

Yi Shi, Ph.D.

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Research Scientist, Intelligent Automation, Inc.
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STATUS

- U.S. Permanent Resident.

EDUCATION

- Ph.D. (Nov. 2007) VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, Department of Electrical and Computer Engineering, Blacksburg, VA
 - Major: Computer Engineering; Minor: Wireless Networks
 - Dissertation Title: Algorithms and Optimization for Wireless Networks
 - Advisor: Dr. Y. Thomas Hou
- M.S. (May 2003) VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, Department of Computer Science, Blacksburg, VA
 - Major: Computer Science; Minor: Security for Network and Information System
- M.S. (July 2001) CHINESE ACADEMY OF SCIENCES, Institute of Software, Beijing, China
 - Major: Computer Science
- B.S. (July 1998) UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA, Department of Special Class for Gifted Young, Hefei, Anhui, China
 - Major: Computer Science

PROFESSIONAL EXPERIENCE

- Adjunct Assistant Professor, May 2011 – Present VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, Department of Electrical and Computer Engineering, Blacksburg, VA
Conducting and leading research efforts in wireless networks with advanced interference management, energy resource management, cognitive radio networks, cooperative communication networks, and MIMO networks.
- Research Scientist, May 2011 – Present INTELLIGENT AUTOMATION, INC., Rockville, MD
Conducting and leading research efforts in wireless networks, social networks, and network coding.
- Research Scientist, July 2009 – May 2011 VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, Department of Electrical and Computer Engineering, Blacksburg, VA
Conducted and led research efforts in wireless networks with advanced interference management, cognitive radio networks, cooperative communication networks, and MIMO networks.
- Senior Research Associate, November 2007 – June 2009 VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, Department of Electrical and Computer Engineering, Blacksburg, VA

Conducted and led research efforts in cognitive radio networks, cooperative communication networks, MIMO networks, and wireless sensor networks.

MAJOR HONORS AND AWARDS

- 2011 IEEE INFOCOM the only Best Paper Award Runner-Up
- 2008 IEEE INFOCOM Best Paper Award
- 2006 Chinese Government Award for Outstanding Students Abroad
- 1997 AND 1998 Meritorious Award in international Mathematical Contest in Modeling (MCM)
- 1993 Third prize in Chinese Mathematical Olympic (CMO) competition

FUNDED RESEARCH PROJECT

- Y. Shi (co-PI) “EAGER: Developing theoretical foundation for cooperative communications with network coding,” *NSF* grant award no.: CCF-0946273, total amount: **\$150,000**, duration: 9/1/09–8/31/11, PI: Y.T. Hou.

PUBLICATIONS

Book Chapters:

1. Y. Shi, Y.T. Hou, and Hanif D. Sherali, “On throughput maximization problem for UWB-based sensor networks via reformulation-linearization technique,” in *The Handbook of Optimization in Complex Networks: Theory and Applications*, edited by My T. Thai and Panos Pardalos, Springer Publisher, 2011.
2. Y. Shi and Y.T. Hou, “Cross-layer optimization for multi-hop cognitive radio networks,” in *Cognitive Radio Communications and Networks: Principles and Practice*, edited by Alexander M. Wyglinski, Maziar Nekovee, and Y. Thomas Hou, Elsevier Inc., 2009.
3. Y. Shi and Y.T. Hou, “Analytical models for multi-hop cognitive radio networks,” in *Cognitive Radio Networks*, edited by Yang Xiao and Fei Hu, Auerbach Publications, CRC Press, 2009.

