014

4. Q. Liu, X. Wang. Y. Cui, "Robust and Adaptive Scheduling of Sequential Periodic Sensing for Cognitive Radios," in *IEEE Journal on Selected Areas in Communications (IEEE JSAC),* special issue on cognitive networks, vol 32, issue 3, pp. 503 - 515 March 2014.

5. S. Chu, X. Wang, Y. Y. Yang, "Adaptive Scheduling in MIMO-based Heterogeneous Ad hoc Networks," to appear in *IEEE Transactions on Mobile Computing (IEEE TMC)*, 2014

6. X. Xiang, X. Wang, and Y. Yang, "Stateless Multicasting in Mobile Ad Hoc Networks," in *IEEE Transactions on Computer (IEEE TC),* vol. 59 no. 8, pp. 1076-1090, Aug. 2010.

D. Research Collaborations

- Prof. Henning Schulzrinne, Columbia University, in the area of multimedia networking research.

- Prof. Yuanyuan Yang, Stony Brook University, in the area of wireless networking research, with two papers published and two under submission.

- Profs. Alex Doboli and Wendy Tang, Stony Brook University, on the design of multi-semantic, decision networks, with joint proposal submissions.

- Prof. Sangjin Hong, Stony Brook University, on the design of system architecture for supporting wireless actuator/sensor interface, with one joint proposal in the past.

- Prof. Jacob Sharony, Stony Brook University, on wireless networking research.

- Profs. Tzi-cker Chiueh, Samir Das, and Jennifer Wong, on the development of miniatured robotic testbed, with a joint grant from NSF.

- Prof. Samir Das on the development of network management system for voice and video, with a past proposal submission.

- Prof. Yu Zhou, Stony Brook, on the robotic system deployment and communications, with one joint paper published and joint proposals submitted.

- Prof. Lei Zuo, Stony Brook, on the design of energy harvesting and sustainable networks, with two grants awarded, one under submission.

- Prof. David. Yau, Purdue University, on networked sensing and services, with joint proposals submitted.

- Prof. Chunming Qiao and Hung Ngo, University at Buffalo, on wireless networking and algorithms, with joint papers.

- Prof. Shambhu Upadhyaya and Ramalingam Sridhar, University at Buffalo, on wireless security.

- Jianping Pan, University of Victoria, on energy efficient sensor network design, with one joint paper.

- Dr. Dahai Xu (AT&T Research) and Xiang Yu (Yahoo) on network performance studies.

- Dr. Sandy Thuel and Harish Viswanathan, Bell Labs Research, Alcatel-Lucent, on Improving Performance of CDMA networks.

- Dr. Dilip Kandlur and Dinesh Verma, IBM Research, on LDAP performance studies

- Dr. Ramachandran Ramjee, Microsoft Research India (past Bell Labs Research, New Jersey) , on resource management in CDMA networks

- Prof. Sneha Kasera, University of Utah, on network congestion control

- Mun-choon Chan (National University of Singapore) and Dr. Yow-jian Lin (Telcodia Research), on IP network monitoring

- Dr. Paul Stirpe, Wei Wu (Reuters), Chien-ming Yu (Microsoft), on IP multicast studies

- Prof. Ioannis Stavrakakis, University of Athens, on network scheduling

IV. Teaching

A. Courses taught

Electrical and Computer Engineering, SUNY at Stony Brook.