Journal Papers (Published or Accepted):

1. L. Xie, Y. Shi, Y.T. Hou, and H.D. Sherali, “Making sensor network immortal: An energy renewable approach with wireless power transfer,” to appear in *IEEE/ACM Transactions on Networking*.
2. Y. Shi and Y.T. Hou, “Some fundamental results on base station movement problem for wireless sensor networks,” to appear in *IEEE/ACM Transactions on Networking*.
3. S. Sharma, Y. Shi, Y.T. Hou, H.D. Sherali, S. Kompella, and S.F. Midkiff, “Joint flow routing and relay node assignment in cooperative multi-hop networks,” to appear in *IEEE Journal on Selected Areas in Communications*.
4. S. Sharma, Y. Shi, J. Liu, Y.T. Hou, S. Kompella, and S.F. Midkiff, “Network coding in cooperative communications: Friend or foe?” to appear in *IEEE Transactions on Mobile Computing*.
5. C. Gao, Y. Shi, Y.T. Hou, and S. Kompella, “On the throughput of MIMO-empowered multi-hop cognitive radio networks,” to appear in *IEEE Transactions on Mobile Computing*.
6. Y. Shi, Y.T. Hou, S. Kompella, and H.D. Sherali, “Maximizing capacity in multi-hop cognitive radio networks under the SINR model,” *IEEE Transactions on Mobile Computing*, vol. 10, no. 7, pp. 954–967, July 2011.
7. S. Sharma, Y. Shi, Y.T. Hou, and S. Kompella, “An optimal algorithm for relay node assignment in cooperative ad hoc networks,” *IEEE/ACM Transactions on Networking*, vol. 19, issue 3, pp. 879–892, June 2011.

8. C. Jiang, Y. Shi, and Y.T. Hou, "On the asymptotic capacity of multi-hop MIMO ad hoc networks," *IEEE Transactions on Wireless Communications*, vol. 10, issue 4, pp. 1032–1037, April 2011.
9. C. Gao, Y. Shi, Y.T. Hou, H.D. Serali, and H. Zhou, "Multicast communications in multi-hop cognitive radio networks," *IEEE Journal on Selected Areas in Communications*, vol. 29, issue 4, pp. 784–793, April 2011.
10. Y. Shi, Y.T. Hou, H. Zhou, and S.F. Midkiff, "Distributed cross-layer optimization for cognitive radio networks," *IEEE Transactions on Vehicular Technology*, vol. 59, issue 8, pp. 4058–4069, October 2010.
11. Y. Shi and Y.T. Hou, "Optimal base station placement in wireless sensor networks," *ACM Transactions on Sensor Networks*, vol. 5, issue 4, article 32, November 2009.
12. Y. Shi, Y.T. Hou, and H. Zhou, "Per-node based optimal power control for multi-hop cognitive radio networks," *IEEE Transactions on Wireless Communications*, vol. 8, no. 10, pp. 5290–5299, October 2009.
13. Y. Shi, Y.T. Hou, and A. Efrat, "Algorithm design for a class of base station location problems in sensor networks," *ACM/Springer Wireless Networks (WINET)*, vol. 15, issue 1, pp. 21–38, January 2009.
14. Y. Shi and Y.T. Hou, "On the capacity of UWB-based wireless sensor networks," *Elsevier Computer Networks*, vol. 52, issue 14, pp. 2797–2804, October 2008.
15. J. Liu, Y.T. Hou, Y. Shi, and H.D. Serali, "Cross-layer optimization for MIMO-based wireless ad hoc networks: Routing, power allocation, and bandwidth allocation," *IEEE Journal on Selected Areas in Communications*, vol. 26, no. 6, pp. 913–926, August 2008.
16. Y. Shi, Y.T. Hou, and H.D. Serali, "Cross-layer optimization for data rate utility problem in UWB-based ad hoc networks," *IEEE Transactions on Mobile Computing*, vol. 7, issue 6, pp. 764–777, June 2008.
17. Y.T. Hou, Y. Shi, and H.D. Serali, "Rate allocation and network lifetime problems for wireless sensor networks," *IEEE/ACM Transactions on Networking*, vol. 16, no. 2, pp. 321–334, April 2008.
18. J. Liu, Y.T. Hou, Y. Shi, H.D. Serali, and S. Kompella, "On the capacity of multiuser MIMO networks with interference," *IEEE Transactions on Wireless Communications*, vol. 7, no. 2, pp. 488–494, February 2008.
19. Y.T. Hou, Y. Shi, and H.D. Serali, "Spectrum sharing for multi-hop networking with cognitive radios," *IEEE Journal on Selected Areas in Communications*, vol. 26, no. 1, pp. 146–155, January 2008.
20. Y.T. Hou and Y. Shi, "Variable bit rate flow routing in wireless sensor networks," *IEEE Transactions on Wireless Communications*, vol. 6, no. 6, pp. 2140–2148, June 2007.
21. Y.T. Hou, Y. Shi, H.D. Serali, and J.E. Wieselthier, "Multicast communications in ad hoc networks using directional antennas: A lifetime-centric approach," *IEEE Transactions on Vehicular Technology*, vol. 56, issue 3, pp. 1333–1344, May 2007.
22. Y.T. Hou, Y. Shi, J. Pan, and S.F. Midkiff, "Maximizing the lifetime of wireless sensor networks through optimal single-session flow routing," *IEEE Transactions on Mobile Computing*, vol. 5, no. 9, pp. 1255–1266, September 2006.
23. Y.T. Hou, Y. Shi, and H.D. Serali, "Optimal base station selection for anycast routing in wireless sensor networks," *IEEE Transactions on Vehicular Technology*, vol. 55, issue 3, pp. 813–821, May 2006.
24. Y. Shi, Y.T. Hou, H.D. Serali, and S.F. Midkiff, "Optimal routing for UWB-based sensor networks," *IEEE Journal on Selected Areas in Communications*, vol. 24, no. 4, pp. 857–863, April 2006.
25. J. Pan, Y.T. Hou, L. Cai, Y. Shi, and S.X. Shen, "Serialized optimal relay schedules in two-tiered wireless sensor networks," *Elsevier Computer Communications Journal*, vol. 29, no. 4, pp. 511–524, February 2006.