Year	Course Number & Title	Enrollment	Comments
Fall 2015	ESE 224: Computer Techniques for Electronic Design II	99	Existing
Fall 2015	ESE 505: *Wireless Communications*	16	Existing
Spring 2015	ESE 506: *Wireless Networking and Mobile Computing*	6	Existing
Fall 2014	ESE 224: Computer Techniques for Electronic Design II	102	Existing
Fall 2014	ESE 505: *Wireless Communications*	12	Existing
Spring 2014	ESE 506: *Wireless Networking and Mobile Computing*	10	Existing
Fall 2013	ESE 224: Computer Techniques for Electronic Design II	100	Existing
Fall 2013	ESE 505: *Wireless Communications*	22	Existing
Spring 2013	ESE 506: *Wireless Networking and Mobile Computing*	11	Existing
Fall 2012	ESE 224: Computer Techniques for Electronic Design II	78	Existing
Fall 2012	ESE 505: *Wireless Communications*	29	Existing
Spring 2012	ESE 506: *Wireless Networking and Mobile Computing*	24	Existing
Fall 2011	ESE 224: Computer Techniques for Electronic Design II	78	Existing
Fall 2011	ESE 505: *Wireless Communications*	24	Existing
Spring 2011	ESE 506: *Wireless Networking and Mobile Computing*	32	Existing
Fall 2010	ESE 224: Computer Techniques for Electronic Design II	60	Existing
Fall 2010	ESE 505: *Wireless Communications*	26	Existing
Spring 2010	ESE 506: *Wireless Networking and Mobile Computing*	9	Existing
Fall 2009	ESE 224: Computer Techniques for Electronic Design II	40	Existing
Fall 2009	ESE 505: *Wireless Communications*	28	Existing
Spring 2009	ESE 506: *Wireless Networking and Mobile Computing*	7	Existing
Fall 2008	ESE 224: Computer Techniques for Electronic Design II	45	Existing
Fall 2008	ESE 505: *Wireless Communications*	11	Existing
Spring 2008	ESE 224: Computer Techniques for Electronic Design II	42	Restructured

Spring 2008	ESE 506: *Wireless Networking and Mobile Computing*	9	Existing
Fall 2007	ESE 505: *Wireless Communications*	11	New curriculum
Spring 2007	ESE224: Computer Techniques for Electronic Design II	4	Existing (Test)
Fall 2006	ESE506: *Wireless Networking and Mobile Computing*	10	Existing
Spring 2006	ESE224: Computer Techniques for Electronic Design II	8	New course (Test)
Fall 2005	ESE506: *Wireless Networking and Mobile Computing*	15	New course

Computer Science and Engineering, SUNY at Buffalo

Spring 2005	CSE 646: *Wireless Networks*	15	Existing
Fall 2004	CSE 742: *Advanced Topics in Wireless Networks*	10	New course
Spring 2004	CSE 741: *Topics in Mobile Computing and Sensor Networks*	12	New course
Fall 2003	CSE 646: *Wireless Networks*	24	New course

B. Curricular Development

Since joining Stony Brook, I have developed a graduate course sequence in wireless networking and communications area. This includes the creation of the new course *Wireless Networking and Mobile Computing,* and the curriculum renovation of the existing course *Wireless Communications*. Additionally, to better prepare the undergraduate students for their future careers, I joined the efforts of the department in developing more courses in the software programming area. Specifically, I created the undergraduate core course *Computer Techniques for Electronic Design II*.

- *ESE 224*, Computer Techniques for Electronic Design II (new)**:** This is an undergraduate core course which involves lectures and a course project. This course introduces C++ programming for problem solving in electrical and computer engineering field. Topics covered include: C++ concepts, classes, abstract data types, code reuse, basic data structures, object-oriented programming concepts as well as numerical techniques. This is a new course. Besides developing new lecture notes and programming homework, I also design a large course project for the course to train the students to grasp the skills of programming in a larger system and working in a team environment.

- *ESE 505 Wireless Communications* (new curriculum)**:** This is a graduate course which involves lectures and a class project. This course covers the first year graduate level materials in the area of wireless communications, including fundamentals on wireless channels, modulation techniques, basic coding techniques, multiple access schemes, channel allocation, power control, accessing and scheduling techniques, resource management, handoff, and admission control. It reviews the design and provides the basic analysis on cellular systems, including 2G and 3G. ESE 505 is an existing course. I have taken a new textbook which includes the state-of-the-art materials. I have also developed new lecture notes and a set of course projects. Besides introducing the concepts from the textbooks, I have also provided additional materials to bridge the gap between the book and practical network systems based on my work experiences in Bell Lab research. The course projects are designed to meet the different interests of students and help students to better grasp the fundamentals and apply the classroom knowledge to solving real-world problem.