26. Y.T. Hou, Y. Shi, and H.D. Sherali, "On node lifetime problem for energy-constrained wireless sensor networks," *ACM/Springer Mobile Networks and Applications (MONET)*, vol. 10, no. 6, pp. 865–878, December 2005.
27. J. Pan, L. Cai, Y.T. Hou, Y. Shi, and S.X. Shen, "Optimal base-station locations in two-tiered wireless sensor networks," *IEEE Transactions on Mobile Computing*, vol. 4, no. 5, pp. 458–473, Sept./Oct. 2005.
28. Y.T. Hou, Y. Shi, H.D. Sherali, and S.F. Midkiff, "On energy provisioning and relay node placement for wireless sensor networks," *IEEE Transactions on Wireless Communications*, vol. 4, no. 5, pp. 2579–2590, September 2005.
29. Y. Shi and D. Feng, "Design and analysis of a new group of $(t_j; t; n)$ threshold group-signature scheme," *Journal of the Graduate School of the Chinese Academy of Sciences*, vol. 2, February 2001.

Conference Papers (Published or Accepted):

1. C. Jiang, Y. Shi, Y.T. Hou, W. Lou, S. Kompella, and S.F. Midkiff, "Toward simple criteria to establish capacity scaling laws for wireless networks," to appear in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, Orlando, FL, March 25–30, 2012. (Acceptance rate: 18% – 278 papers out of 1547 submissions).
2. C. Jiang, Y. Shi, Y.T. Hou, W. Lou, S. Kompella, and S.F. Midkiff, "Squeezing the most out of interference: An optimization framework for joint interference exploitation and avoidance," to appear in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, Orlando, FL, March 25–30, 2012. (Acceptance rate: 18%).
3. C. Jiang, Y. Shi, Y.T. Hou, and W. Lou, "Cherish every joule: Maximizing throughput with an eye on networkwide energy consumption," to appear in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, Orlando, FL, March 25–30, 2012. (Acceptance rate: 18%).
4. S. Sharma, Y. Shi, Y.T. Hou, S. Kompella, and S.F. Midkiff, "Optimal grouping and matching for network-coded cooperative communications," to appear in *Proceedings of IEEE Military Communications Conference (MILCOM)*, pp. 722–728, Baltimore, MD, November 7–10, 2011.
5. Y. Shi, C. Jiang, Y.T. Hou, and S. Kompella, "On capacity scaling law of cognitive radio ad hoc networks (Invited Paper)," in *Proceedings of IEEE International Conference on Computer Communication Networks (ICCCN)*, 8 pages, Maui, HI, July 31–August 4, 2011.
6. S. Sharma, Y. Shi, Y.T. Hou, and S. Kompella, "Achievable rate analysis in network-coded cooperative communications with multiple relay nodes," in *Proceedings of IEEE International Conference on Communications (ICC)*, 5 pages, Kyoto, Japan, June 5–9, 2011.
7. Y. Shi, J. Liu, C. Jiang, C. Gao, and Y.T. Hou, "An optimal link layer model for multi-hop MIMO networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1916–1924, Shanghai, China, April 10–15, 2011. (Acceptance rate: 16% – 291 papers out of 1823 submissions). **(The only Best Paper Award Runner-Up).**
8. Y. Shi, L. Xie, Y.T. Hou, and H.D. Sherali, "On renewable sensor networks with wireless energy transfer," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1350–1358, Shanghai, China, April 10–15, 2011. (Acceptance rate: 16%).
9. C. Jiang, Y. Shi, Y.T. Hou, and S. Kompella, "On optimal throughput-energy curve for multi-hop wireless networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1341–1349, Shanghai, China, April 10–15, 2011. (Acceptance rate: 16%).
10. S. Sharma, Y. Shi, Y.T. Hou, H.D. Sherali, and S. Kompella, "Optimizing network-coded cooperative communications via joint session grouping and relay node selection," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1898–1906, Shanghai, China, April 10–15, 2011. (Acceptance rate: 16%).