- *ESE 506, Wireless Networking and Mobile Computing* (new)**:** This is an advanced graduate course which involves lectures, class presentation, and a course project. This course examines the unique network protocol challenges and opportunities presented by wireless networking and host or router mobility. The course gives a brief overview of fundamental concepts in mobile wireless systems and mobile computing, covers in more details the system and standards issues including wireless local area networks (LANs), wireless personal area networks (PANs), mobile IP, ad-hoc networks, sensor networks, as well as issues associated with small handheld portable devices and new wireless

applications. This is followed by several topical studies around recent researches in wireless field, with the purpose of bridging the gap between advanced textbook material and the state-of-the-art research in the field. As wireless networking is a fast growing area, I have developed lecture notes integrating the-state-of-the-art course materials and my knowledge from my past industrial experiences. I also design new course projects each year to capture the new technology trends and meet the specific interests and backgrounds of the students. The students are also trained for presentation skills, basic research skills, and technical report writing skills.

I also developed the following courses while at the University at Buffalo**.**

- <u>CSE 741 Topics on Mobile Computing and Sensor Networks (new)</u>**:** This was an advanced graduate course which involved lectures, class presentation, and a course project. This course was based on the recent advances in sensor networks. I organized the materials around different network layers, and emphasized the interaction and coordination of different techniques in achieving the critical requirements of low power micro-sensors.

- <u>CSE 742 Advanced Topics in Wireless Networks (new):</u> This was an advanced graduate course which involved lectures, class presentation, and a course project. This class involved the study of the wireless network fundamentals, the understanding of the impact of wireless network characteristics on existing network design, and the introduction of new algorithms and protocols that are suited to such characteristics. The class introduced all layers of wireless networking and the interactions between them (including: physical, data link, medium access control, routing, transport, and application).

C. Student Supervision

C. 1 Current PhD students

1. Jie Zhao, Topic: *Sparse Network Communications and Sensing*; Expected graduation: 2016; Starting time: September 2011.

2. Jose Cordova Topic*, Robust and Energy Efficient Sensing and Data Transmissions for Smart Grid*, Expected graduation: 2017; Starting time: September 2012

3. Zhe Yan, Topic: *Exploiting Control and Communications in Autonomous System Design*, Expected graduation: 2018; Starting time: September 2013.

4. Xiaomeng Wang, Topic: *Sparse Array Signal Processing for Communications and Detection,* Expected graduation: 2019; Starting time: May 2014.

5. Xuewen Yang Topic: *Image Pattern Recognition in the Presence of Motion and Noise,* Expected graduation: 2020; Starting time: September 2015.

6. Yingru Liu, Topic: *Networked Data Processing with Learning,* Expected graduation: 2021; Starting time: September 2015.

7. Bowen Zhao, Topic: *Sparse Signal Processing for Communications and Detection,* Expected graduation: 2021; Starting time: September 2015.

C.2 PhD students visiting and co-advised

8. Jerome Zhang, Beijing University of Posts & Telecommunications.

9. Shihan Xiao, Tsinghua University.

C.3 PhD students graduated

1. Jinhua Zhu**,** Thesis: *Cross-layer Design for Energy Conservation and Capacity Improvement of Mobile Ad Hoc Networks.* PhD 2007. Current employment: Ericsson

2. Xiaojing Xiang**,** Thesis: *Scalable and Reliable Geographic Service Provision Framework for Mobile Ad Hoc Networks.* PhD 2007. Initial employment: Microsoft; Current Employment: AT&T Lab

3. Shan Chu**,** Topic**:** *Efficient MIMO Communications over Ad Hoc and Mesh Networks*. PhD 2011 Current employment: Motorola Solutions.

4. Qiang Liu, Topic: *Robust Network Sensing and Fusion under Large Loss and Delay*. PhD 2014. Current employment: Oak Ridge National Lab.