11. L. Shi, J.-H. Han, Y. Shi, and Z.-C. Wei, "Cross-layer optimization for wireless sensor network with multipacket reception," in *Proceedings of ICST Conference on Communications and Networking in China (CHINACOM)*, 5 pages, Beijing, China, August 25–27, 2010.

12. J. Liu, Y. Shi, and Y.T Hou, "A tractable and accurate cross-layer model for multi-hop MIMO networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, 9 pages, San Diego, CA, USA, March 14–19, 2010. (Acceptance rate: 18% – 276 papers out of 1575 submissions).
13. S. Sharma, Y. Shi, J. Liu, Y.T Hou, and S. Kompella, "Is network coding always good for cooperative communications?" in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, 9 pages, San Diego, CA, USA, March 14–19, 2010. (Acceptance rate: 18%).
14. S. Sharma, Y. Shi, Y.T Hou, H.D. Sherali, and S. Kompella, "Cooperative communications in multi-hop wireless networks: Joint flow routing and relay node assignment," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, 9 pages, San Diego, CA, USA, March 14–19, 2010. (Acceptance rate: 18%).
15. Y. Shi, Y.T. Hou, and S. Kompella, "How to correctly use the protocol interference model for multi-hop wireless networks," in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 239–248, New Orleans, LA, May 18–21, 2009. (Acceptance rate: 18% – 31 papers out of 175 submissions).
16. J. Liu, Y.T. Hou, Y. Shi, and H.D. Sherali, "On performance optimization for multi-carrier MIMO ad hoc networks," in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 43–54, New Orleans, LA, May 18–21, 2009. (Acceptance rate: 18%).
17. Y. Shi, Y.T. Hou, and S. Kompella, "A cross-layer approach to multi-hop networking with cognitive radios," in *Proceedings of IEEE Military Communications Conference (MILCOM)*, 7 pages, San Diego, CA, November 17–19, 2008.
18. Y. Shi, S. Sharma, Y.T. Hou, and S. Kompella, "Optimal relay assignment for cooperative communications," in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 3–12, Hong Kong, China, May 26–30, 2008. (Acceptance rate: 15% – 44 papers out of 300 submissions).
19. Y. Shi and Y.T. Hou, "Theoretical results on base station movement problem for sensor network," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 376–384, Phoenix, AZ, USA, April 13–18, 2008. (Acceptance rate: 21% – 236 papers out of 1152 submissions). (**Best Paper Award**).
20. Y. Shi and Y.T. Hou, "A distributed optimization algorithm for multi-hop cognitive radio networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1966–1974, Phoenix, AZ, USA, April 13–18, 2008. (Acceptance rate: 21%).
21. Y. Shi and Y.T. Hou, "Network capacity of UWB-based sensor networks," in *Proceedings of ICST International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QShine)*, 7 pages, Vancouver, British Columbia, Canada, August 14–17, 2007.
22. Y. Shi and Y.T. Hou, "Approximation algorithm for base station placement in wireless sensor networks," in *Proceedings of IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON)*, pp. 512–519, San Diego, CA, June 18–21, 2007.
23. Y. Shi and Y.T. Hou, "Optimal power control for multi-hop software defined radio networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1694–1702, Anchorage, AL, May 6–12, 2007. (Acceptance rate: 18% – 252 papers out of more than 1400 submissions).
24. Y.T. Hou, Y. Shi, and H.D. Sherali, "Optimal spectrum sharing for multi-hop software defined radio networks," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 1–9, Anchorage, AL, May 6–12, 2007. (Acceptance rate: 18%).
25. J. Liu, T.Y. Park, Y.T. Hou, Y. Shi, and H.D. Sherali, "Cross-layer optimization of MIMO-based mesh networks under orthogonal channels," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, pp. 49–54, Hong Kong, China, March 11–15, 2007.