5. Ying Li, Topic: *Context-Aware Information and Service Management for Wireless Cloud and Applications*. PhD 2015

C.4 Master students graduated

1. Daegeun Yoon, *Enabling Efficient Small Cell Communications,* 2015.

2. Shuo Yang, Topic*: High Performance Wireless Network Communications in Severe Communication Environment,* May 2014.

3. Cunhao Gao, Topic: *Distributed Scheduling on MIMO Empowered Cognitive Radio Ad Hoc Networks,* Jan, 2011.

4. Peng Wei, Topic: *Autonomous Deployment and Control of Wireless Networks*, Sep. 2009.

5. Ziyi Zhang, Topic: *Robust Network Management over Multi-hop Wireless Networks,* Jan 2009.

4. Qiang Ma**,** Topic: *Enabling Efficient Data Management over Mobile Ad Hoc Networks***, Oct.** 2008.

5. Saradha Sukavanam, Topic: *MAC Design for Adaptive Array over Mobile Ad Hoc Networks,* 2005.

7. Zehua Zhou**,** Topic: *Energy Efficient Data Distributions over Wireless Sensor Networks*, 2005.

8. Abhijeet Kumar**,** Topic: *Performance Study of Multi-channel MAC Protocols for Mobile Ad Hoc Networks,* 2005.

C.5 Master projects supervised

1. Yueshi Wu: Topic: Enabling Communications in Autonomous Systems, 2012.

2. Meng Xie : Topic: Cloud-facilitated Credit Card Services, 2012.

3. *Jose Cordova, Topic: Energy Efficient Data Dissemination for Smart Grid, 2012*

4. *Prashanth Krishnan Ranganathan, Topic: Mobile Cloud System for Photo Sharing and Recommendation, 2011*

5. *Xiang Xu: Topic: Energy Management for Wave Energy Harvesting, 2011.*

6. Shushu Huang, Topic: Seamless *Routing and over Heterogeneous Mobile Ad Hoc Networks* Fall 2010.

7. *Yu Wang,* Topic: Seamless *Routing and over Heterogeneous Mobile Ad Hoc Networks* Fall 2010.

8. Ilya Rabkin, Topic: *Support of* QoS *over Heterogeneous Mobile Ad Hoc Networks* Fall 2010.

9. Ikechukwu Okoligwe, Topic: *Design of Cognitive Wireless Networks* Fall 2010.

10. Jose Eduardo Cordova, Topic: *Energy-Efficient Powerline Health Monitoring,* Fall 2010.

11. Brahadeesh Selvaraj, Topic: *Efficient and Robust Information Collection for Infrastructure Health Monitoring,* Fall 2010.

12. Chunhui Wang, Topic: *Efficient TCP Transmission over Wireless Networks, Fall 2010.*

13. Amel Ashraf Chowdhury, Topic: *Routing and QoS over Heterogeneous Mobile Ad Hoc Networks,* Spring 2010.

14. Abhay Ravi Chandran, Topic: *Support of Efficient Information Management over Wireless Networks,* Fall 2009.

15. Karthik Sidharth Vijalapur, Topic: *Secure Wireless Communications,* Fall 2009.

16. Shruti Richa, Topic: *Implementation and Performance Evaluation of Geometric Routing over a Miniaturized Robotic Testbed,* Fall 2006.

17. Jianping Huang, Topic: *An Active RFID system based on 802.11 Technique,* Fall 2006.

18. Hariharan Sukumar, Topic: *Efficient Multicast over CDMA-based Cellular Networks,* Fall 2006.

19. Rahul Shah, Topic: *Admission Control in 3G Wireless Backhaul Networks,* Fall 2005 and Spring 2006.

20. Suresh, Kamath, Topic: *Performance Evaluations of Multi-Channel Designs over MANET,* Fall 2005.

21. Karthick Sundararaman, Topic: *Location Based Services and Load Management in Wireless LAN,* Spring 2005.

22. Aruna Balasubramanian, Topic: *A Reputation Based Scheme for Stimulating Cooperation in MANETs*, Spring 2005

23. Jigar Shukla, Topic: *Re-usable E-checks as Incentives in Mobile Adhoc Networks,* Fall 2004.

24. Dharmendra Makhijani, Topic: *Stimulating Cooperation in MANET,* Fall 2004.

25. Bhushan Kokje, Topic: *Comparison of Local and End-to End Error Recovery in Dynamic Source Routing (DSR),* Fall 2004.