26. J. Liu, Y.T. Hou, Y. Shi, and H.D. Sherali, "Optimization of multiuser MIMO networks with interference," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM)*, 6 pages, San Francisco, CA, November 27–December 1, 2006.
27. Y. Shi, Y.T. Hou, H.D. Sherali, and S. Kompella, "Cross-layer optimization for UWB-based ad hoc networks," in *Proceedings of IEEE Military Communications Conference (MILCOM)*, 7 pages, Washington, DC, October 23–25, 2006.
28. Y. Shi, Y.T. Hou, and A. Efrat, "Algorithm design for base station placement problems in sensor networks," in *Proceedings of ICST International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine)*, 11 pages, Waterloo, Ontario, Canada, August 7–9, 2006.
29. Y.T. Hou, Y. Shi, J. Pan, and S.F. Midkiff, "Single-beam flow routing for wireless sensor networks," in *Proceedings of IEEE Global Telecommunications Conference (GLOBECOM)*, pp. 3263–3268, St. Louis, MO, November 28–December 2, 2005.
30. Y.T. Hou, Y. Shi, H.D. Sherali, and S.F. Midkiff, "Prolonging sensor network lifetime with energy provisioning and relay node placement," in *Proceedings of IEEE Communications Society Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, pp. 295–304, Santa Clara, CA, September 26–29, 2005.
31. Y. Shi, Y.T. Hou, H.D. Sherali, and S.F. Midkiff, "Cross-layer optimization for routing data traffic in UWB-based sensor networks," in *Proceedings of ACM International Conference on Mobile Computing and Networking (MobiCom)*, pp. 299–312, Cologne, Germany, August 28–September 2, 2005. (Acceptance rate: 10% – 23 papers out of 224 submissions).
32. Y.T. Hou, Y. Shi, and H.D. Sherali, "On base station selection for anycast flow routing in energy-constrained wireless sensor networks," in *Proceedings of ICST International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine)*, 9 pages, Orlando FL, August 22–24, 2005.
33. Y.T. Hou, Y. Shi, J.H. Reed, and K. Sohraby, "Flow routing for variable bit rate source nodes in energyconstrained wireless sensor networks," in *Proceedings of IEEE International Conference on Communications (ICC)*, pp. 3057–3062, Seoul, Korea, May 16–20, 2005.
34. Y.T. Hou, Y. Shi, H.D. Sherali, J.E. Wieselthier, "Online lifetime-centric multicast routing for ad hoc networks with directional antennas," in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 761–772, Miami, FL, March 13–17, 2005. (Acceptance rate: 17% – 244 papers out of 1419 submissions).
35. Y.T. Hou, Y. Shi, J. Pan, and S.F. Midkiff, "Lifetime-optimal data routing in wireless sensor networks without flow splitting," in *Workshop on Broadband Advanced Sensor Networks (held in conjunction with IEEE BROADNETS 2004)*, 10 pages, San Jose, CA, October 25–29, 2004.
36. Y.T. Hou, Y. Shi, and H.D. Sherali, "On lexicographic max-min node lifetime for wireless sensor networks," in *Proceedings of IEEE International Conference on Communications (ICC)*, pp. 3790–3796, Paris, France, June 20–24, 2004.
37. Y.T. Hou, Y. Shi, and H.D. Sherali, "Rate allocation in wireless sensor networks with network lifetime requirement," in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 67–77, Tokyo, Japan, May 24–26, 2004. (Acceptance rate: 9% – 24 papers out of 233 submissions).
38. Y.T. Hou, Y. Shi, and J. Pan, "A Lifetime-aware flow routing algorithm for energy-constrained wireless sensor networks," in *Proceedings of IEEE Military Communications Conference (MILCOM)*, pp. 603–608, Boston, MA, October 13–16, 2003.
39. Y.T. Hou, Y. Shi, J. Pan, and S.F. Midkiff, "Optimal single-session flow routing for wireless sensor networks," in *Proceedings of IEEE Vehicular Technology Conference (VTC)*, pp. 2855–2859, Orlando, FL, October 4–9, 2003.
40. J. Pan, Y.T. Hou, L. Cai, Y. Shi, and S.X. Shen, "Locating base-stations for video sensor networks," in *Proceedings of IEEE Vehicular Technology Conference (VTC)*, pp. 3000–3004, Orlando, FL, October 4–9, 2003.