26. Narender Loganathan, Topic: *Security and Incentive for Mobile Ad Hoc networks*. Fall 2004.

27. Venkatnarayanan Krishnan, Topic: *Energy Efficient Routing over Mobile Ad Hoc Network.* Fall 2004.

C.6 Bachelor students supervised:

1. Daegeun Yoon, *Formulation of Robot Networks,* 2013-2014

2. Biniyam Zewede*, Spectrum Sensing over Cognitive Networks,* 2012-2013

3. Bonghyun Kim**,** *Cooperative Spectrum Sensing System Design and Implementation*, 2012-2013

4. Keith Yu, *Energy Efficient Routing with Energy Harvesting,* 2011-2012.

5. Yuanwen Ji, *Energy Efficient Routing with Energy Harvesting,* 2011-2012

6. Xiaochen Li; *Energy Efficient Routing with Energy Harvesting,* 2011-2012.

7. Fenghe Liu**,** *Performance Evaluations of Routing Protocols over MANET*, 2008 **-2009**

8. Eric Yang, *Energy Efficient Sensor Network Design and Implementation,* 2007-2009

D. Post-Doctoral and Visiting Scholars Mentoring

1. Seung Jei Yang**,** Postdoc, 2004-2005, Research Inst. of Eng. & Tech., Hanyang University, Korea

2. Ellen Liu, Visiting Scholar, Fall 2007**,** Assistant professor, Computer Science, University of Manitoba, Canada

3. Xiaofei Wu, Postdoc, 2010-2011**,** Associate professor, School of Information and Communication Engineering, Beijing Univ. of Posts & Tele., Beijing, China.

4. Aytul Bozkur, Postdoc, 2011-2012, Assistant Professor, The Department of Mechatronics Enginering, Karabuk Merkez, TURKEY.

5. Kun Xie, Post Doc, 2012-2013**,** Associate professor, Computer Science, Hunan University, Chang Sha, China

6. Tianjing Wang, Post Doc, 2013-2014, Associate professor, Computer Science, Nanjing University of Technology.

7. Xuehong Lin, Post Doc, 2013-2014, Associate professor, School of Information and Communication Engineering, Beijing University of Posts and Telecomm.

8. Xiping Liu, Post Doc, 2013-2014, Associate professor, Computer Science, Nanjing University of Posts and Telecomm.

9. Lin Yao, Post Doc, 2013-2014, Associate professor, Computer Science, Dalian University of Technology.

10. Zhetao Li, Post Doc, 2013-2015, Associate professor, Computer Science, Xiangtan University.

11. Li Miao, Post Doc, 2014-2015, Associate professor, Computer Science, Hunan University.

12. Dongliang Xie, Visiting Scholar, Associate professor, Computer Science, Beijing University of Posts & Telecommunications

13. Weiwei Xia, Post Doc, 2015-2016, Associate professor, Electrical Engineering, Southeast University.

14. Fang Wei, Post Doc, 2015-2016, Associate professor, Electrical Engineering, Beijing University of Posts & Telecommunications.