41. J. Pan, Y.T. Hou, L. Cai, Y. Shi, and S.X. Shen, "Topology control for wireless sensor networks," in *Proceedings of ACM International Conference on Mobile Computing and Networking (MobiCom)*, pp. 286–299, San Diego, CA, September 14–19, 2003. (Acceptance rate: 10% – 27 papers out of 281 submissions).
42. Y. Shi and D. Feng, "The design and analysis of a new group of $(t_j; t; n)$ threshold group-signature scheme," in *Proceedings of ChinaCrypto*, Wuhan, Hubei, China, May 2000.

UNITED STATES PATENT

1. Y. Shi, J. Liu, C. Gao, C. Jiang, and Y.T. Hou, "An efficient method for interference cancellation and spatial multiplexing in MIMO wireless networks," US Patent Application No. 61/309,902, filed on March 3, 2010.

TEACHING EXPERIENCE

- **Guest Lecturer** (Spring 2008)
ECE 5566 *Network Arch and Protocols*
The Bradley Department of Electrical and Computer Engineering,
Virginia Polytechnic Institute and State University, Blacksburg, VA
- **Guest Lecturer** (Fall 2007, Spring 2005)
ECE/CS 6570 *Advanced Foundation of Networking*
The Bradley Department of Electrical and Computer Engineering,
Virginia Polytechnic Institute and State University, Blacksburg, VA
- **Guest Lecturer** (Spring 2006)
ECE 4614 *Telecommunication Networks*
The Bradley Department of Electrical and Computer Engineering,
Virginia Polytechnic Institute and State University, Blacksburg, VA
- **Teaching Assistant** (Spring 2002)
CS 2604 *Data Structure and File Management*
Department of Computer Science,
Virginia Polytechnic Institute and State University, Blacksburg, VA
- **Teaching Assistant** (Fall 2001)
CS 4114 *Formal Language*
Department of Computer Science,
Virginia Polytechnic Institute and State University, Blacksburg, VA
- **Teaching Assistant** (Spring 1998, Fall 1997)
Mathematical Contest in Modeling
Department of Mathematics,
University of Science and Technology of China, Hefei, Anhui, China