15. Kehua Su, Post Doc, 2014-2016, Associate professor, Computer Science, Wuhan University.

E. PhD Committees

1. Kathy Brigham, Thesis 2015, Carnegie Mellon University, advisor: Vijayakumar Bhagavatula

2. Begumhan Turgut, Thesis 2014, Rutgers, advisor: Richard Martin

3. Kathy Brigham, Proposal 2013, Carnegie Mellon University, advisor: Vijayakumar Bhagavatula

4. Yunlong Wang, proposal defense 2013, Advisor: Petar Djuric

5. Varun Subramanian, defense 2012, advisor: Alex Doboli.

6. Meng Wang, defense 2011, advisor: Alex Doboli.

7. Xionghui Lu, proposal 2010; advisor: Yu Zhou

8. Ashish Raniwala, defense 2009; advisor: Tzi-cker Chiueh

9. Ritesh Maheshwari, defense 2008; advisor: Samir Das

10. Jaewook Yu, preliminary 2008; advisor: Wendy Tang

11. Wei Li, defense 2008; advisor: Tzi-cker Chiueh

12. Bin Tang, defense, 2007; advisor: Himanshu Gupta and Samir Das

13. Yang Yu, defense, 2007; advisor: Tzi-cker Chiueh

14. Miao Zhao, preliminary, 2007; advisor: Yuanyuan Yang

15. Lap-chung Lam, defense, 2006; advisor: Tzi-cker Chiueh

16. Fanglu Guo, defense, 2006; advisor: Tzi-cker Chiueh

17. Zongheng Zhou, defense, 2006; advisor: Samir Das

18. Peng Lin**,** candidacy, defense, 2007; advisor: Chunming Qiao

19. Xiang Yu, candidacy, defense 2005; advisor: Chunming Qiao

20. Joy Ghosh, candidacy, 2004; advisor: Chunming Qiao

21. Mohit Virendra, candidacy, 2004; advisor: Shambhu Upadhyaya

F. M.S. Committees

1. John Wang, M.S. Thesis defense, 2013, advisor Lei Zuo

2. Junxiao Ai, M.S. Thesis defense, 2014, advisor Lei Zuo

V. Services

A. Invited Professional Talks

1. "Sparse On-Line Data Collections in Wireless Sensor Networks based on Matrix Completion", Zhejiang University, Hangzhou, China, June 2014.

2. "Sparse On-Line Data Collections in Wireless Sensor Networks based on Matrix Completion", Shanghai Jiaotong University, Shanghai China, June 2014.

3. "Sparse On-Line Data Collections in Wireless Sensor Networks based on Matrix Completion", Tsinghua University, Beijing China, June 2014.

4. SMCLOUD: Social Mobile Cloud," National Taiwan University, June 2013

5. "SMCLOUD: Social Mobile Cloud," Institute of Computing Technology, Chinese Academy of Sciences, June 2013

6. **"**SMCLOUD: Social Mobile Cloud," Beihang University, Beijing, China, June 2013

7. "General, Adaptive and Scalable Framework for Efficient and Robust Operation of Networked CPS," Hong Kong Polytechnic University, August 2012.

8. "Adaptive Scheduling in MIMO-based Ad hoc Networks", National University of Defense Technology, China, Aug 2012.

9. "Adaptive Scheduling in MIMO-based Ad hoc Networks", Nanyang Technological University, Singapore, July 2012.

10. "Adaptive Scheduling in MIMO-based Ad hoc Networks," University of Electronic Science and Technology of China, June 2012.

11. "General, Adaptive and Scalable Framework for Efficient and Robust Operation of Networked CPS", Hunan University, June 2012.

12. **"**Deployment of a Connected Reinforced Backbone Network with a Limited Number of Backbone Nodes", Zhejiang University, China, Dec 2010.

13. **"**Efficient and Robust Localization of Multiple Radiation Sources in Complex Environments", 13th *ONR/GTRI* Workshop on Target Tracking and Sensor Fusion, May 2010.

14. "Adaptive Scheduling in MIMO-based Ad hoc Networks", Temple University, April 2010.

15. **"**An Efficient Monitoring System for Reliable Sensing and Optimal Coverage under Uncertainties and Resource Limitations", 12th *ONR/GTRI* Workshop on Target Tracking and Sensor Fusion, July 2009.

16. "An Efficient Monitoring System for Reliable Sensing and Optimal Coverage under Uncertainties and Resource Limitations", Georgia Tech Research Institute, July 2009.

17. "Opportunistic and Cooperative Spatial Multiplexing in MIMO Ad hoc Networks," Department of Computing, Hong Kong Polytechnic University, Hong Kong, May, 2008.

18. "A Scalable Geographic Service Provision Framework for Mobile Ad Hoc Networks ", Invited, *NSF Workshop on Mobility in Wireless Networks*, July, 2007

19. "Efficient Geographic Routing for Mobile Ad-hoc Networks," Department of Computer Science, Tsinghua University, Beijing, China, Aug, 2005.

20. "Resource Negotiation, Pricing, and Quality of Service for Adaptive Multimedia Applications," Sprint Advanced Technology Labs, Burlingame, California, Feb. 2001

21. "Integrated Resource Negotiation, Pricing, and Quality of Service for Adaptive Multimedia Applications," PacketVideo, Rochelle Park, New Jersey, Mar. 2001

22. "RNAP: A Framework for Congestion-Based Pricing and Charging for Adaptive Multimedia Applications," *First International Workshop Quality of future Internet Services (QofIS'2000)*, Berlin, Germany, Sep. 2000

23. "Resource Negotiation and Pricing Protocol," *Internet2 Network Research Workshop*, Chicago, June 2000.

24. "An Integrated Resource Negotiation, Pricing, and Quality of Service Framework for Adaptive Multimedia Applications," Sun Microsystems, San Jose, CA., Aug. 2000.

25. "Measurement and Analysis of LDAP Performance," Sun Microsystems, San Jose, CA, Aug. 2000.

B. Services to the department and university

- Served as the department representative participating in the search of Dean of the School of Engineering and Applied Science, 2015.

- Participated in establishing new PhD degree requirements, Electrical and Computer Engineering Department, 2015.

- Participated in faculty hiring, SUNY at Stony Brook, 2008-2015. I have actively participated in faculty candidate interviews and hiring-related activities for both ECE department and CS department.

- Invited several speakers and potential investors from industry and academia to colloquium of ECE department and CEWIT, including the director of research of Huawei, one of the biggest telecommunication companies in the world, Research Fellow from Honeywell, world-known scholar from Columbia University, researchers from AT&T Lab, Nanyang University, Singapore, Beijing Univ. of Posts and Telecom, China, 2005-2014.

- Served as a member in Ph.D. defense and Ph.D. preliminary exam committees. I have served in the committees for 21 PhD students, 2005-2015

- Advisor for undergraduate student research and senior design 2008-2015. Three students obtained URECA award for their excellent research work.

- Advisor for Honor Undergraduate Students.

- Served as outside member of the faculty hiring committee, Computer Science Department, 2012.

- Participated in drafting the faculty hiring document for the Mobile Computing and Internet Technologies (MCIT) cluster, 2012.

- Participated in the university convocation ceremony, 2009, 2010, 2011, 2013. I represented the ECE faculty in the ceremony.

- Served in ABET course estimation committee, 2008-2015.

- Participated in the ABET mock review process and participate in discussion with outside consultant for improving departmental ABET results, 2010.

- Participated in preparing ECE department self-study materials, 2008. I have helped prepare materials in networking research area, and helped check typos and inconsistencies in the whole document.

- Presented at the IAB meeting of ECE department/Sensor CAT in 2007, 2010. I introduced our research work to industrial board members in the IAB meetings.

- Served in the graduate committee of ECE, SUNY at Stony Brook, 2006, 2007. I have participated in graduate student application review.

- Participated in ABET document preparation in EE area, SUNY at Stony Brook, 2006. My responsibility was to proof-read the documents in electrical engineering area, and correct errors and typos.

- Served as a monitor of the department website for potential problems since 2006-2015. I have provided suggestions for improving department website and pointed out various typos.

- Participated in department meetings. I have actively participated in various departmental meetings and discussions, and provided suggestions on various issues, 2005 – 2015.

- Invited the visitor from Honeywell Lab for potential collaborations with faculty in the department, 2007.

- Member of Center of Excellence in Wireless and Information Technology (CEWIT) (2005 - present). I have actively participated in various CEWIT activities, including the review and selection of papers for CEWIT Workshop of 2006, and making presentations to outside visitors between 2005-2015.

- Presented in Energy Meeting organized by energy center of Stony Brook, 2010.

- Presented in Technology Conference, organized by Stony Brook and Long Island Forum For Technology (LIFT), 2011.

- Presented at the annual workshop organized by Center of Excellence in Wireless and Information Technology (CEWIT) in 2006 - 2015.