SERVED ON THESIS COMMITTEE FOR THE FOLLOWING STUDENTS

1. Sushant Sharma (Ph.D., December 2010)
Joined Brookhaven National Laboratory
2. Jia Liu (Ph.D., February 2010)
Joined Ohio State University as Post-doctoral Research Associate

3. Cunhao Gao (M.S., September 2009)
Joined Ph.D. program at Stony Brook University

SERVING ON THESIS COMMITTEE FOR THE FOLLOWING STUDENTS

1. Canming Jiang (Ph.D.)
2. Liguang Xie (Ph.D.)
3. Ali Saoud (M.Eng.)
4. Huacheng Zeng (Ph.D.)
5. Xu Yuan (Ph.D.)

PROFESSIONAL ACTIVITIES

Conference Technical Program Committee:

1. *IEEE Global Telecommunications Conference (GLOBECOM)*, Anaheim, CA, December 3–7, 2012.
2. *IEEE Military Communications Conference (MILCOM)*, Orlando, FL, October 29–November 1, 2012.
3. *IEEE International Conference on Communications in China (ICCC)*, Beijing, China, August 15–18, 2012.
4. *IEEE International Conference on Communications (ICC)*, Ottawa, Canada, June 10–15, 2012.
5. *IEEE Wireless Communications and Networking Conference (WCNC)*, Paris, France, April 1–4, 2012.
6. *IEEE Conference on Computer Communications (INFOCOM)*, Orlando, FL, March 25–30, 2012.
7. *IEEE Global Telecommunications Conference (GLOBECOM)*, Houston, TX, December 5–9, 2011.
8. *ICST International Conference on Communications and Networking in China (CHINACOM)*, Harbin, China, August 15–19, 2011.
9. *IEEE International Conference on Communications (ICC)*, Kyoto, Japan, June 5–9, 2011.
10. *IEEE Conference on Computer Communications (INFOCOM)*, Shanghai, China, April 10–15, 2011.
11. *IEEE Wireless Communications and Networking Conference (WCNC)*, Cancun, Mexico, March 28–31, 2011.
12. *IEEE Global Telecommunications Conference (GLOBECOM)*, Miami, FL, December 6–10, 2010.
13. *IEEE Military Communications Conference (MILCOM)*, San Jose, CA, October 31–November 3, 2010.
14. *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Istanbul, Turkey, September 26–30, 2010.
15. *International Conference on Wireless Algorithms, Systems, and Applications (WASA)*, Beijing, China, August 15–17, 2010.
16. *IEEE International Conference on Communications (ICC)*, Cape Town, South Africa, May 23–27, 2010.
17. *IEEE Wireless Communications and Networking Conference (WCNC)*, Sydney, Australia, April 18–21, 2010.
18. *IEEE Conference on Computer Communications (INFOCOM)*, San Diego, CA, March 15–19, 2010.
19. *ICST International Wireless Internet Conference (WICON)*, Singapore, March 1–3, 2010.
20. *International Conference on Mobile Ad-hoc and Sensor Networks (MSN)*, Wu Yi Mountain, China, December 16–18, 2009.

21. *IEEE International Workshop on Wireless Network Algorithm and Theory (WiNA, in conjunction with IEEE MASS 2009)*, Macau SAR, China, October 5, 2009.
22. *IEEE Vehicular Technology Conference (VTC)*, Anchorage, AL, September 20–23, 2009.
23. *IEEE International Conference on Communications (ICC)*, Dresden, Germany, June 14–18, 2009.
24. *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, New Orleans, LA, May 18–21, 2009.
25. *ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC, co-located with ACM MobiHoc 2009)*, New Orleans, LA, May 18, 2009.
26. *IEEE Conference on Computer Communications (INFOCOM)*, Rio de Janeiro, Brazil, April 19–25, 2009.
27. *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, Atlanta, GA, October 6–9, 2008.
28. *IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC)*, Cannes, France, September 15–18, 2008.
29. *IEEE International Conference on Computer Communications and Networks (ICCCN)*, St. Thomas, U.S. Virgin Islands, August 4–7, 2008.
30. *ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC, co-located with ACM MobiHoc 2008)*, Hong Kong, China, May 27, 2008.
31. *ICST International Conference on Communications and Networking in China (CHINACOM)*, Hangzhou, China, April 25–27, 2008.
32. *IEEE Workshop on Networking Technologies for Software Defined Radio Networks (held with IEEE SECON 2006)*, Reston, VA, September 25, 2006.

Book proposal review

- Reviewer of one book proposal for John Wiley & Sons, Inc.

Reviewer for the following Journals:

- IEEE Communications Letters
- IEEE Journal on Selected Areas in Communications
- IEEE Transactions on Communications
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Multimedia
- IEEE Network Magazine
- IEEE/ACM Transactions on Networking
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Vehicular Technology
- IEEE Transactions on Wireless Communications
- IEEE Wireless Communications Magazine
- ACM Mobile Computing and Communications Review
- ACM/Springer Journal on Special Topics in Mobile Networks and Applications
- ACM/Springer Journal of Wireless Networks
- ACM Transactions on Sensor Networks
- Springer Telecommunication Systems Journal
- Elsevier Ad Hoc Networks
- Elsevier Computer Communications Journal
- Elsevier Computer Networks Journal
- Elsevier Physical Communication
- IET Communications
- Wiley International Journal of Communication Systems

- Wiley Journal of Wireless Communications and Mobile Computing
- International Journal of Ad Hoc and Ubiquitous Computing
- International Journal of Sensor Networks
- EURASIP Journal on Advances in Signal Processing
- Transactions on Computers
- Journal of Communications and Networks
- Journal of Computer Science and Technology

Reviewer for the following Conferences:

- IEEE International Conference on Broadband Networks (BROADNETS), 2005, 2004
- IEEE Conference on Decision and Control (CDC), 2007
- ICST International Conference on Communications and Networking in China (CHINACOM), 2011, 2008
- ICST International Conference on Cognitive Radio Oriented Wireless Networks and Communications (CrownCom), 2007
- ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC), 2009, 2008
- IEEE Global Telecommunications Conference (GLOBECOM), 2011, 2010, 2008–2005, 2003
- IEEE International Conference on Communications (ICC), 2012–2008, 2006–2004
- IEEE International Conference on Computer Communications and Networks (ICCCN), 2008, 2006
- IEEE Conference on Computer Communications (INFOCOM), 2012–2009, 2005
- IEEE International Performance Computing and Communications Conference (IPCCC), 2006
- IEEE International Symposium on Wireless Communication Systems (ISWCS), 2007
- IEEE Workshop on Local and Metropolitan Area Networks (LANMAN), 2004
- IEEE International Conference on Mobile Ad-Hoc and Sensor Systems (MASS), 2008, 2006, 2005
- IEEE Military Communications Conference (MILCOM), 2011, 2010, 2008
- ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), 2009
- International Conference on Mobile Ad-hoc and Sensor Networks (MSN), 2009
- IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC), 2010, 2008
- IEEE Workshop on Networking Technologies for Software Defined Radio Networks, 2006
- IEEE International Conference on Sensor and Ad Hoc Communications and Networks (SECON), 2005
- IEEE Vehicular Technology Conference (VTC), 2009, 2003
- International Conference on Wireless Algorithms, Systems, and Applications (WASA), 2010
- IEEE Wireless Communications and Networking Conference (WCNC), 2012–2010, 2008–2006, 2004
- ICST International Wireless Internet Conference (WICON), 2010
- IEEE International Workshop on Wireless Network Algorithm and Theory (WiNA), 2009
- IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2008
- IEEE/IFIP Conference on Wireless On demand Network Systems and Services (WONS), 2006