- Participated in the annual energy conference organized by Stony Brook. 2008-2015.

- Presented at the workshop organized by Sensor CAT in 2007.

- Actively participating in activities of energy center and sensor CAT, 2005-2015.

- Graduate Committee, SUNY at Buffalo, 2004, 2005. I have participated in periodic committee meetings, revising the program requirements, and annual graduate student recruiting.

- Facility Committee, SUNY at Buffalo, 2004, 2005. I have participated in periodic committee meetings, and planning of department IT infrastructure.

- Colloquium Committee, SUNY at Buffalo, 2004, 2005. My responsibilities included inviting outstanding speakers, organizing the colloquium, and accompanying visitors.

C. Professional services

Member of ACM and IEEE.

Associate Editor: IEEE Transactions on Mobile Computing, 2013-

NSF panels 2004, 2005, 2007, 2010, 2012

DOE Panels 2009, 2010.

Reviewer for Canada Foundation for Innovation, 2009.

Steering Committee, IEEE/ACM International Symposium on Quality of Service (IWQoS), 2015-

TPC Chair IEEE/ACM International Symposium on Quality of Service (IWQoS), 2014.

TPC Chair ACM MobiSys Workshop on Mobile Cloud Computing and Services (MCS), 2013.

TPC Vice-Chair International Conference on Mobile Ad-hoc and Sensor Networks (MSN), 2010.

Registration Co-Chair MobiCom/MobiHoc 2010.

Technical Program Committee (TPC) member, ACM Annual International Conference on
Mobile Computing and Networking (MobiCom), 2004, 2005, 2009

Technical Program Committee (TPC) member, Technical Program Committee (TPC) member,
International Conference on Distributed Computing Systems (IEEE ICDCS), 2010, 2014,
2016.

Technical Program Committee (TPC) member, IEEE Annual International Conference on
Pervasive Computing and Communications (PerCom), 2007, 2008.

Technical Program Committee (TPC) member, IEEE Annual Conference on Computer
Communications Wireless Communications and Networking (INFOCOM), 2005-2016.

Technical Program Committee (TPC) member, IEEE International Conference on Mobile Ad-hoc
and Sensor Systems (MASS), 2010, 2011, 2013.

Technical Program Committee (TPC) member, IEEE Communications Society Conference on S
Sensor, Mesh and Ad Hoc Communications and Networks (SECON), 2008, 2011, 2013,
2014.

Technical Program Committee (TPC) member, IEEE International Symposium on Quality of Service
(IWQoS), 2010, 2014, 2015, 2016.

Technical Program Committee (TPC) member, IEEE International Conference on Mobile Adhoc and
Snesor Networks(MSN) 2010-2015.

Technical Program Committee (TPC) member, IEEE Vehicular Technology Conference (VTC),
2007, 2008.

Technical Program Committee (TPC) member, IEEE Wireless Communications and Networking
Conference (WCNC), 2006

Technical Program Committee (TPC) member, IEEE International Workshop on Next Generation
Wireless Networks (WoNGeN), 2006

Technical Program Committee (TPC) member, International Workshop on Convergence of
Heterogeneous Wireless Networks (ConWiN), 2005

Technical Program Committee (TPC) member, Third International Workshop on Measurement,
Modeling, and Performance Analysis of Wireless Sensor Networks (SenMetrics), 2005

Referee for
IEEE/ACM Transactions on Networking (TON)
IEEE Transactions on Wireless Communications (TWC)
IEEE Transactions on Mobile Computing (TMC)

IEEE Journal on Selected areas in Communications (JSAC)
IEEE Transactions on Parallel and Distributed System (TPDS)
IEEE Transactions on Multimedia
IEEE Communications Magazine
IEEE Communications Letter
IEEE Networks
IEEE INFOCOM, ICC, VTC, Global Internet, Packet Video
Journal for Communications and Networks (JCN)
Computer Networks Journal, Elsevier
ACM Journal of Wireless Networks, Springer
ACM Multimedia, ACM SIGCOMM, ACM MobiCom